

The Norfolk Wet Woodland Project

The Wensum, Blackwater and Nar catchments

Report for Project Stage 3

September 2008 – March 2009

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Starmoor Wood, Great Ryburgh

County Wildlife Site Ref: 1273

Contents

Summary.....	page 3
Background.....	page 3
Introduction.....	page 4
Project Aims.....	page 4
Methodology.....	page 5
Results.....	page 9
Case Study: Pensthorpe Nature Reserve.....	page 11
Discussion.....	page 12
Recommendations.....	page 14
Acknowledgements.....	page 15

Summary

There has been a progressive loss of Wet woodland, a national and local priority habitat, over time due to clearance and drainage of the land for agriculture, clearance to create reed bed and fen, changes in flow patterns and water table due to siltation and drainage, inappropriate or poor management leading to changes in the tree species, flora and invertebrate communities etc.

In response, the Norfolk Wet Woodland Project – one of several Regional projects, was set up with the aims of reversing the decline in Wet woodlands on the Wensum, Blackwater and Nar catchments, by increasing Wet woodland cover by natural regeneration and/or planting, buffering existing Wet woodland, and sensitive management of existing Wet woodland where appropriate.

This third stage of the project successfully achieved its objectives by working with landowners who have made proposals for new native Wet woodland creation totalling 10.31ha, and proposals for management and restoration of existing Wet woodland totalling 42.88ha.

Background

Trees and woodlands contribute greatly to the biodiversity of Norfolk and throughout the East of England. Wet Woodland (woodland which is established on land subject to seasonal flooding and/or with a high water table) is particularly important to the Region and to Norfolk. It holds historical significance, particularly the Carr woodlands: where they are remnants of coppice working. Wet Woodland has a very significant role to play in flood attenuation, reduction of siltation and the improvement of water quality, and it provides a unique mosaic of habitat - often in the combination of mature canopy, shrub layer and ground flora, open ground, boggy areas, open water and seasonal flushes - all within the Wet Woodland context. This makes it a unique habitat for associated species including a wide range of plant species, bat species, otter, hoverflies, butterflies, birds - and many more, several of which have their own Species Action Plans. It is a key Biodiversity Action Plan target and the most diverse and species rich of all our terrestrial habitats.

There has been a progressive loss of this important habitat over time due to clearance and drainage of the land for agriculture, clearance to create reed bed and fen, changes in flow patterns and water table due to siltation and drainage, inappropriate or poor management leading to changes in the tree species, flora and invertebrate communities etc.

The resulting loss and fragmentation of this important habitat has given rise to a Regional impetus by a partnership of various organisations including the County Councils, the Forestry Commission, the Wildlife Trusts and Natural England, to form Wet Woodland Projects across the East of England - in Norfolk, Suffolk, Bedfordshire, Peterborough and Huntingdonshire. These projects have the aims of reversing the decline in Wet Woodlands, by increasing Wet Woodland cover by natural regeneration and/or planting, buffering existing Wet Woodland, and sensitive management of existing Wet Woodland where appropriate. A Wet Woodland Task Group has been set up by the Forestry Commission to raise the profile of Wet woodland across the region, to instigate feasibility studies on water levels and to re-examine Wet woodland designations. Members include the Forestry Commission, Natural England, the Environment Agency, the Water Management Alliance, Local Authorities and the Wildlife Trusts.

The importance of Wet Woodland is recognised in the National Biodiversity Action Plan Habitat Action Plan in www.ukbap.org.uk and locally on the Norfolk Biodiversity Partnership's website www.norfolkbiodiversity.org/actionplans/habitat/wetwoodlands.asp

The regional importance of this priority habitat can be viewed on www.forestry.gov.uk/website/forestry.nsf/byunique/infid-7qrcsp in 'Wet Woodland in the East of England', and under the 'Regional Briefings' heading in 'The role of woodland in Catchment Sensitive Farming'.

Introduction

The Norfolk Wet Woodland Project area is within the river catchments of the Wensum, Blackwater (Gressenhall) and the Nar. This partnership project has been funded by The Forestry Commission East England Conservancy, Norfolk County Council Environment Department, the Norfolk Biodiversity Partnership and the Environment Agency. This report concludes the third stage of the Project. The first stage comprised an historical survey and report of Wet woodland in the catchments by Patsy Dallas in 2006. Stage two was completed by Chris Roberts in February 2008. Chris identified, mapped, site surveyed and classified Wet woodland in the catchments to National Vegetation Classification, developing a landowner contact list as part of her report. This third stage of the project has concentrated specifically on the creation of new Wet woodland, and the expansion and restoration of existing Wet woodland sites in accordance with the project aims - to bring about positive, tangible progress for this priority habitat in this particular area of Norfolk.

Project Aims

The priority target for this stage of the project was to achieve a minimum of 10ha of new native Wet woodland creation, and a minimum of 40ha of existing Wet woodland brought into appropriate management (Aim 2).

The broad aims for this stage of the project, listed in order of working method, were to:

1. work with landowners and partner organisations to promote the value of Wet woodland as a priority habitat alongside the other wetland habitats; to create the understanding and acceptance necessary for the need to make positive change
2. achieve 10ha of native Wet woodland creation and 40ha of positive Wet woodland management, where appropriate
3. contribute towards the assessment of the area (ha), biodiversity and condition of Wet woodland in the project area

The aims were derived from and seek to achieve the objectives of the Local Norfolk Biodiversity Action Plan Habitat Action Plan for Wet woodland, and fulfil targets for Wet woodland laid out in the Regional Woodland Strategy 'Woodland for Life', which has been agreed by the government organisations and non-government organisations involved in biodiversity in the East of England in:

www.woodlandforlife.net

Methodology

In order to fulfil the objectives of this stage of the project efficiently within a six month period, the three broad aims were approached concurrently.

- To achieve Aim 1, a target list of partner organisations, including for example various departments of Natural England, The Water Management Alliance, and The Farming and Wildlife Advisory Group (FWAG), was drawn up from known contacts. Meetings were then held with these partners to discuss the need for the project, to share information where possible, and to develop a method of joint working. The Norfolk County Council Environment team and other partners, such as the Norfolk Wildlife Trust, attended meetings of the Norfolk Biodiversity Action Plan – Woodland Group, which acted as the steering group for the project. Regular meetings were held with various staff from The Forestry Commission East England Conservancy, including on site. There was a temporary desk facility provided at the Conservancy office for this stage of the project, which promoted joint working and ease of communication, and assisted with the mapping requirements which were later developed to achieve Aim 3.

Working with Natural England involved The Catchment Sensitive Farming Group (CSFG), the local officers working with landowners within Higher Level Stewardship (HLS), and the River Wensum Restoration Strategy. The work with the Water Management Alliance field officers confirmed and tied in well with the CSFG work, and working with the local FWAG advisors contributed well to joint working principles regarding Wet woodland creation and/or management being included in Farm Plans for HLS applications. Working with the Minerals Planning Team at Norfolk County Council created opportunities for creating new Wet woodland as part of restoration plans for gravel pit sites. In summary, this method of joint working proved invaluable to the success of this stage of the project.

Alongside working with partners, using the contact sheet provided in stage 2 of the project and other known contacts, a target list of landowners was drawn up. Starting with those known to have an active interest in the project, a series of joint site visits were carried out with landowners or their agents. This working method of targeting owners first by their positive interest, and then secondly by contacting their neighbours gave opportunities to expand/enhance Wet woodland on a local landscape scale by creating ecological linkages. In addition, individual landowners showed a great interest in each others involvement in the project, and this had the effect of giving them added confidence in their course of action, and promoted the project in a positive way. The joint site visits gave the opportunity to assess the existing Wet woodland, discuss the objectives and need for the project, assess the opportunities for new native Wet woodland creation, and for the management, restoration or expansion of existing Wet woodland. Advice on positive management was provided where welcomed and where required, alongside advice on the regulations governing tree felling, and crucially, advice on the opportunities available to seek grant aid for the woodland work. Where there was no requirement or no desire by the landowner to carry out management work, the existing Wet woodland site details were simply recorded on a map for later digitisation to achieve Aim 3.

Most contacts were made initially by telephone, and then backed up where needed with correspondence on headed notepaper – particularly to owners or their agents.

A major contribution to the achievement of Aim 1 was the organisation of a landowner's event halfway through this stage of the project. The event was entitled 'Wet Woodlands and Woodfuel'. There had been a considerable surge of interest in woodfuel due to the rising costs of other forms of heat energy, and this coincided with the formation of the organisation 'Woodfuel East'.

www.woodfueleast.org.uk

In response to landowner interest in these issues, and the link between growing higher/earlier yield coppice species such as alder and ash on wetter sites, it was decided to link the two issues into an open morning of presentations and discussions on the Wet woodland project, woodfuel, grant opportunities and a farm tour which demonstrated a working woodfuel boiler system, existing Wet woodland integral with other priority wetland habitat types on the banks of the Wensum, and opportunities for management and Wet woodland creation. Our host was John Carrick, the owner of Castle Farm, Swanton Morley and the event was held at his conference centre at Hunters Hall. In addition to giving impetus to the project, the event provided opportunities for partner organisations to meet landowners and agents and make contact in an advisory role. The event generated a great deal of interest which led to positive results towards achieving Aim 2.

- To achieve Aim 2, where there were opportunities to manage, restore, or expand existing Wet woodland or to plant/naturally regenerate new Wet woodland areas, the landowners or their agents were then given the necessary advice and assistance with how to gain tree felling permission and make grant applications at a series of subsequent meetings. This provided the opportunity to develop good working relationships with landowners, to help develop their ideas and achieve their objectives, whilst enabling them to develop a deeper understanding of this important habitat and to make a significant contribution to this project. Working with landowner's agents in this way was particularly successful, as the agents were able to discuss the project with their other clients, and this resulted in a wider field of success.

The criteria for selecting sites for new Wet woodland creation was based on the following:

1. the goodwill, enthusiasm and consent of the landowner
2. the site type was suitable, in terms of seasonal flooding or high water table
3. there appeared to be no adverse effects envisaged by woodland creation on the site, in terms of affecting other priority habitats, site designations, existing management agreements such as HLS, or water flow
4. the new woodland would extend an existing native habitat where possible: e.g. existing Wet woodland or complement adjacent wetland habitat – meadow, fen, open water

5. the new woodland would link the above habitat types where possible
6. ideally, where the new woodland could be established either wholly or partly from existing or predictable natural regeneration from seeding from an adjacent native woodland
7. the proposals conformed to the requirements of the Forestry Commission English Woodland Grant Scheme

The criteria for selecting sites for Wet woodland restoration and management was based on the following:

1. the goodwill, enthusiasm and consent of the landowner
2. there appeared to be no adverse effects envisaged by woodland management on the site, in terms of affecting other priority habitats, suitable non-intervention areas, site designations, existing management agreements such as HLS, any obvious effects on open water or the water table, and any vulnerability to deer browsing
3. there were tangible benefits that could be gained from woodland restoration/management e.g. the removal of non-native tree species or ground flora, the beneficial proliferation of native ground flora and natural regeneration of native tree seedlings by managing the light levels in the woodland, the re-invigoration of old coppice stools by introducing an appropriate cutting regime, the adoption of a system of management such a continuous cover using thinning or discreet select felling and restocking by natural regeneration (preferred) or planting of native species to perpetuate the woodland, the designation of minimum or non-intervention areas, the exclusion of deer
4. the proposals conformed to the Forestry Commission Felling Licence criteria and to the requirements of the Forestry Commission(FC) English Woodland Grant Scheme (EWGS)

All new woodland creation proposals and felling/regeneration proposals were subject to the normal consultation procedure carried out by the Forestry Commission under EWGS, and in addition it was agreed that new Wet woodland creation proposals arising from this stage of the project would be considered by Norfolk County Council Environment Department and the Norfolk Wildlife Trust.

The majority of the project period was spent on achieving this aim. After the necessary advisory site visits, and according to the owner's objectives, Forestry Commission English Woodland Grant Scheme (FC EWGS) and/or Felling Licence (FL) applications were filled in on the owner's behalf, according to their instructions, and then submitted to the owner for their approval. Liaison with the Forestry Commission Woodland Officer then followed, and on occasion joint site visits were made. If the Norfolk County Council (NCC) grant was more appropriate, then NCC and the owner were put in contact. If there was a proposed or

existing HLS scheme on the area concerned, then liaison was carried out with the appropriate FWAG or Natural England Field Officer, and the work was proposed under HLS if it proved more beneficial than EWGS to the owner concerned. Apart from the legal requirements for Felling Licences and Permissions from Local Authorities under Tree Preservation Orders, it was seen as beneficial overall that owners entered into a management agreement with the above agencies wherever possible, which helps to maintain the woodland in a sustainable manner over time, and can bring the benefit of grant aid to the landowner. Without the possibility of grant aid, beneficial change was unlikely to come about.

- Aim 3 was the objective of Stage 2 of this project, completed by Chris Roberts. In order for this subsequent stage to make a contribution to the achievement of Aim 3, meetings were held with the Biological Records team based at NCC Environment department and the Forestry Commission to discuss the most efficient way of mapping and recording existing or proposed Wet woodland sites, in order for the data to be digitised and then fed into the Biological Records Centre information held on GIS. It was agreed that the Forestry Commission would supply Ordnance Survey Mastermap quality maps which were then marked during site visits, and the following data collected.

Table1. Site Map attributes for Biological Recording under GIS

WET WOODLAND GIS INVENTORY	NORFOLK – THE WENSUM and NAR PROJECT AREA
Map number (paper copy)	
Site reference number	Unique identification number for each site
Site name and nearest village/town	
NGR	6 figure National Grid Reference for site
Site Type	Existing Wet woodland/proposed new wet woodland
Priority habitat	Wet woodland/associated significant other habitat
Designation	SSSI, Ancient Woodland, County Wildlife Site (Ref) etc
NVC type	Indication of possible National Vegetation Classification
Date of site visit	
Comments	
Area (ha)	To be confirmed after GIS digitisation

Following site visits, the maps were marked to show existing and/or proposed new Wet woodland and each map was accompanied by the above table of data for digitisation and storing under GIS and database as part of the County Biological Records. These maps and tables form Appendix II of this report.

National Vegetation Classification (NVC) type was assessed where feasible. The NVC types for Wet woodland that are most likely to occur in Norfolk are shown in Table 2.

Table 2 NVC Wet woodland types most likely to occur in Norfolk

NVC type	Species
W1	Grey willow – Common marsh-bedstraw woodland (<i>Salix cinerea</i> – <i>Galium palustre</i>)
W2	Grey willow – Downy birch – Common reed woodland (<i>Salix cinerea</i> – <i>Betula pubescens</i> – <i>Phragmites australis</i>)
W4c	Downy birch – Purple moor grass woodland (<i>Betula pubescens</i> – <i>Molinia caerulea</i> - <i>Sphagnum</i> sub-community)
W5	Common alder – Greater tussock sedge woodland (<i>Alnus glutinosa</i> – <i>Carex paniculata</i>)
W6	Common alder – nettle woodland (<i>Alnus glutinosa</i> – <i>Urtica dioica</i>)
W7 (rarely)	Common alder – ash – Yellow pimpernel woodland (<i>Alnus glutinosa</i> – <i>Fraxinus excelsior</i> – <i>Lysimachia nemorum</i>)

In addition to making contact with interested landowners a priority, within the constraints of timescale and likelihood of achieving targets, it was attempted to prioritise the visiting of County Wildlife Sites to complete the field visit reporting forms wherever possible.

Results

The priority target for this stage of the project was achieved (Aim 2). Proposals for new native Wet woodland creation total 10.31ha, and proposals for management and restoration of existing Wet woodland total 42.88ha.

All the results for this stage of the project have been achieved in the Wensum and Blackwater catchment. This is as a result of using the working method described in ‘Methodology’ – approaching potentially enthusiastic and committed landowners, and also their neighbours for ecological linkage opportunities. The Nar catchment has not yet been fully explored.

The ‘Wet Woodlands and Woodfuel’ event was a great success, attended by approximately 45 people including landowners, Forestry agents, advisors from government and non-government organisations and project partners. The event effectively raised the profile of Wet woodlands in the County, promoting awareness of habitat loss, discussing opportunities to work together, availability of grants to assist with Wet woodland creation and restoration, and gave opportunities for those involved in Wet woodland to meet and exchange ideas. Apart from the successful raising of awareness, the event resulted in real change on the ground – particularly the restoration of poplar sites to native Wet woodland which followed.

The results for Wet woodland creation, management and restoration are shown in Tables 3, 4 and 5 below.

In the process of reaching these targets, by using the methodology as described, Aim 1 and Aim 3 were also achieved. Many of the landowners contacted were very enthusiastic about the project, understood its benefits and were happy to host a joint site visit to their woodlands. However, several of these owners were not inclined to carry out any management work or any new Wet woodland creation. Indeed, many of their woodlands did not require essential work, and they often had no additional land on which to expand the existing woodland, or create new woodland. In these cases, the woodland was simply mapped and recorded to contribute to Aim 3.

Wet woodland ‘management’ activity is defined here as normal beneficial woodland management activities in woodland where the majority of the composition is native species, such as light removal of non-native tree species as part of a normal thinning or light select felling, removal of non-native tree seedlings from the understorey, removal of invasive non-native ground flora, defining minimum or non-intervention areas, coppicing, reduction of deer browsing etc. Wet woodland ‘restoration’ is defined as larger scale non-native removal such as conifer and Poplar plantations, and the restoration of native Wet woodland on the site either by planting or natural regeneration (preferred method).

Table 3. Proposed areas of native Wet woodland creation

Map No	GIS site ref	Location	Habitat	Scheme	Area (ha)
17	034	Osier Carr	Improved grassland adjacent to existing Wet woodland – possible old osier bed	FC EWGS	0.95
2	005	Hill Farm	Arable land adjacent to existing Wet woodland	FC EWGS	0.68
1	001 and 002	Castle Farm	Improved grassland and marsh adjacent to existing Wet woodland	FC EWGS	3.20 (in 2 sites)
10	025	Taverham Hall School	Windblown poplar area adjacent to Wet woodland	NCC	0.20
11	026	Woodfields Farm	Arable reversion adjacent to Wet woodland fringe/pond	FC EWGS	0.43
22	047, 048	Pensthorpe Nature Reserve	Old gravel workings/railway line/grassland adjacent to Wet woodland restoration	FC EWGS	4.85 (in 2 sites)
				Total	10.31

Table 4. Proposed areas of Wet woodland management

Map No	GIS site ref	Location	Habitat	Scheme	Area (ha)
3	008	Great Witchingham Fuel Allotment Charity	Mixed Wet woodland	FC EWGS	10.00
2	Part 007	Hill Farm	Alder carr	FC FL & EWGS	0.70
4	011,012,013	Home Farm	Mixed Wet woodland	HLS	3.20 (various sites)
22	041, 042, 043, part 040	Pensthorpe Nature Reserve	Mixed Wet woodland	FC EWGS	5.40 (various sites)
17	Part 033	Grays Wood	Alder carr	FC FL	0.70
				Total	20.00

Table 5. Proposed areas of Wet woodland restoration

Map No	GIS site ref	Location	Habitat	Scheme	Area (ha)
22	Part 040, part 046, 050	Pensthorpe Nature Reserve	Conifer removal by felling or thinning and replanting with native Wet woodland as necessary	FC EWGS	14.88 (various sites)
8	021	Whitwell Hall	Poplar removal and replanting with native Wet woodland	FC EWGS	0.50
21	038	Sparham Hall	Enrichment of derelict woodland/alder field boundary	HLS	0.50
6	016	Raynham	Poplar removal and replanting /regenerating with native Wet woodland	FC FL & EWGS	3.00
5	015	Hockering Wood	Poplar removal and regenerating with native Wet woodland	FC FL & EWGS	4.00
				Total	22.88

Case Study: Pensthorpe Nature Reserve

Following discussions with Natural England regarding the River Wensum Restoration Strategy, a meeting was held at Pensthorpe Nature Reserve to discuss the Norfolk Wet Woodland Project and The Reserve's woodland management objectives. The objective was to find a way forward that would enable us to work together – how the project could advise and assist the landowner and managers where needed, and how Pensthorpe could make a contribution to the overall aims of the project.

Pensthorpe Estate is situated between Fakenham and Great Ryburgh in North Norfolk and extends to around 202 hectares; of which approximately 50 hectares are existing or developing woodland and 6 hectares are potential new woodland; in 23 contiguous woodland areas comprised of 57 proposed management compartments.

The woodland structure and habitat type ranges from Ancient semi-natural type dry and wet broadleaved woodland, semi-mature conifer plantation on Wet woodland and glacial pingo sites, and naturally regenerating oak on drier valley slopes, to regenerating willow and alder on poorly drained boggy ground.

Pensthorpe has in the region of 16.43 hectares of native broadleaved Wet woodland, all within the floodplain of the River Wensum SSSI/SAC and its tributary the Langor Brook, as well as approximately 6.92 hectares of land that might either be planted or naturally-regenerated to achieve Wet woodland status. Most importantly, these woodlands lie within a landscape which is

the result of old gravel extraction, now managed for conservation, and are linked by an ecological network of open water, reedbed, meadow and bog.

Pensthorpe currently receives in the order of 72,000 visitors a year and is the principal tourism destination in the Wensum Valley. Most of these visitors gain access to some woodland, either on foot or on a guided vehicle tour. In addition to this, over 4 million viewers a day tune in to the BBC Springwatch series, which is based at Pensthorpe and also uses the woodlands as a backdrop to many of its broadcasts.

Following initial meetings with the Estate owner and manager, it was agreed that the Wet Woodland Project would assist the Estate to map, assess, record and make management decisions for all the Estate woodlands, with the objective of enhancing the biodiversity of all the Estate woodland. The main focus was to be the restoration of existing non-native (mainly coniferous) woodland on wet sites to native Wet woodland, to buffer and link these restored sites by the creation of new native Wet woodland. Several of these restoration sites show indicators of having been Ancient woodland sites. As an added objective, the proposed woodland management was seen as creating an opportunity for the sustainable heating of the Pensthorpe buildings complex using a woodfuel boiler, and a meeting was arranged at the Estate through the project with a woodfuel advisor.

The results were that the Estate proposes to carry out various beneficial woodland management activities including the following:

- To carry out a Woodland assessment for biodiversity and landscape
- To create a 20 year Woodland Management Plan
- To carry out beneficial management, including thinning, removal of non-natives and restoration of native woodland, including Wet woodland and Ancient woodland sites, creation of ecological buffers and linkages by new Wet woodland establishment
- To address deer management
- To act as an exemplary site for the restoration, creation and management of Wet woodland in Norfolk, using their education facilities, site tours and media contacts

These proposals represent a comprehensive reappraisal of woodland management at Pensthorpe, reintroducing sustainable and active management on over 50 hectares of woodland, including approximately 13 hectares of ASNW type woodland, creating an additional 6 hectares of Wet woodland and bringing about the restoration of 15 hectares of Wet woodland currently under coniferous plantation. In short, this is a major woodland management initiative in one of Europe's most important river valleys, the River Wensum SAC. (Appendix I: Pensthorpe Woodland Management Statement)

Discussion

This report does not seek to determine the distribution, size, quality, rate or reason for of loss or gain of Wet woodland habitat in the catchment areas stated, other than any relevant observations on these subjects which arose as part of the work with landowners and managers. The maps

supplied do not indicate ecological opportunity mapping for Wet woodland creation or management/restoration, they indicate existing Wet woodland for recording purposes only, or actual proposals by the landowner concerned to carry out these changes.

The River Wensum is a low gradient, groundwater dominated river. It flows over chalk that has been overlain with glacial drift, sand and gravel. The higher plateaus and valley sides of the catchment are dominated by intensive arable land use, and the floodplain is characterised by grazing marsh, wet meadows, fen, reedbed, and scattered woodland. Since clearance of the floodplain forests approximately 4,500 years ago, man has had a continued modifying effect on the river and its catchment in terms of artificial drainage, dredging, embankment, impounding and quarrying for sand and gravel. The effects include siltation, a lack of 'naturalness' by intensive management, and importantly – the lack of native riparian vegetation, including woodland.

The Wet woodland habitat seen was generally in small (less than 1-2ha), fragmented unmanaged sites which over time may become lost, and either were or may become unviable as a habitat for known priority species. Many of these sites are derelict Common alder coppice. There are notable exceptions to this, where sporadic large Wet woodlands occur (greater than 10ha) within a single ownership where appropriate management is taking place, e.g. Dillington Carr, Gressenhall and Old Carr, Gressenhall, and those smaller areas that are under multiple ownership but which effectively create a larger habitat by their physical linkage in the landscape e.g. Great Witchingham Fuel Allotment linked with Wrong's Covert.

There were often no suitable opportunities to buffer existing Wet woodland by new native Wet woodland creation, or to create new Wet woodland areas by planting, because of the presence of adjacent valuable alternative wetland priority habitats such as grazing marsh or wet meadow.

There is a case for minimal or non-intervention in Wet woodland, as it is seen that disturbance and the change in light/moisture conditions may have a detrimental effect on the habitat required for priority species dependants. It is also seen that, left to its own devices, Wet woodland will perpetuate itself by progressing through senescence and regrowth by natural regeneration of pioneer and possibly climax species. Consideration should be given, however, to the appropriate management of derelict alder coppice – where some discreet cutting can revitalise and perpetuate these woodlands, many of which are experiencing large scale standing deadwood due to a single age structure being affected by long term lack of management of the light conditions – especially the smaller, fragile, isolated sites. Many species dependent on the partial shade and standing water that these Carrs provide may experience major loss of habitat when large areas of the canopy fail. While many Wet woodlands appeared to be robust in terms of native species canopy cover, they were found to lack any field layer or indications of richness of ground flora, and were static or senescent in terms of potential development by natural regeneration. This appeared mainly to be caused by lack of management and the resulting minimal light conditions throughout, or severe restriction of regeneration by deer browsing where particularly ash and hazel were components. In general, it was felt that some discreet management was appropriate to many of the sites visited, often including very light cutting of coppice on selected stools (only where deer were not liable to predate or were excluded), and /or removal of non-native species and regeneration by native Wet woodland either by natural regeneration (preferred) or planting. Consideration of appropriate management also had the advantage of designating areas suitable for minimum or non-intervention, to create a range of

conditions within the woodland – lighter areas for restructuring/regeneration and shady, boggy undisturbed habitat with standing and fallen deadwood.

The association of Wet woodlands with grazing marsh was also seen as a threat to the woodland where inappropriate levels of grazing and poaching of the ground existed. There would be a great advantage to discussing and agreeing a change of intensity/seasonal management with relevant landowners where feasible. Exclusion by fencing for part of the year, or all year from particularly vulnerable Wet woodland could be an option if sufficient grant funding could be found.

The fencing off or lack of cutting Wet woodland margins and allowing the extension, linkage and buffering of the habitat by the natural regeneration of native tree species on suitable sites was seen as the single most effective and preferred way of achieving this habitat expansion.

The availability of grant to support the landowner to bring about beneficial change, either under HLS, County Council or Forestry Commission EWGS, was seen as critical to the success or failure of this project's aims.

Until recently, there has been very little recognition of the importance of Wet woodland. Despite being a priority habitat under the UK Biodiversity Action Plan with its own Habitat Action Plan (HAP) for many years, it has been one of the most recent to be given Local HAP status in many counties. This may be due to the lack of assessment of its value as a wildlife habitat – it has the unique characteristic of combining the values of a variety of ecosystems – for instance standing water, boggy ground, reedbed, wet grassland, wetland ground flora – and provides a unique habitat for priority wildlife species. The historic loss of Wet woodland has been complicated by the requirements and objectives of conservation organisations to restore other threatened wetland habitats such as reed bed or fen on potential or existing Wet woodland sites, compounding the loss. Projects such as the Norfolk Wet Woodland Project seek to address this confusion, to gain a balance of approach to the relative importance of these priority habitats which often compete for the same sites. This balance can be gained at a management level, such as that sought by the work of the Regional Wet Woodland Task Force and at a field level by, for example, the Wet Woodland Project Officers, Forestry Commission Woodland Officers, Natural England HLS Field Officers and the Wildlife Trust Conservation staff ensuring a good level of communication and working relationships that result in all the wetland habitats, including Wet woodland, being considered and represented on suitable sites – as the UK BAP now recommends.

Recommendations

- Maintain the presence of The Norfolk Wet Woodland Project in these catchments in some form, to continue the impetus in promoting awareness, understanding and participation in enhancing and expanding this habitat
- Continue to develop contacts on the Wensum and begin work on the Nar – maintain the achievement of agreed new targets
- Maintain contact with landowners who have entered into FC EWGS contracts, giving advice and assisting with management
- Develop contacts with Minerals Planning sites

- Advise and develop Pensthorpe Nature Reserve as an exemplary site for Wet woodland
- Continue and develop working relationships with FWAG and Natural England HLS Field officers to establish Wet woodland as part of Farm Plans under HLS, and explore the possibilities of re-wetting suitable sites under HLS
- Continue to liaise with the Forestry Commission Woodland Officer in existing and new EWGS applications
- Continue to liaise with conservation organisations and partners to promote mutual understanding of the importance of maintaining and increasing this priority habitat
- Link with the Regional Wet Woodland Task Force

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