The Sherwood Biodiversity Opportunity Mapping Report



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The Sherwood Biodiversity Opportunity Mapping Project

Credits:

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Funding:

The Sherwood BOM was funded by Natural England and by the development phase of the Sherwood Landscape Partnership Scheme, 'From miner to Major: the real Sherwood Forest'.

1. Aim of the Project

The aim of this project is to produce a Biodiversity Opportunity Map (BOM) for the Sherwood Landscape Partnership Scheme area. This report will also help to underpin the wider work of the Nottinghamshire Biodiversity Action Group (BAG), the Local Biodiversity Action Plan (LBAP) partnership for Nottinghamshire.

2. Background and context to the Project

In 2008 the Nottinghamshire BAG resolved to produce a Biodiversity Opportunity Map for the County, in order to:

- Help us have a better understanding of the current distribution of biodiversity in the County
- Provide a spatial vision for how partners want the biodiversity of the County to look in the long and medium term
- Identify the most effective way to re-create habitat networks at a landscape-scale
- Help to focus partners' resources on optimising biodiversity gain
- Help to deliver our contribution to the England Biodiversity Strategy, such as for monitoring and reporting, and target-setting for habitats and species
- Inform spatial planning, including the delivery of Green Infrastructure
- Inform agri-environment targeting
- Underpin Biodiversity Offsetting
- Guide the work of the Local Nature Partnership and Local Enterprise Partnership
- Inform a wide range of other strategies, such as for climate change and ecosystem services
- Provide a robust case for developing funding bids
- Influence policy makers, landowners and land managers

Initially, the BAG intended to adapt the Regional BOM (which was under development at the time) into a County model, but over the next two years it became clear that for technical reasons this was not possible. Partners resolved to develop our own model that would best suit our needs in Nottinghamshire and would draw widely on best practice from around the UK. The availability of funds to progress the work was, however, a seriously limiting factor, particularly as the County Phase 1 mapping was only available as a hard copy and has never been digitised (due to cost).

A task and finish group of the BAG was established - the BOM Working Group (see Appendix 1) - to determine the best approach on behalf of partners, and after reviewing several models from other counties, a decision was made in 2012 to utilise the Habitat Network Model developed in the National Forest, as this was most closely correlated to what we aimed to achieve and could be run on the computer software (MapInfo) available to the partners. The National Forest Company team was willing to share both their Habitat Network Model and their considerable staff expertise, having developed their model in-house.

The opportunity then arose to bid for funds from various sources to begin the BOM process on discrete parts of the county. Initially this work took place in Sherwood during 2012/3 and this work was funded by Natural England. Unfortunately the funding covered BOM process but did not cover the production of a final report. In 2016 funding was found through the development stage of the Sherwood Landscape Partnership Scheme, and this has led to the production of this document.

During the intervening years (between 2013 and 2016) funding has been provided by the Trent Vale Landscape Partnership Scheme and the Nottinghamshire County Council Minerals and Waste Team, to undertake the BOM process in the Trent Valley. This process was undertaken in two phases, firstly in the Trent Vale between Newark and Gainsborough and secondly in the area between Nottingham and Newark. In 2013/14 funding was made available by two local authorities (Rushcliffe Borough Council and Broxtowe Borough Council) in conjunction with funds from the Environment Agency to undertake the BOM process within Broxtowe and Rushcliffe (west of the A46), including the final section of the Trent Valley between the eastern edge of Nottingham (Netherfield) and through the city to the county boundary with Derbyshire. Funding to undertake the BOM process in the remaining part of Rushcliffe Borough (Rushcliffe east of the A46) was made available by Rushcliffe Borough Council in 2014/15. In 2015/16, Ashfield District Council were able to provide funding to pay to undertake the BOM process across the parts of this district that fell outside of the Sherwood BOM area.

A report detailing the outputs from the Trent Valley BOM (the central and northern sections) was produced in September 2013 and this was followed by a report detailing the BOM outputs for the Borough of Broxtowe, produced in March 2014. A report for Rushcliffe, West of the A46, was produced in October 2014 and this was followed by the production of a report detailing the outputs of the BOM exercise for the East of Rushcliffe in March 2015. The two Rushcliffe reports were merged into a final report for the whole of Rushcliffe, produced in July 2015. In February 2016 a report detailing the results of the BOM process for the whole of the Trent Valley within Nottinghamshire was produced. Most recently, a draft report of the Ashfield BOM was produced in June 2016.

3. Methodology

The following methodology has been used in undertaking the BOM process, which has been agreed by the BOM Working Group and the BAG:

- Geo-rectification of 1997-8 Phase 1 habitat map image files within MapInfo
- Digitisation of the Phase 1 habitat maps using MapInfo
- Updating of the Phase 1 habitat maps using aerial photography interpretation (2007 and 2009 flights), BAG LBAP habitat mapping data, and latest Local Wildlife Site knowledge from the Nottinghamshire Biological and Geological records Centre (NBGRC).
- Assigning relevant habitats to one of the four broad habitat types - woodland, acid grassland and heathland, other grassland, and wetland (see Appendix 2 for details of which habitats make up the four broad habitat types).

- Data cleaning within MapInfo to ensure that there were no gaps or overlaps in the mapped data
- Running of the Habitat Network Modelling (see below for further details of the model)
- Stakeholder workshops to annotate the Habitat Network maps (see below) based on the four broad habitat types (woodland, acid grassland & heathland, other grassland and wetland)
- Collation and digitisation of the workshop outputs to produce Biodiversity Opportunity Maps for the four broad habitat types
- Production of draft report for comment
- Amendment of Biodiversity Opportunity Maps following feedback and production of final report

4. The Habitat Network Model

The Habitat Network Model developed by the National Forest Company is based on the permeability of different habitats to the movement of species. It uses a generic 'focal' species to represent each of the four habitat networks (i.e. woodland, heathland and acid grassland, other grassland and wetland), and every Phase 1 habitat that is mapped is assigned a permeability value for each of the four generic species. The permeability values are based on the work of Roger Catchpole at Natural England and have been slightly modified to reflect Nottinghamshire circumstances (see Appendix 3).

The Model then uses "least cost analysis" to calculate how far the focal species can move from its core habitat, with species moving further through more permeable habitats than through less permeable ones; for example, the woodland focal species can move well through habitats that are similar to woodland, such as scrub, but not through habitats which are very different to woodland, such as arable farmland or grassland. Therefore, core habitats that are surrounded by more permeable habitats will allow for stronger networks than those separated by impermeable ones. Where areas of core habitat become linked, these are referred to as Habitat Networks. To assist in the interpretation of this data, Habitat Networks have been placed into different categories depending on their size (which is the size of the Habitat Network, not the size of the core habitat contained within the Habitat Network), so that large Habitat Networks (containing areas of well connected habitats) can be distinguished from small Habitat Networks (representing isolated and fragmented areas of habitat).

5. Workshops

A stakeholder workshop was held during the process of gathering the information to go into this report. The workshop was held on Tuesday 26th February 2013 in the Oak room at Sherwood Forest Visitors Centre. The workshop was attended by 24 individuals representing 15 organisations.

Appendix 4 provides a list of attendees for the workshop.

During the workshops, participants were asked to annotate the Habitat Network maps for each of the four broad habitat types, for two timescales – a long term 50 year period, and a shorter term 10 year period. They were asked to resist the temptation to necessarily link together all the Habitat Networks, and to think about the size and scale of habitats to be created, and where these might be best located within the landscape. Participants were also asked to follow the principles set out in 'Making Space for Nature' – Better, Bigger, More, Connected, using the following definitions:

Better: *Areas of existing, but degraded habitat, which need their condition improved*, e.g. scrubby heathland or mixed woodland with a high proportion of non-natives. This particularly relates to those sites that are in (very) poor condition.

Bigger: *Areas onto which existing habitat can be expanded*, e.g. adjacent areas of conifer plantation or arable land, which help make existing areas larger and also buffer them from other land uses. For the purposes of this workshop, an arbitrary limit will be used whereby 'bigger' can be up to doubling of the site (after which time it becomes 'more').

More: *New areas of habitat to increase the overall resource* - e.g. creation of new heathland or woodland on arable land, in areas that do not abut existing habitat that can be made 'bigger' (or where the size of an existing site is more than doubled).

Connected: *Enhancing existing, and creating new, connections between existing/planned areas of habitat*, either through continuous corridors or by using stepping stones, so that currently isolated habitat blocks are linked up. Obviously 'bigger' and 'more' may result in the creation of new connections anyway, and 'better' may result in the enhancement of existing connections, so this relates particularly to things like narrow, linear linking strips of habitat (along road verges or disused railway lines) or very small patches of habitat that will act as stepping stones which on their own don't deliver substantial areas of new habitat.

A range of other data was available to workshop participants to help assist in determining where activities to best deliver these principles should be located. This was:

- Agricultural Land Classification
- Environment Agency Flood Maps (Zone 2 and Zone 3)
- Environmental Stewardship and English Woodland Grant Scheme agreements
- Historic Extent of Heathland Mapping
- Land owned by BAG partners (Forestry Commission, National Trust, Nottinghamshire County Council, Nottinghamshire Wildlife Trust and the Woodland Trust)
- Landscape-scale priority areas for partners (the Wildlife Trust's Living Landscapes and the RSPB's Futurescapes boundaries)

- Locally designated site boundaries (Local Wildlife Sites, previously known as Sites of Importance for Nature Conservation and Local Nature Reserves)
- National Character Areas
- Phase 1 habitat maps
- RSPB's HEAP maps (heathland extent and potential mapping)
- Species data (limited to riparian mammals)
- Statutorily designated site boundaries (Sites of Special Scientific Interest)
- Underlying geology (bedrock layer and superficial deposits)
- Wetland Vision map (for reedbed and floodplain grazing marsh)

6. Outputs of the Project

The Sherwood BOM Project has three mapping outputs:

a) "*The Basemap*" (Appendix 5), which shows all habitats across 344 sq km within the project area, based on the digitised 1997-8 Phase 1 survey, updated with reference to aerial photography, the BAG's LBAP habitat mapping data, and knowledge of Local Wildlife Sites from the NBGRC.

b) "*The Habitat Network Maps*" (Appendix 6), which have been produced in MapInfo using the National Forest's Habitat Network Model, for each of the four broad habitat types (woodland, heathland and acid grassland, other grassland and wetland).

c) The "*Biodiversity Opportunity Maps*" (see Maps section), which incorporate (i) the "Long Term 50 Year Opportunities" and (ii) the "*Short Term 10 Year Opportunities*". The former are BAG partners' shared vision and aspirations for what might be achieved over a 50 year time frame, based on the assumptions of a sympathetic funding and planning climate and guided by the current distribution of habitats and their potential for extension based primarily on geology, soils and hydrology. This map also includes details of the longer-term landscape scale visions and targets of BAG partners where they are already in place, but is moderated by immutable constraints such as large settlements and roads. The latter, which overlay the Long Term 50 Year Opportunities, show shorter-term aspirations based upon current or proposed projects and known constraints such as substantial approved development sites, new planned infrastructure and areas of highest value farmland. Each area on the maps is numbered, with a description of the opportunity contained in Appendix 7.

7. What the BOM shows

The following conclusions have been drawn following the workshop and the production of the Biodiversity Opportunity Maps:

i. Priority habitats

The BOM maps indicate that there are a number of opportunities for improving the habitat connectivity and the extent of both woodlands and heathland and acid grassland habitats throughout the Sherwood area. These opportunities are particularly notable in the areas around Clipstone Forest, Birklands and Bilhaugh and in the north around Clumber and Welbeck. In the southern part of Sherwood there are two habitat blocks where the opportunities to enhance these two broad habitat types is apparent, around Newstead and Annesley and also between Blidworth and Calverton.

With the majority of Sherwood being located over the porous substrate of the Sherwood sandstone, the opportunities for wetland habitats is generally restricted to the river corridors. These opportunities are particularly apparent in the Leen, Maun and Meden catchments but other opportunities have been identified in smaller water courses such as the River Poulter, Rainworth Water and Vicar Water.

Not surprisingly, the amount of neutral and calcareous grassland within the Sherwood Area is relatively restricted and has a tendency towards the west of the area. Despite this, opportunities to enhance the connectivity and quality of this resource at a local level have been highlighted in the report. Examples include the waterside grasslands along the River Meden corridor just downstream of Warsop and also the neutral/calcareous grassland resource found in the Hucknall area.

ii. Focal Areas

The BOM maps show that there are several areas where existing habitats and associated opportunities are concentrated, referred to here as 'Focal Areas'. The input of the participants at the workshops has shown that there are substantial opportunities in both the short and long term to enhance and expand these habitats, to buffer them and to link them up to create a stronger habitat network across a landscape scale. These Focal Areas, shown on Map 5 in section 9, are:

1. **Birklands and Bilhaugh:** opportunities are present to improve and extend the existing network of woodland, heathland and acid grassland habitats in this part of Sherwood. This Focal Area is dominated by Birklands and Bilhaugh, which supports a number of exceptional sites such as Budby South Forest, Sherwood Heath, Buck Gates and the former Sherwood Forest Country Park which are of both national and international importance for their wildlife. The area offers significant opportunities to enhance this resource, buffering and enhancing these core sites and strengthening habitat links between sites and across the focal area.
2. **Blidworth to Calverton:** this Focal Area has large potential for the creation, restoration and enhancement of the existing habitat resource in this area. Fragmented areas of woodland, acid grassland and heath offer plenty of opportunities along with large areas of former colliery land offering opportunities for improving the existing habitat resource and creating better connectivity between these habitats.

3. **Clipstone:** centred around Sherwood Pines Forest Park and three key SSSI's (Rainworth Heath, Sherwood Forest Golf Course and Strawberry Hills Heath), this Focal Area offers huge potential for enhancing Sherwood's biodiversity. With the key habitats of woodland, heathland and acid grassland, the Clipstone Focal Area also offers opportunities for a localised pondscape, where improved connectivity could be created between the wetlands at Rufford Abbey Park, Center Parcs, and within Sherwood Pines and south to the Rainworth Water. The current restoration of Rufford Colliery to heathland also offers significant opportunities to increase the extent of the resource in this area, and to improve the habitat connectivity of the area.
4. **Clumber and Welbeck:** this large Focal Area in the north of Sherwood offers opportunities to enhance and improve linkages between an existing but fragmented network of woodland, heathland and acid grassland. Containing both Clumber Park and Welbeck Lake SSSI's, the area has some notable sites, supporting high quality habitat. Opportunities exist to enhance these and other sites and improve linkages between them. There is also potential to improve wetlands within this focal area, especially along the River Poulter and associated wetlands.
5. **Newstead and Annesley:** this Focal Area offers opportunities for improving the biodiversity resource for all four of the broad habitat types. The existing woodland resource which is widespread but very fragmented and work should look at enhancing stands of existing broad leaved woodland and buffering these as well as improving connectivity between these sites. There is also potential to enhance the existing heathland/acid grassland resource. Golf courses at Hollinwell and at Coxmoor support existing habitat patches which could be enhanced, offering good opportunities for reconnecting this resource. In addition the Focal Area offers opportunities for improving and creating better connections between existing wetland sites as well as between areas of neutral and calcareous grassland, such as is found at the former Annesley Pit Top (now Newstead and Annesley Country Park).
6. **River Maun and River Meden Corridors:** flowing eastwards through the Sherwood landscape these two river corridors offer a great opportunity for improving wetland habitat connectivity in central Sherwood. Opportunities exist in this Focal Area to improve existing areas of wetland whilst enhancing the links between these rich wetland pockets.
7. **River Leen Catchment**: this Focal Area primarily offers the opportunity to improve the existing wetland habitat network along the River Leen and its tributaries. However, the area also includes a mosaic of habitats that create an important biodiversity resource across the landscape around Bestwood Country Park. Only the northern and eastern fringes of this focal area fall within the Sherwood BOM area.
8. **Beauvale and Felley:** this Focal Area offers opportunities to enhance the existing woodland and acid grassland resource in this part of Nottinghamshire. A small fringe of this Focal Area falls within the Sherwood BOM area where the principle focus is to provide better connectivity between the existing areas of acid grassland and woodland.

iii. Wider Landscape

As well as those Focal Areas identified above, the BOM identifies a limited number of smaller habitat cluster areas, scattered throughout Sherwood, but also appears to indicate that there are parts of Sherwood where there are no (known) opportunities. However, in these areas, opportunities do exist: improved hedgerow networks, and the planting of hedgerow trees and shelterbelts can be used to improve linkages between woodlands; grassland strips around fields, alongside ditches and roads can help link up isolated grassland sites, and the improved management of ditches, including the creation of buffer strips alongside streams and water courses can serve the dual purpose of linking up wetland sites as well as reducing diffuse pollution. An existing network of live and disused railway lines offer specific opportunities across Sherwood for improving the connectivity between habitats. Although not specifically picked out in the BOM, such opportunities can be delivered through mechanisms like agri-environment schemes. It should also be noted that the BOM picks out certain rivers such as the River Leen, River Maun and River Meden as key features which can be used to improve habitat connectivity in Sherwood; however other rivers, streams and ditches are likely to provide similar opportunities to improve linkages across the landscape. Simple improvements for species, such as installing barn owl boxes, creating hibernaculae for reptiles, providing seed hoppers for farmland birds or otter passes under roads all help to ensure the current landscape is permeable to the wildlife it supports.

iv. Conflicts

It is evident that some areas are appropriate for the creation of more than one type of habitat. In such instances, it may be possible to incorporate both (or all) habitats into a single location through careful planning; alternatively, it may be that one habitat is deemed to be more important than another. Similarly, there may be instances where habitat creation at one location will affect an adjacent area where habitat currently exists (or could be created). Such instances should be looked at on a case-by-case basis as and when opportunities arrive, with the help of specialist ecological input.

v. Opportunities for species

The BOM focuses on habitats, but implicit within this is the expectation that works to make habitats better and bigger, to create more of them, and to ensure that they are linked up, will also benefit the priority species which use these habitats. The species which are likely to particularly benefit from the opportunities identified in this report are:

- Mammals, including bats, water vole and otter
- Birds, including nightjar, woodlark, hawfinch, tree pipit and lesser spotted woodpecker.
- Herpetofauna, including common toad, slow worm and common lizard (plus adder if still extant).
- Fish, including brown trout and bullhead
- Invertebrates, including white-clawed crayfish, hazel pot beetle, black oil beetle, welsh clearwing moth, forester moth, dingy skipper, midas tree-weaver spider etc.
- Plants, lichens and fungi, including petty whin and oak polypore

8. Next steps

This report and the data held within it, provide a unique source of information that can support future nature conservation efforts in Sherwood, especially through the implementation phase of the Sherwood Landscape Partnership Scheme.

However, the report should be seen as a living document that will be updated as better data becomes available or as new opportunities are identified.

9. Maps and tables

Map 1 Woodland Biodiversity Opportunity Map
Table 1 Biodiversity Opportunity table for Woodland (W)

Map 2 Heathland and Acid Grassland Biodiversity Opportunity Map
Table 2 Biodiversity Opportunity table for Heathland and Acid Grassland (H)

Map 3 Grassland Biodiversity Opportunity Map
Table 3 Biodiversity Opportunity table for Grassland (G)

Map 4 Wetland Biodiversity Opportunity Map
Table 4 Biodiversity Opportunity table for Wetland (M)

Map 5 Focal Areas

Map 1 - Woodland Biodiversity Opportunity Map

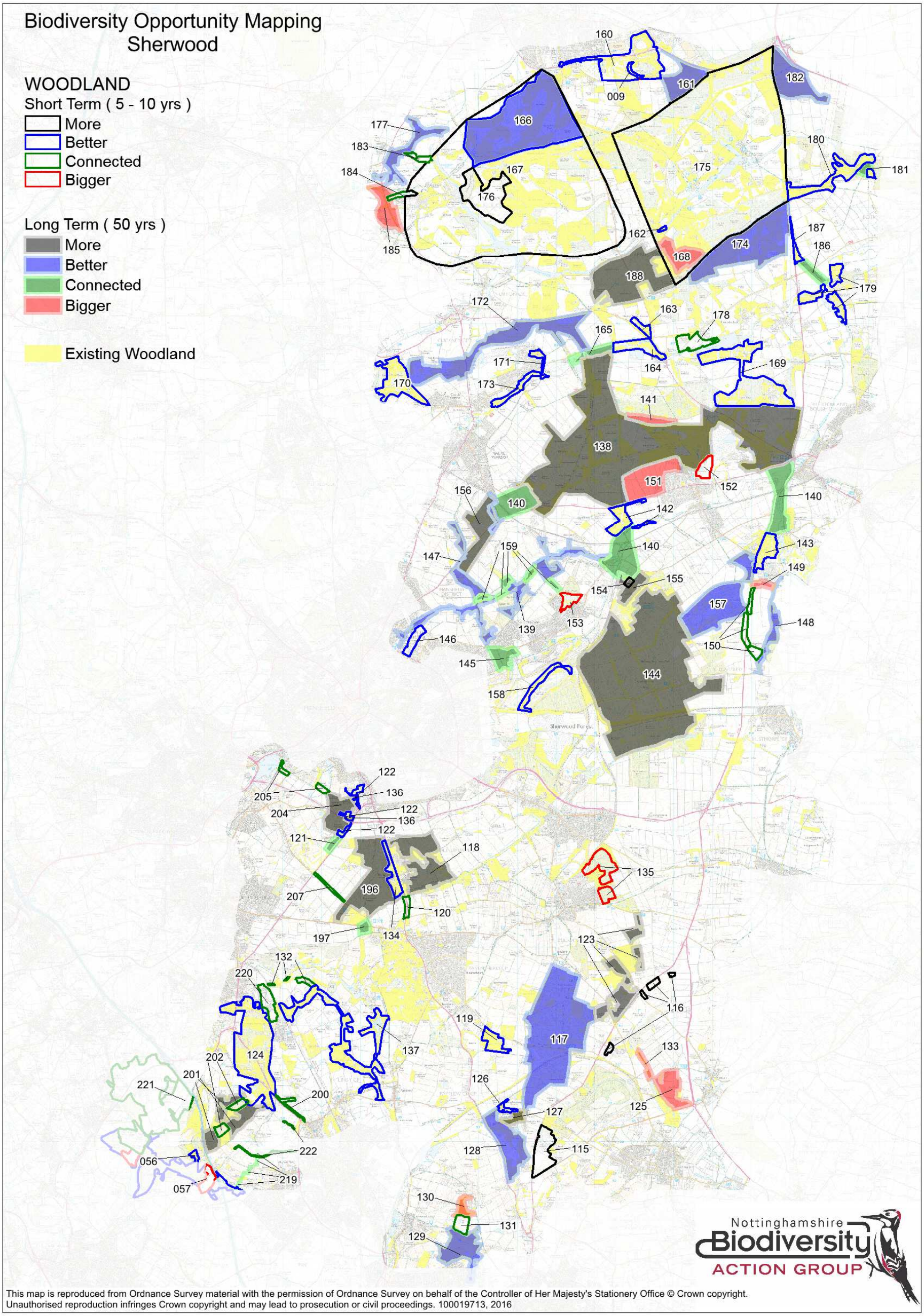


Table 1 - Biodiversity Opportunity table for Woodland (W)

Report ID	Map Display ID	Opportunity
SHER-N	009	Mature Oak Birch Woodland
Brx	056	Watnall Coppice, Watnall Spinney, Moor Green/Beauvale Estate. Enhance and connect these larger blocks of woodland. GJ
Brx	057	New woodland planting to link major woodlands near Haggs Farm. JB
SHER-S	115	Calverton Landfill - woodland creation
SHER-S	116	Planting along A614
SHER-S	117	Blidworth Wood - Improve & buffer existing areas of broadleaf
SHER-S	118	Buffer existing broadleaf woodland habitat and improved linkages within existing broadleaf woodland at this site through the Forestry Design Plan
SHER-S	119	Longdale Plantation - enhance broadleaved woodland
SHER-S	120	Woodland Shelter Belt - target project
SHER-S	121	Linking woodland block
SHER-S	122	Better quality - buffering to create linkages with woodland
SHER-S	123	Bigger buffer - linking woodland
SHER-S	124	Annesley Wood - Restore to broadleaved species mix
SHER-S	125	Woodland recreation
SHER-S	126	Nice area of Oak/Birch at Burntstump. Requires maintenance/enhancement
SHER-S	127	Area of Sycamore dominated wood around Burnstump (Gedling Borough Council). Could be restored to Oak/Birch.
SHER-S	128	Potential buffering habitat through species re-structuring (multiple land ownership).
SHER-S	129	Bestwood Country Park - Big wood has good areas of Oak/Birch/Chestnut. Could enhance and buffer this core area with improvements to the Sycamore dominated areas.
SHER-S	130	Crimea Plantation - An area of Sycamore wood that could be improved to create a bigger block of good woodland habitat alongside Bigwood (Bestwood Country Park).
SHER-S	131	Plantation over landfill will develop into good woodland connection between Bestwood & Crimea Plantation.
SHER-S	132	Strengthen corridors
SHER-S	133	Connecting and buffering existing woodland along the Dover Beck.
SHER-S	134	Retain as woodland - Important moths associated with the Bilberry Star which grows under the tree cover here (i.e. moths needing Bilberry growing under trees).
SHER-S	135	Increase BL within Boundary Wood Blidworth.
SHER-S	136	Better quality - buffering to create linkages with woodland.
SHER-S	137	No comment associated with polygons drawn in workshop - 2 polygons drawn in workshop, one 'Bigger' (Red) & one 'Better' (Blue). These have been combined to one 'Better' (Blue)
SHER-C	138	Important woodland/wood pasture area - long term vision - more with a mosaic of heathland. Kings Wood - Ancient Chestnut coppice with archaeological features relating to Clipston Deer Park. No restoration to Oak/Birch in short term.
SHER-C	139	Prioritise wet woodland along river valleys. We think Maun Valley only has limited opportunities for Wet Woodland Creation
SHER-C	140	Connectivity between larger woodland blocks.
SHER-C	141	Improve ecotones between woodland & heathland - scrub interfaces - happening for Seymour Grove
SHER-C	142	New Lodge Plantation - Improve quality & restore
SHER-C	143	Rufford Abbey Country Park - Woodland enhancement
SHER-C	144	Wood pasture creation with understorey of acid grassland/heathland.
SHER-C	145	Create connectivity between wet woodland along river valleys (see W2) & link River Maun with adjacent woodland.
SHER-C	146	Protect & enhance ancient hedgerows & better connected to River Maun.
SHER-C	147	Forest Hill Plantation - restore & improve woodland including historical trees, Oak, Parliament Oak etc.
SHER-C	148	Cuts wood- Better & restore.
SHER-C	149	Buffer planting to southern edge of Rufford.

Report ID	Map Display ID	Opportunity
SHER-C	150	Connecting - Link habitats. Farm woodland and tree Planting to filter views across east to ridge line and out to wood.
SHER-C	151	Re-create wood pasture.
SHER-C	152	Create wood pasture new V.C site.
SHER-C	153	Intake wood under management for reversion to oak/birch woodland with heathland mosaic.
SHER-C	154	Lindleys Plantation - Already restoring from conifer to broadleaf.
SHER-C	155	Expansion of Lindleys Plantation/wood - FC land.
SHER-C	156	Forest Hill Plantation - restore & improve woodland including historical trees, Oak, Parliament Oak etc.
SHER-C	157	Improve existing woodland quality at Centre Parcs
SHER-C	158	Improve existing woodland quality - Long Plantation
SHER-C	159	Improving connectivity between existing woodland in and adjacent to the Maun Valley
SHER-N	160	Manton
SHER-N	161	Manton Forest Farm - Mixed woodland undermanaged. North of Windmill Lane owned by Langtree properties and farming tenant Mr Horrocks of Elkesley. Land south of Windmill Lane as far as Coach Road owned by Langtree (?) & tenanted by Mr Crocker Manton Lodge Farm.
SHER-N	162	Area of good wet woodland.
SHER-N	163	NCC Fannys Grove - Registered seed stand for Oak. Thin remaining younger woodland to favour Birch/Oak (Opportunity for Heathland areas within).
SHER-N	164	Wet Woodland / Carr includes open water
SHER-N	165	Extension of W6 on connecting
SHER-N	166	Warsop Manor - Plantation / Chestnut. High potential for restoration. Plan agreed HLS / NE.
SHER-N	167	Improve extent woodland in this area. Important area for woodland birds, inc Honey buzzard & Goshawk
SHER-N	168	Convert coniferous plantation at Budby Corner to broad leaved woodland to buffer existing areas of broad leaved woodland
SHER-N	169	Thoresby - Existing HLS- grazed woodland.
SHER-N	170	Ancient Woodland
SHER-N	171	Improve existing woodland but not at the expense of Heathland. Prioritise all heathland/acid grassland.
SHER-N	172	Mixed plantation. Potential to improve to better quality.
SHER-N	173	Needs improving & maintaining health / quality of wet woods & other wetland habitats
SHER-N	174	Restoration of wood pasture.
SHER-N	175	Non-SSSI Parts of Clumber- FC owned. Enhance/restore B/L woodland heath mosaic.
SHER-N	176	Welbeck Park - Parkland trees within pasture. Management as historic parkland area, includes grassland. Need to map extent of this.
SHER-N	177	Create wood pasture to strengthen woodland & heath links.
SHER-N	178	No comment associated with polygon drawn in workshop - 'Better' (Blue) polygon present
SHER-N	179	No comment associated with 3 polygons drawn in workshop - 3'Better' (Blue) polygons present
SHER-N	180	Normanton Larches - improve quality.
SHER-N	181	Woodland/Heathland - connect habitats together through management
SHER-N	182	Existing FC - largely coniferous potential for more broadleaves.
SHER-N	183	No comment associated with polygon drawn in workshop - 'Connected' (Green) polygon present
SHER-N	184	No comment associated with polygon drawn in workshop - 'Connected' (Green) polygon present
SHER-N	185	Create wood pasture to strengthen woodland & heath links.
SHER-N	186	No comment associated with polygon drawn in workshop - 'Connected' (Green) polygon present
SHER-N	187	No comment associated with polygon drawn in workshop - 'Better' (Blue) polygon present
SHER-N	188	No comment associated with polygon drawn in workshop - 'Bigger' (Red) polygon present

Report ID	Map Display ID	Opportunity
Ashfield	196	Thieves Wood: conversion of coniferous wood to broad-leaf wood: ongoing over 50 years on felling of crop (DS) & Improving broad-leaf linkages between existing coniferous compartments by planting broad-leaved trees or by maintaining regeneration trees along rides and woodland edges (MG)
Ashfield	197	Create connecting woodland habitat between Thieves Wood and Newstead Abbey Park (DS)
Ashfield	200	Top Wighay Farm Development - opportunity to create a woodland connection along A611 to Wighay Farm Wood (JAR)
Ashfield	201	Park Forest - change from coniferous to broad-leaf on cropping trees (JAR)
Ashfield	202	Park Forest - create habitat connection between existing broad-leaf by creating broadleaf strips through coniferous sections (JAR)
Ashfield	204	Cauldwell Wood/Stonehills Plantation - Conversion to broad-leaf wood (MW)
Ashfield	205	Lower Oakham/Summit - connectivity between existing woods (MW)
Ashfield	206	Create/improve Woodland/Hedgerow connection alongside public footpath (MW)
Ashfield	207	Two Oaks sand quarry - roadside bunds already planted with woodland (DS)
Ashfield	219	Enhance/establish hedgerow/woodland connectivity between Watnall Coppice and Whyburn Farm (MGW)
Ashfield	220	Linking by hedgerow or woodland strips through Mosley Farm and/or around new developments on the old Annesley Pit site.
Ashfield	221	Felley priory, Greasley estate - Small improvements to hedgerows, field overplanting, shelter belts on edges of arable fields etc. - to strengthen the whole network (JB)
Ashfield	222	Riparian woodland planting in Baker Lane brook catchment, to help reduce flood risk to Hucknall (DJW)

Map 2 - Heathland & Acid Grassland Biodiversity Opportunity Map

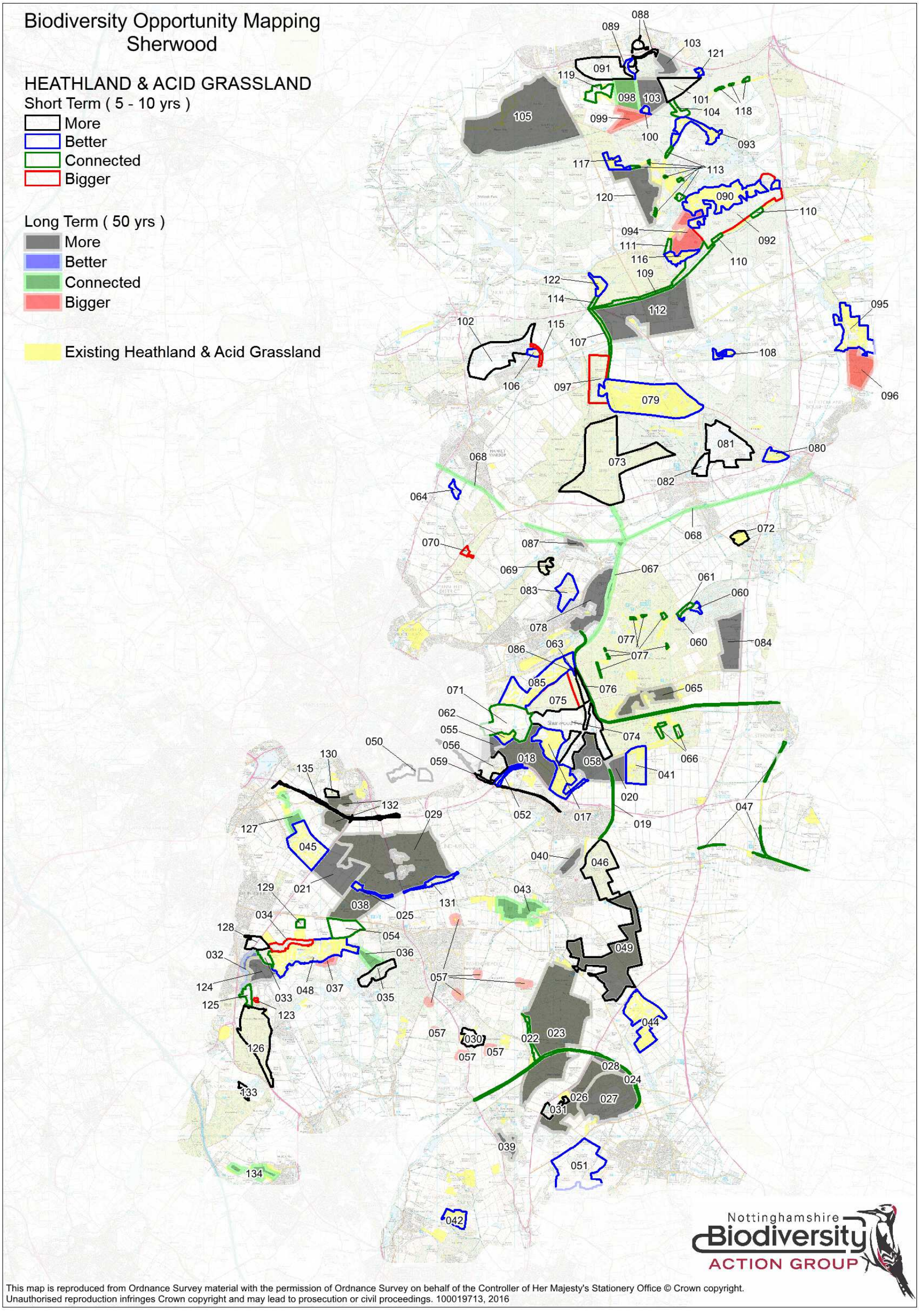


Table 2 - Biodiversity Opportunity table for Heathland & Acid Grassland (H)

Report ID	Map Display ID	Opportunity
SHER-S	017	Rainworth/Rufford area. Rainworth Heath SSSI and parts of Rufford Colliery already restored to heathland/acid grassland to be maintained and improved
SHER-S	018	Comment from H2 South: Clipstone Forest (South) - Long term plan to create open habitats - link SSSIs. Comment from H9 South: Heathland recreation from plantation to link Rainworth & Strawberry Hill Heaths SSSIs & Rufford Colliery area.
SHER-S	019	Improve & enhance old colliery haul roads
SHER-S	020	Inkersall Playing Fields - Creation of heathland from arable land.
SHER-S	021	Two Oaks Farm - Heathland restoration on mineral site. Opportunity to create wide headlands now to encourage colonisation by plants/inverts rather than 50 years from now (SHER-S), Approved restoration scheme for- Two Oaks farm quarry is to 50% heathland and grassland. But will be subject to a ROMP within the next 10 years, and this should secure 100% acid grassland and heathland. (JB) (Ashfield)
SHER-S	022	Blidworth Lodge - Heathland linkages.
SHER-S	023	Sansom Woods - Potential restoration of a mixed mosaic of heathland & woodland
SHER-S	024	Restoration of colliery line through Sansom Wood - Link habitat heathland.
SHER-S	025	Open areas -acid grassland/heathland habitat needs improved management and expanding/linking with other heath/grassland habitats where possible.
SHER-S	026	Watch Wood - better quality/restore mosaic of heath & woodland.
SHER-S	027	Restoration of Calverton Tip.
SHER-S	028	Creation of heathland on arable land.
SHER-S	029	Creation of heathland/acid grassland along rides and to replace some areas of conifer in Thieves and Harlow Woods (SHER-S), Be aware that Thieves Wood is a moth LWS. The moths in question are associated with bilberry growing in the shade of conifer and oak. Do not remove conifer and oak in these locations and plant more bilberry in similar locations. (SW) (Ashfield)
SHER-S	030	Restoration of heathland on mineral land - Bestwood No.2.
SHER-S	031	Foxcovert Nature Reserve - Enhancement of heathland.
SHER-S	032	Robin Hood Hills - Heathland restoration (SHER-S), Improve Heathland habitat, manage bracken and expand cover of Heather/Bilberry etc. (LS) (Ashfield BOM), Currently threatened by planning application by landfill, which would affect lizards, nightjar, woodlark and would fragment the LWS network. (JB) (Ashfield BOM)
SHER-S	033	Improve connectivity of heathland between Robin Hood Hills and Hollinwell.
SHER-S	034	Restoration to heathland & broadleaved woodland (SHER-S), Opportunity to remove coniferous woodland in favour of acid grassland/heathland (LS) (Ashfield BOM).
SHER-S	035	Newstead Swinecote Dale - Heathland restoration.
SHER-S	036	Connectivity of heathland between Newstead Abbey and Hollinwell.
SHER-S	037	Restoration to heathland from Arable.
SHER-S	038	Little Normanshill Wood - Mosaic creation, heathland & woodland.
SHER-S	039	Burnstump (south of) - Restore to acid grassland/heath
SHER-S	040	Tippings Wood - Heathland creation
SHER-S	041	100 acres wood - connect & enhance heathland.
SHER-S	042	Bestwood - Restore sand quarry.
SHER-S	043	Blidworth Grasslands - This area of horse paddocks requires more detailed survey - this could lead to advice/better management. Identify a good mosaic of habitat.
SHER-S	044	Oakmere Golf Club - heathland course has SFT management plan.
SHER-S	045	Coxmoor Golf Club - Heathland course has Sherwood Forest Trust management plan but benefit from more active engagement (SHER-S), Golf-course management. Poor management restricting habitat quality- heather but few heathland species- change regime at Coxmoor and Hollingwell (ADL) (Ashfield)
SHER-S	046	Boundary Wood - Forestry Commission Pine plantation but potential to develop heathland on rides/verges. Great potential for Woodlark/Nightjar habitat creation.
SHER-S	047	Southwell Trail (NCC) - Heathland linkage. Also link to recently acquired Bilsthorpe Branch line?
SHER-S	048	Hollinwell Golf Course - Existing area of heath/acid grassland (SHER-S), Golf-course management. Poor management restricting habitat quality- heather but few heathland species- change regime at Coxmoor and Hollinwell (ADL) (Ashfield)
SHER-S	049	Restore conifer woodland to heathland, link with block to SW (SHER-S), Opportunity to Remove coniferous woodland in favour of acid grassland (LS) (Ashfield)

Report ID	Map Display ID	Opportunity
SHER-S	050	Restore grassland at Berry Hill Park & King George Park to acid grassland by changing current management.
SHER-S	051	Investigate introduction of heathland areas to Ramsdale Golf Course.
SHER-S	052	Take out Pine trees on existing heathland along MARR 617 route. Potential to increase areas westward (?)
SHER-S	054	Target landowner to encourage ELS etc. application to create wildlife corridor (SHER-S), Link existing sites and Two Oaks Quarry, Coxmoor. Most habitat there of potential with quarry. Would involve only loss of small area of arable between Hollinwell and Thieves Wood (RJ) (Ashfield BOM)
SHER-S	055	Ratcher Hill Quarry - Need to check plans to restore Mansfield Sand Quarry after operations cease. Has development pressures will need to engage in process so heathland gets created/restored.
SHER-S	056	Work with landowner at Ransom Wood Business Park to build on improvements to management & heathland creation (Scrapes).
SHER-S	057	All small scattered sites - What do we do with them? Increase patch size to minimise threshold?
SHER-S	058	Rainworth Water LNR - Heathland creation
SHER-S	059	Mansfield Trail. Opportunity to extend existing heathland along Mansfield way trail & also on adjacent parks e.g. Racecourse Park within Mansfield Urban area.
SHER-C	060	Protect heath. Maintain and enhance existing patches of heath / acid grassland within Center Parcs
SHER-C	061	Increase heath. Habitat creation to connect existing heath / acid grassland within Center Parcs
SHER-C	062	Improve quality & size of Strawberry Hills SSSI
SHER-C	063	Newly created heath. Maintain & improve.
SHER-C	064	In private ownership so not sure how to move forward. Development pressures imminent. Old Sand Quarry includes open sand, woodland and acid grassland/scrub.
SHER-C	065	Potential to connect heaths by felling - create large heath for the loss of the fewest tree production. Survey smaller heath in the North to see biodiversity and for potential re-stocking to off-set loss.
SHER-C	066	Widen tracks to create better connection between heath.
SHER-C	067	Connect existing heathland along disused railway and long distance trail Northwards to Birklands woodland. Possible new habitat creation to facilitate connectivity. Not sure of physical opportunity or landownership.
SHER-C	068	Heathland creation along railway lines.
SHER-C	069	Re-stocked Pine plantation but has heath.
SHER-C	070	Open area - some heathland species.
SHER-C	071	Give advice to landowners concerning linking & improving size & quality of small patches of heathland & acid grassland. Might involve thinning of woodland south of Eakring Road. Improving linkages across Mansfield Family Golf Course and linkages into Rufford Colliery site.
SHER-C	072	Amen Corner - Development - boundary being planted with Oak-Birch etc. Most of site scraped ready for building - flooding - little heath as potential for connecting. Number had no associated polygon from workshop
SHER-C	073	Railway Piece - Contains mixed aged heath, tall silver birch could be cut on rotation for income, while creating a good heathland habitat. Manage habitat including deer. Management to connect to Railway piece - large heathland & wood pasture (with grass heath below) habitat. Map of Britain - Contains large area of heath particularly along path. Grassland areas important for invertebrates, especially glow worms, link up areas.
SHER-C	074	Rufford/Rainworth Area - Extant mineral conditions to restore heathland/acid grassland.
SHER-C	075	Gold Course Plantation - Restoration to heathland and Broadleaf woodland.
SHER-C	076	No man's land (NCC) - Heathland restoration from conifer plantation.
SHER-C	077	Linking patches of open habitat creation in Sherwood Pines.
SHER-C	078	Baulker Farm - Clipstone Area - create acid grassland/heathland to buffer forest. The polygon created at the workshop for this area includes Clipstone Colliery Yard.
SHER-C	079	Enhance/improve Budby Heath.
SHER-C	080	Enhance/improve Sherwood heath.
SHER-C	081	Thoresby Colliery - heathland creation on pit tip.
SHER-C	082	Mosaic habitat creation on new Visitor Centre site.
SHER-C	083	Intake wood - heathland restoration.
SHER-C	084	Primrose Hill - heathland/wood pasture creation.
SHER-C	085	Sherwood Forest Golf Course - heathland restoration work supported by Golf Club.

Report ID	Map Display ID	Opportunity
SHER-C	086	NCC Recently acquired railway lines. Bilsthorpe - vicar water multi-user route. Potential to manage Verges/cuttings to improve heathland. Clipstone SSSI - extension.
SHER-C	087	Gorsethopre Meadow NCC restored landfill site to poor grassland/mixed woodland. Potential to thin/remove woodland & heathland creation.
SHER-N	088	Manton Pit - existing heath/grassland. NCC management - undergoing improvement. Existing acid grassland / Heathland on Manton Pit Wood. Potential to develop rides & verges.
SHER-N	089	Heathland registered site (Oak, Birch woodland too).
SHER-N	090	Clumber South Lawn - long standing area of acid grassland. Some heathland creation in last 10 years. Good core reservoir of species
SHER-N	091	Worksop Golf Club - Aspirations to become a heathland course. Has Sherwood Forest Trust management plan. Some heathland restoration already achieved.
SHER-N	092	Short term expansion of South Lawn acid grassland /heath to join Free Board Lane acid grassland/heath
SHER-N	093	Clumber heathland - restored as part of Sherwood Initiative.
SHER-N	094	Long term expansion of South Lawn
SHER-N	095	Walesby Scout Camp - one of the best acid grasslands/heaths in the country. Maintain & enhance.
SHER-N	096	Boughton Brake - remnant heath/acid grassland, long term aim to expand Walesby habitat southwards.
SHER-N	097	Budby heath - potential expansion westwards
SHER-N	098	Kidney Chimp Forestry Commission land - potential connectivity using rides or whole compartment.
SHER-N	099	Old Lings & associated expanding H13
SHER-N	100	Owned by Manton Farm. Area of heathland suffering from scrub encroachment.
SHER-N	101	Manton Farm - potential for restoration of heathland features in a mosaic with woodland (Oak, Birch with some Chestnut. SINC site needs improved management & extend heath/ acid grassland along discussed railway lines north and south. Remnant heathland area being encroached by Pine. Slow Worm and Common Lizard site.
SHER-N	102	Welbeck Colliery Tip - heathland restoration. Restoration scheme on northside already agreed to include some heathland/neutral grassland. Southside approved for solar panel farm and less potential. See County Council Planning Team.
SHER-N	103	Potential land acquisition to turn arable land to lowland heathland. H16 South of Windmill Lane already in HLS. Would link Oak/Birch/Heathland/Woodland blocks. (2 polygons)
SHER-N	104	Widen rides and connect H6 & H14.
SHER-N	105	Worksop Manor - potential areas of heathland restoration. I disagree! Conversion to broadleaved woodland – this is an important area for Honey Buzzard. (also not identified by HEAP maps).
SHER-N	106	SINC site needs improved management & extend heath/ acid grassland along discussed railway lines north and south. Remnant heathland area being encroached by Pine. Slow Worm and Common Lizard site.
SHER-N	107	Improve connectivity of acid grass/heathland. Goal to connect larger areas of heathland in Budby north & Budby south.
SHER-N	108	Thoresby existing HLS.
SHER-N	109	Create linear ride connecting blocks of existing heathland
SHER-N	110	Thoresby Border/Freeboard Lane - heathland restoration. Creating links between existing acid grassland / heath.
SHER-N	111	Link existing heath/acid grassland habitats utilising various methods.
SHER-N	112	Budby North Forest - Heathland re-creation.
SHER-N	113	Connection of existing open habitats to be established
SHER-N	114	Hazel Gap to Gibraltar Lodge - link and enhance.
SHER-N	115	Extend heath/ acid grassland along discussed railway lines north and south, enlarging the habitat around SINC site.
SHER-N	116	Improve existing heath/acid grassland habitats utilising various methods.
SHER-N	117	Improve existing heath/acid grassland habitats utilising various methods.
SHER-N	118	Green (Connected) polygon - no associated comment or number from workshop
SHER-N	119	Green (Connected) polygon - no associated comment or number from workshop
SHER-N	120	Red (Bigger) polygon - no associated comment or number from workshop
SHER-N	121	Red (Bigger) polygon - no associated comment or number from workshop
SHER-N	122	Blue (Better) polygon - no associated comment or number from workshop
Ashfield	123	Annesley Rows - owned by NCC and managed by Annesley Parish Council. Small, young plantation woodland could be felled to extend area of acid grassland (MG)

Report ID	Map Display ID	Opportunity
Ashfield	124	Encourage sympathetic land management practices to enhance current habitat and provide connectivity (MGW)
Ashfield	125	Cemetery is existing LWS (Acid grassland. Steep upper slopes, potential for acid grassland creation for connecting habitat between Robin Hood Hills and Annesley Plantation. Site contains football pitches, play area and a skate park - Parish land (RJ/WK)
Ashfield	126	Create new Heathland/Grassland habitat through rides and possibly compartment management (LS)
Ashfield	127	Link existing sites and Two Oaks Quarry, Coxmoor. Most habitat there of potential with quarry. Would involve only loss of small area of arable between Hollinwell and Thieves Wood (RJ)
Ashfield	128	Grass field surrounding existing acid grassland/heath. Change of management? Could create/restore acid grassland (MG)
Ashfield	129	Potential to connect areas of existing habitat (SM)
Ashfield	130	Disused pit - restore to acid grassland/heathland with FC/NWT (ADL)
Ashfield	131	Enhance/restore wetlands and acid grassland. Requires better management/bracken control (ADL)
Ashfield	132	Bigger and better connected networks of heathland (potential) within existing Forestry Commission woodlands (MG), Needs exploring with FC, evidence of historic heathlands in this area (KB)
Ashfield	133	Area of open habitat that could benefit from bracken control (Exact area unknown) (MG)
Ashfield	134	Approach landowners to connect acid grasslands (x4) through field margins etc. (IW)
Ashfield	135	Extend and enhance: land along roadside of MARR route potentially linked to development of housing and industrial to the north (DS)

Map 3 - Grassland Biodiversity Opportunity Map

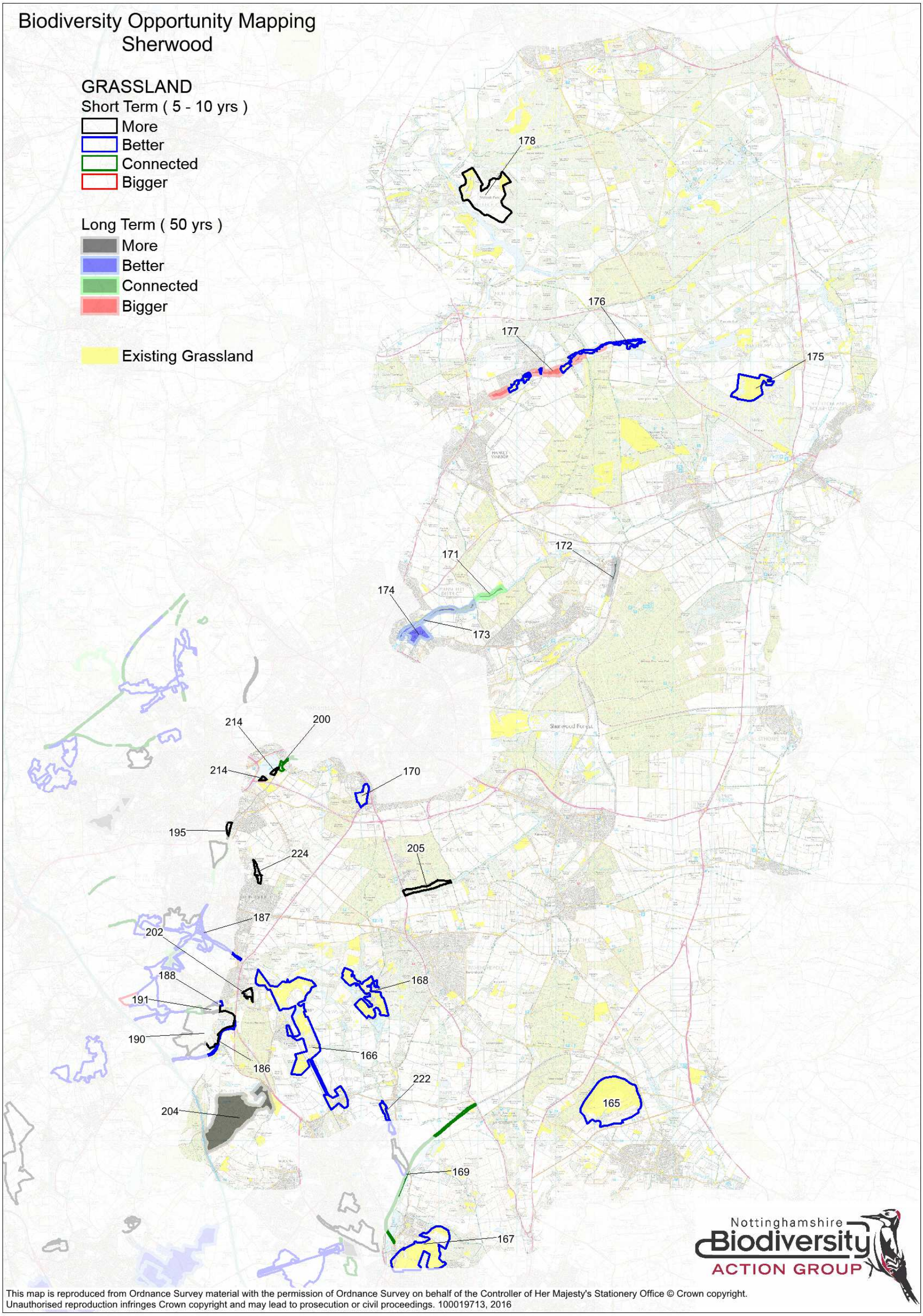
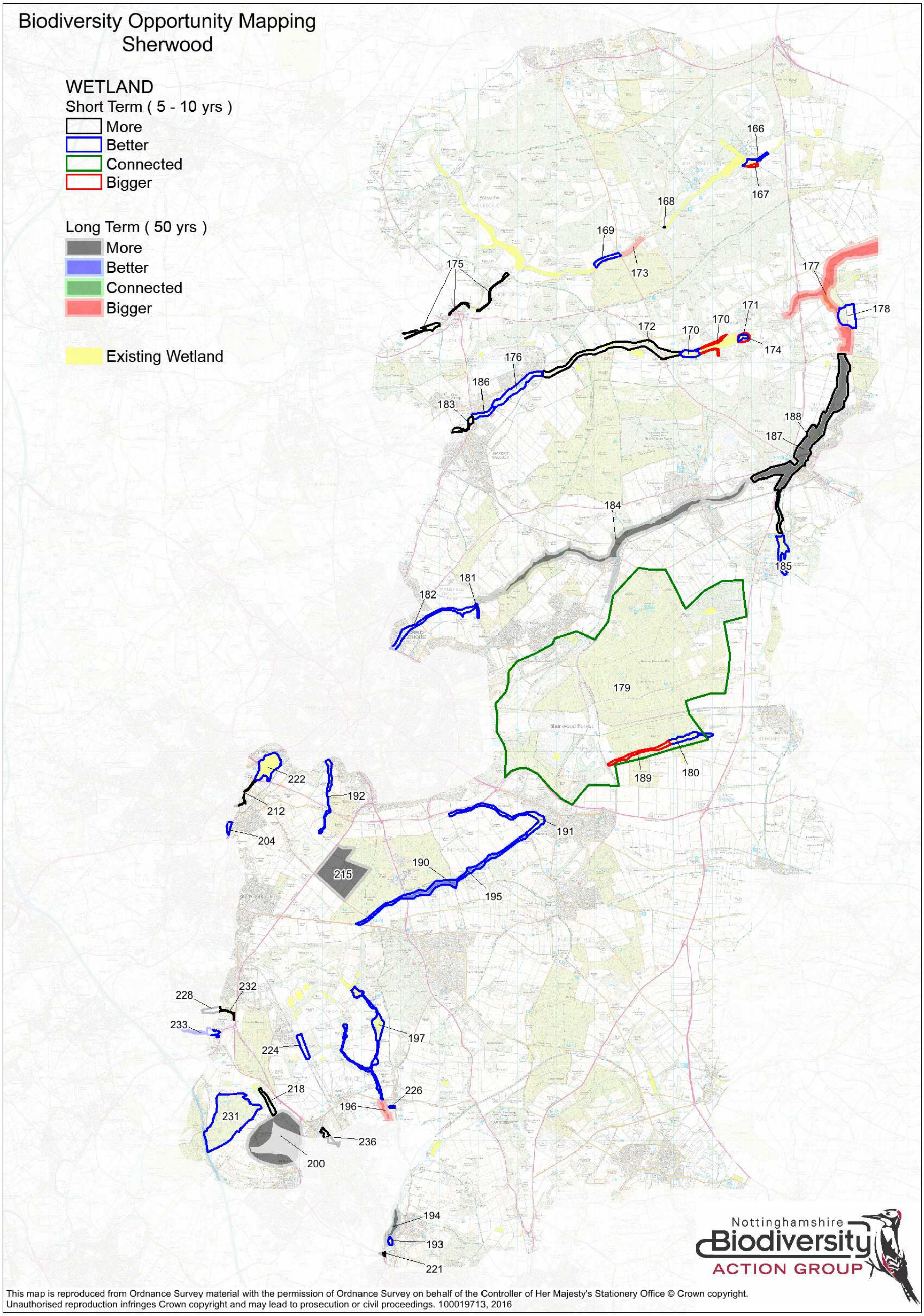


Table 3 - Biodiversity Opportunity table for Grassland (G)

Report ID	Map Display ID	Opportunity
SHER-S	165	Neutral grassland enhancement IF acid grassland not achievable.
SHER-S	166	Newstead & Annesley CP, Freckland Wood & Linby Trail Area - Neutral grassland & calcareous grassland enhancement.
SHER-S	167	Bestwood Tip (NCC) - Neutral grassland. Early colliery restoration currently grazed. Potential to modify grazing regime etc. to improve ecology.
SHER-S	168	Newstead Abbey - Meadow/Pasture, improve Newstead Abbey Conservation Management Plan.
SHER-S	169	Calverton Branch Line (NCC) - Recently acquired NCC applying for funding. Verges/embankment as neutral grassland by clearing & preventing open areas from scrubbing over.
SHER-S	170	Comment and polygon both in pencil from Workshop - interpreted by CJ Mansfield Cemetery maintain and improve areas of grassland.
SHER-C	171	Water Framework Directive (WFD) a potential driver & water quality for Severn Trent Water (STW) (e.g. grassland reversion for Rufford Bore Hole).
SHER-C	172	No comments at event, just polygon drawn Potential area for creation of Neutral Grassland/restore water meadow at Dog and Duck and in the other upstream grassland areas (CJ)
SHER-C	173	Maun Valley LNR. Semi - nat/improved neutral/wet grassland.
SHER-C	174	Semi - nat/improved neutral grassland.
SHER-N	175	Thoresby Parkland - Is this acid grassland?
SHER-N	176	Areas of neutral grassland adjacent to the River Meden. Short term maintain & enhance.
SHER-N	177	Areas of neutral grassland adjacent to the River Meden. Long term join up.
SHER-N	178	Welbeck Park - Parkland trees within pasture. Management as historic parkland area, includes grassland.
Ashfield	186	Road sides rich in wildflowers currently being degraded by regular maintenance and overgrowth in some areas (PO)
Ashfield	187	Calcareous grassland, excellent quality. Robin Hood line from Newstead tunnel to Kirkby in Ashfield, Railway station - enhance by removing sapling Ash trees and Hawthorne (ADL)
Ashfield	188	Forest road neutral grassland - designated as such around September 2015 - good habitat for Grass snakes. This site offers opportunities for enhancement (ADL)
Ashfield	190	Verges and internal grasslands and woodland glades. Wildflower areas around ponds/wetness. Grass snakes etc. Better management of existing grasslands in the business park and improvements/ better management (PO)
Ashfield	191	ADC land - oakwood fields - work to commence to improve area to include wild flower meadows, remove pine plantations and scrub, and to enhance grass snake habitats (ADL)
Ashfield	195	North Sutton train station. Remove concrete culver to allow 'river' to cut its own course - flood grassland - requires botanical diversity in grassland (ADL)
Ashfield	200	Possible better connected grassland along and adjacent to the railway line. Land ownership needs investigating. From surrounding paths around Kingsmill reservoir and surrounding area - eastwards into Mansfield (KB)
Ashfield	202	Create/restore grassland in pony fields and land owned by Annesley and Felley Parish Council. Overgrown, possible grass snake presence (PO)
Ashfield	204	Potential for increasing open habitats long term within Forest Design Plan (MG)
Ashfield	205	Create grassland buffer on the slope down to Rainworth Water (RT)
Ashfield	214	Kingsmill reservoir grazing - restore horse grazed land and convert to higher quality grassland.
Ashfield	222	Bring relatively species rich grasslands into management - regular mowing and/or grazing required (LS)
Ashfield	224	Beacon Drive and Holidays Hill. ADC owned land, open space and play area. Scope to improve/increase grassland (WK)

Map 4 - Wetland Biodiversity Opportunity Map



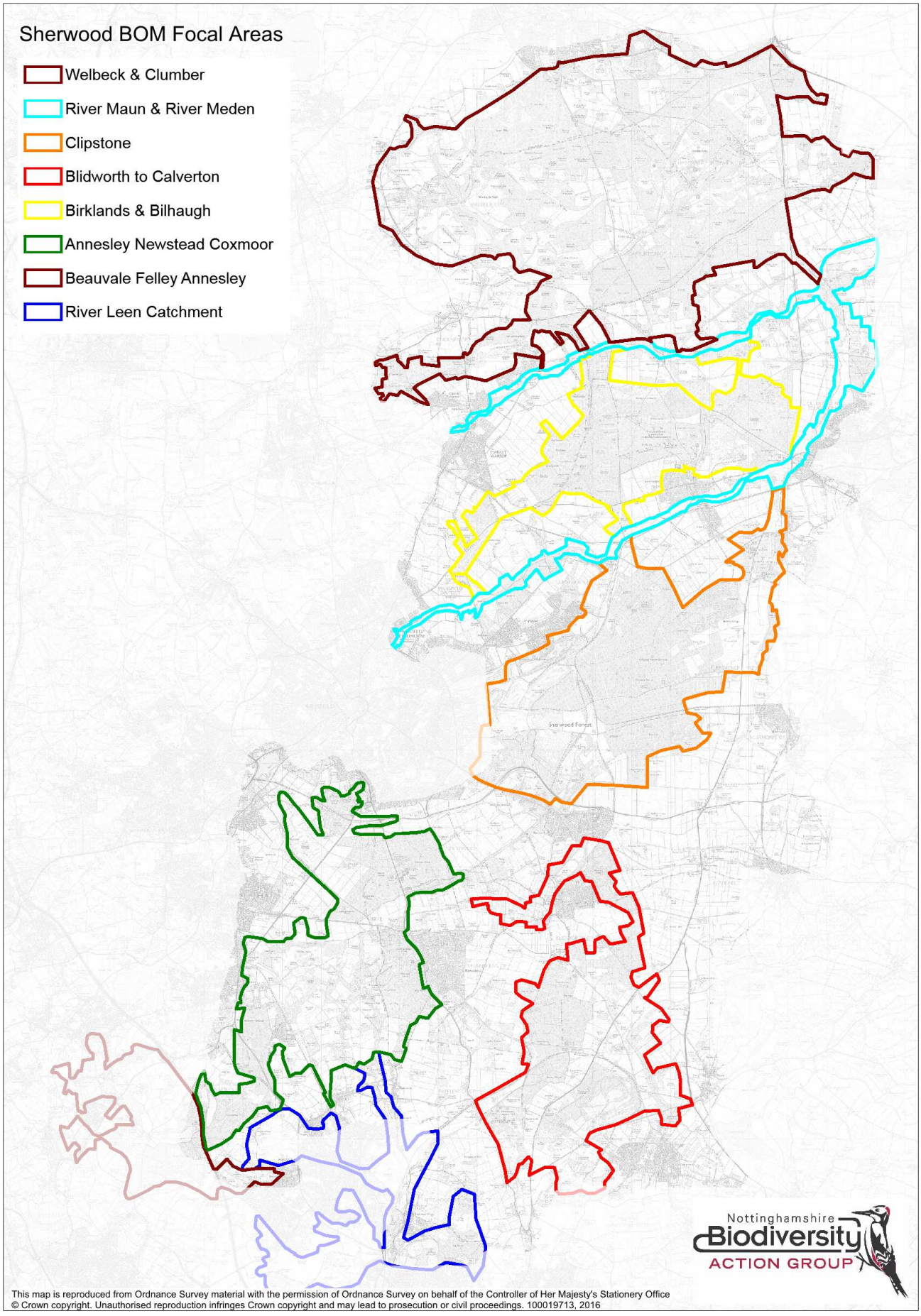
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Table 4 - Biodiversity Opportunity table for Wetland (M)

Report ID	Map Display ID	Opportunity
SHER-N	166	Clumber Park - existing reedbed restored 2012
SHER-N	167	Potential restoration, encroaching scrub.
SHER-N	168	Created Reedbed 2012
SHER-N	169	Water meadow restoration
SHER-N	170	Weir on lake to be raised to compensate for subsidence. Raised levels on the lake will affect the SSSI, so as habitat compensation Thoresby are having to increase the wetland habitat onsite expanding SSSI.
SHER-N	171	Stan's Lake core habitat identified
SHER-N	172	Meden corridor - Wetland enhancement.
SHER-N	173	Water meadows at Carburton
SHER-N	174	Stan's Lake. Subsidence caused by mining - could provide opportunity for creating wetland habitat & grasslands. Funding from UK coal, HLS - create seasonal flash pools.
SHER-N	175	No comments at event, just polygons drawn
SHER-N	176	Needs improving & maintaining health/quality of wet woods & other wetland habitats ('The Bottoms')
SHER-N	177	River Maun/Meden. Subsidence caused by mining - could provide opportunity for creating wetland habitat & grasslands. Funding from UK coal, HLS - create seasonal flash pools.
SHER-N	178	Bothamsall Flash. Subsidence caused by mining - could provide opportunity for enhancing existing wetland habitat & grasslands. Funding from UK coal, HLS - create seasonal flash pools.
SHER-C	179	Creation of pondscape area for Clipstone Forest. To complement lakes at Center Parcs install ponds in adjacent areas of Clipstone Forest subject to reptile surveys etc. C.P lakes important and toad breeding sites. Create chain of ponds C.P - Vicar Water and other water bodies in location. Restore pond. Existing ponds and lakes are not shown on this map (e.g. Center Parcs Lakes, Vicar Water, small ponds in Clipstone Forest etc.). (John Osborne could provide the pond data & FC - Clipstone etc.).
SHER-C	180	Rainworth Water Area - Sherwood Pines, stream enhancement & wet habitat improvement (restoration & better quality).
SHER-C	181	Ensure Spa Ponds managed to maintain and improve wetland health quality as NWT lease finished. Opportunities for improvements - Funding WFD - for de-silting water quality and to find 'source' of water.
SHER-C	182	Maun channel has morphology and provides important habitat features lowering banks and allowing adjacent land to flood may have adverse impacts on the channel such as siltation. Maun Valley Park LNR - Opportunity for wetland improvement, create pools for amphibians/invertebrate. Historic water meadows irrigation system - Duke of Portland. Manage habitat in 5 year rotation to encourage the development of scrub/grassland habitat with creation of shallow scrapes to encourage wetland plant communities. Warren Farm - possibility to create a backwater for fish / wildlife. Habitat improvements again by creating a grassy scrub habitat along the margins. Potential wet grassland creation using surface water flows.
SHER-C	183	Improve river channel & restore wet grassland. Connect with current efforts to restore river channel. The Carrs LNR.
SHER-C	184	Historic water meadow system along the Maun, wetland restoration/creation. Restore/re-create swamp habitat on wet fields. Enhance channel morphology e.g. online features
SHER-C	185	Rufford C.P LNR & Lake - wetland enhancement.
SHER-C	186	Buffer strips on farms etc. to reduce/diffuse pollution - improve wetland habitat. Restore/re-create swamp habitat on wet fields. Part of 'The Bottoms', but not part of the LNR - CJ
SHER-C	187	Create linked wetland habitats. Wetland creation on regularly flooding arable land. Buffer strips on farms etc. to reduce/diffuse pollution - improve wetland habitat. Restore/re-create swamp habitat on wet fields.
SHER-C	188	Create linked wetland habitats. Wetland creation on regularly flooding arable land. Buffer strips on farms etc. to reduce/diffuse pollution - improve wetland habitat. Restore/re-create swamp habitat on wet fields.
SHER-S	189	Damside Covert - Improve wetland corridor through to Rainworth LNR/Rufford. Divert runoff into Rainworth water to stop 'low summer flow'.
SHER-S	190	Wetland habitat restoration & enhancement (SHER - S), Improve Rainworth water tributary through Thieves Wood (DS) (Ashfield).
SHER-S	191	Prioritise enhancement of green SUDS to improve low flow/low water levels to enhance existing wetlands. Rainworth Lake SSSI - Foul Evil Brook. See Mansfield District Council strategic flood risk study. Identifies areas for Biodiversity enhancement.
SHER-S	192	Cauldwell Brook/River Maun - Monitor crayfish & create additional habitat to allow expansion of population into new areas. Replace culvert with wildlife friendly culvert & remove from pipes?
SHER-S	193	Enhance Bestwood Reedbed
SHER-S	194	Potential to enhance wetland habitat adjacent to and within Mill lakes and Bestwood reedbed
SHER-S	195	Wetland habitat restoration & enhancement (SHER - S), Improve Rainworth water tributary through Thieves Wood (DS) (Ashfield).

Report ID	Map Display ID	Opportunity
SHER-S	196	Potential to create diverse wetland
SHER-S	197	Enhance existing wetland in Upper Leen catchment
Ashfield	200	Wetland habitat creation - farmland ponds, debris, dams and marshy areas to help slow flows and reduce flood risk to Hucknall. Catchment area may be larger than shown (DJW) Potential for habitat creation in order to create flood relief for the Hucknall Town Centre Improvements/ also creation of compensatory habitat for proposed developments in this area (KM)
Ashfield	204	Maun Valley Grassland - ADC owned. Introduce more scrapes/improve habitat. Allow streams to meander. Create deeper slower moving watercourses - water vole habitat (SD) Some river channel restoration complete but concrete drainage channels still present so more to do. Reedbed creation could help to tackle water contamination coming from upstream pit tip (KM)
Ashfield	212	River Maun upstream of Kings Mill Reservoir (partly owned by ADC). Remove culvert through Maun Industrial Estate and de-canalise the river directly upstream of reservoir, between Coxmoor Road and MARR. (NC).
Ashfield	215	Inclusion of new ponds and wetland in restoration at Two Oaks quarry (DS)
Ashfield	218	Enhance Wighay Brook from Big Pond - remove confers from brook side, create marsh/flood storage, halt acidification (JAR)
Ashfield	221	Farleys brook/ Hucknall. Create siltation pond that can be cleaned out and/or reedbed filter area to reduce-prevent polluted urban-grey water and sewage from the Hucknall system entering the main Leen (LS/MG)
Ashfield	222	King's Mill Res, ditch management - enhance/restore for resident water vole population (MGW) extend and enhance existing reedbed to assist with desilting proposals (KM)
Ashfield	224	Newstead stocking yard - increase number and depth of wet scrapes so that they hold water for longer in Spring/Summer (MG)
Ashfield	226	Extend pond north of Moor Pond Wood boundary by deepening and connect pond with that in Dam Banks (LS)
Ashfield	228	Lane End Nature area. Semi-dry wetland in need or improvement and expansion (WK) & Wet towards south of ADC area - create scrapes and restore pond on southern boundary and see management plan (PO)
Ashfield	231	Park Forest - manage existing Ponds and wetlands to encourage GCN to move across site - open up canopy (Sycamore) (ADL)
Ashfield	232	The ditch and pond forming the southern boundary to Little Oak Plantation could benefit from restoration work to recreate a continuous wetland corridor for the local populations of grass snakes and amphibians (PO)
Ashfield	233	This area forms the source of the Cuttail brook and the wetlands unite various ponds, streams and marshy areas across the Sherwood Business Park. This is an important wetland complex and should be maintained and enhanced (PO)
Ashfield	236	Potential for habitat creation, in order to create flood relief for the Hucknall Town Centre Improvements (KM)

Map 5 - Focal Areas



Appendix 1 - BOM Working Group

Nottinghamshire County Council

Nottinghamshire Wildlife Trust

Nottinghamshire Biological and Geological Records Centre

Environment Agency

Royal Society for the Protection of Birds

The National Forest Company

Appendix 2 - Composition of broad habitat types

The following table indicates the phase 1 habitats that form the four broad habitat types.

Broad habitat type - WOODLAND	
PBW	Broadleaved woodland - plantation
BW	Broadleaved woodland - semi-natural
PMW	Mixed woodland - plantation
MW	Mixed woodland - semi-natural
Broad habitat type - HEATHLAND & ACID GRASSLAND	
SAG	Acid grassland - semi-improved
AG	Acid grassland - unimproved
ADH	Dry dwarf shrub heath - acid
BDH	Dry dwarf shrub heath - basic
DGM	Dry heath/acid grassland mosaic
WH	Wet dwarf shrub heath
WGM	Wet heath/acid grassland mosaic
Broad habitat type - OTHER GRASSLAND	
SCG	Calcareous grassland - semi-improved
CG	Calcareous grassland - unimproved
SNG	Neutral grassland - semi-improved
NG	Neutral grassland - unimproved
SBW	Parkland and scattered trees - broadleaved
Orchard	Parkland and scattered trees - broadleaved
SCW	Parkland and scattered trees - coniferous
SMW	Parkland and scattered trees - mixed
Broad habitat type - WETLAND	
BB	Blanket bog
DB	Dry modified bog
BM	Fen - basin mire
FPM	Fen - flood plain mire
VM	Fen - valley mire
AF	Flush and spring - acid/neutral flush
BF	Flush and spring - basic flush
IV	Marginal/inundation - inundation
MV	Marginal/inundation - marginal
MG	Marsh/marshy grassland
RB	Raised bog
Reedbed	Reedbed
RW	Running water
RWB	Running water - brackish
RWD	Running water - dystrophic
RWE	Running water - eutrophic
RWC	Running water - marl
RWM	Running water - mesotrophic
RWO	Running water - oligotrophic
SW	Standing water
SWB	Standing water - brackish
SWD	Standing water - dystrophic
SWE	Standing water - eutrophic
SWC	Standing water - marl
SWM	Standing water - mesotrophic
SWO	Standing water - oligotrophic
SP	Swamp
WB	Wet modified bog

Appendix 3 - Permeability values

The following four tables provide a list of Phase 1 habitats and the permeability scores assigned to each of these Phase 1 habitats. The four tables correspond to one of the four broad habitat types (woodland, heathland & acid grassland, other grassland and wetland), and the permeability scores listed indicate how permeable each Phase 1 habitat is to the relevant generic 'focal' species associated with the broad habitat type in question.

The permeability score given for each Phase 1 habitat falls between 1 and 50. A score of 1 indicates that the habitat is a core/source habitat for the broad habitat type. A low score above 1 indicates a habitat that is very permeable to the generic focal species associated with the broad habitat type in question, whilst a score of 50 indicates that the habitat is very impermeable for that focal species.

The final column in each table indicates the source of the information. Where the source is given as JNCC the information has come directly from work by Natural England (Catchpole 2010). Where the source is given as NFC the information has come from the habitat network modelling work undertaken by the National Forest Company. The data from NFC principally relates to a variety of urban habitats not listed in the Phase 1 habitat survey handbook, such as roads, tracks, buildings, airports, railways, suburbs, gardens etc. The exception to this is orchards for which a permeability value has been given based on a similar Phase 1 habitat type (in this case parkland/scattered trees).

In addition, some of the permeability scores devised by Catchpole have been altered to best serve local biodiversity conditions, and some additional habitats have been added to the list of habitats and assigned a permeability score based on similarly structured/functioning habitats. In this case the source of the data is given as NCC. These local amendments are highlighted below:

- To reflect the importance of Open Mosaic Habitat on Previously Developed Land in Nottinghamshire this habitat has been assigned its own Phase 1 habitat code. The permeability scores have been based on similar open habitat types.
- To identify the importance of Reedbed restoration work within Nottinghamshire this habitat was assigned its own Phase 1 habitat code. The permeability scores have been based on similar habitat types.

Reference

Catchpole, R. (2010) England Habitat Network (EHN 2.0) – Metadata. *Natural England*

GRASSLAND

GRASSLAND			
Phase 1 Code	**Phase 1 Habitat Name**	**Grassland Cost**	**Definition Source**
ROAD	A or B road	50	NFC
SAG	Acid grassland - semi-improved	2	NCC
AG	Acid grassland - unimproved	2	NCC
RUNWAY	Airport runway	50	NFC
BG	Bare ground	20	JNCC
P	Bare peat	5	JNCC
BB	Blanket bog	20	JNCC
X	Boundary removed	0	JNCC
CB	Bracken - continuous	10	JNCC
SB	Bracken - scattered	10	JNCC
PBW	Broadleaved woodland - plantation	20	JNCC
BW	Broadleaved woodland - semi-natural	20	JNCC
BUILD	Buildings	20	NFC
Building	Buildings	20	NFC
Buildings	Buildings	20	NFC
SCG	Calcareous grassland - semi-improved	1	JNCC
CG	Calcareous grassland - unimproved	1	JNCC
CS	Caravan site	0	JNCC
CA	Cave	50	JNCC
PCW	Coniferous woodland - plantation	20	JNCC
CW	Coniferous woodland - semi-natural	20	JNCC
AM	Cultivated/disturbed land - amenity grassland	50	JNCC
A	Cultivated/disturbed land - arable	50	JNCC
ESP	Cultivated/disturbed land - ephemeral/short perennial	5	JNCC
DD	Dry ditch	0	JNCC
ADH	Dry dwarf shrub heath - acid	10	JNCC
BDH	Dry dwarf shrub heath - basic	10	JNCC
DGM	Dry heath/acid grassland mosaic	2	JNCC
DB	Dry modified bog	20	JNCC
EB	Earth bank	0	JNCC
BM	Fen - basin mire	5	JNCC
FPM	Fen - flood plain mire	5	JNCC
VM	Fen - valley mire	5	JNCC
F	Fence	0	JNCC
AF	Flush and spring - acid/neutral flush	5	JNCC
BF	Flush and spring - basic flush	5	JNCC
PH-	Hedges - defunct - species-poor	20	JNCC
RH-	Hedges - defunct - species-rich	20	JNCC
PH	Hedges - intact - species-poor	20	JNCC
RH	Hedges - intact - species-rich	20	JNCC
PHT	Hedges - with trees - species-poor	20	JNCC
RHT	Hedges - with trees - species-rich	20	JNCC
I	Improved grassland	50	JNCC
AC	Inland cliff - acid/neutral	50	JNCC
BC	Inland cliff - basic	50	JNCC
IS	Introduced shrub	20	JNCC
LH	Lichen/bryophyte heath	15	JNCC
LP	Limestone pavement	50	JNCC
IV	Marginal/inundation - inundation	20	JNCC
MV	Marginal/inundation - marginal	20	JNCC
MG	Marsh/marshy grassland	5	JNCC
MI	Mine	20	JNCC
PMW	Mixed woodland - plantation	20	JNCC
MW	Mixed woodland - semi-natural	20	JNCC
MH	Montane heath/dwarf herb	15	JNCC
MWAY	Motorway or major dual carriageway	50	NFC
SNG	Neutral grassland - semi-improved	1	JNCC
NG	Neutral grassland - unimproved	1	JNCC
NR	Non-ruderal	10	JNCC
OMHOPDL	Open Mosaic Habitat	5	NCC
AR	Other exposure - acid/neutral	50	JNCC
BR	Other exposure - basic	50	JNCC
SBW	Parkland and scattered trees - broadleaved	1	JNCC
Orchard	Parkland and scattered trees - broadleaved	1	NFC
SCW	Parkland and scattered trees - coniferous	1	JNCC
SMW	Parkland and scattered trees - mixed	1	JNCC
SI	Poor semi-improved grassland	2	JNCC
Q	Quarry	50	JNCC
RAIL	Railway line	50	NFC
RB	Raised bog	20	JNCC
FB	Recently felled woodland - broadleaved	20	JNCC
FC	Recently felled woodland - coniferous	20	JNCC
FM	Recently felled woodland - mixed	20	JNCC
Reedbed	Reedbed	20	NCC
R	Refuse tip	20	JNCC
RW	Running water	50	JNCC
RWB	Running water - brackish	50	JNCC
RWD	Running water - dystrophic	50	JNCC
RWE	Running water - eutrophic	50	JNCC
RWC	Running water - marl	50	JNCC
RWM	Running water - mesotrophic	50	JNCC
RWO	Running water - oligotrophic	50	JNCC
AS	Scree - acid/neutral	50	JNCC
BS	Scree - basic	50	JNCC
DS	Scrub - dense/continuous	20	JNCC
SS	Scrub - scattered	20	JNCC
SWALL	Sea wall	0	JNCC
S	Spoil	20	JNCC
SW	Standing water	50	JNCC
SWB	Standing water - brackish	50	JNCC
SWD	Standing water - dystrophic	50	JNCC
SWE	Standing water - eutrophic	50	JNCC
SWC	Standing water - marl	50	JNCC
SWM	Standing water - mesotrophic	50	JNCC
SWO	Standing water - oligotrophic	50	JNCC
SUBURB	Suburban/rural development	10	NFC
Gardens	Suburban/rural development	10	NFC
Paved	Suburban/rural development	50	NFC
SP	Swamp	20	JNCC
TR	Tall ruderal	10	JNCC
TRACK	Track or minor access road	50	NFC
Path	Track or minor access road	50	NFC
?	Unknown	50	NFC
INDUST	Urban industrial development	30	NFC
URBAN	Urban residential/commerical development	20	NFC
W	Wall	0	JNCC
WH	Wet dwarf shrub heath	10	JNCC
WGM	Wet heath/acid grassland mosaic	2	JNCC
WB	Wet modified bog	20	JNCC

HEATHLAND & ACID GRASSLAND

HEATHLAND & ACID GRASSLAND			
Phase 1 Code	**Phase 1 Habitat Name**	**Heathland & Acid Grassland Cost**	**Definition Source**
ROAD	A or B road	50	NFC
SAG	Acid grassland - semi-improved	1	NCC
AG	Acid grassland - unimproved	1	NCC
RUNWAY	Airport runway	50	NFC
BG	Bare ground	30	JNCC
P	Bare peat	20	JNCC
BB	Blanket bog	3	JNCC
X	Boundary removed	0	JNCC
CB	Bracken - continuous	20	JNCC
SB	Bracken - scattered	20	JNCC
PBW	Broadleaved woodland - plantation	35	JNCC
BW	Broadleaved woodland - semi-natural	35	JNCC
BUILD	Buildings	50	NFC
Building	Buildings	50	NFC
Buildings	Buildings	50	NFC
SCG	Calcareous grassland - semi-improved	50	JNCC
CG	Calcareous grassland - unimproved	40	JNCC
CS	Caravan site	0	JNCC
CA	Cave	50	JNCC
PCW	Coniferous woodland - plantation	20	JNCC
CW	Coniferous woodland - semi-natural	20	JNCC
AM	Cultivated/disturbed land - amenity grassland	50	JNCC
A	Cultivated/disturbed land - arable	50	JNCC
ESP	Cultivated/disturbed land - ephemeral/short perennial	50	JNCC
DD	Dry ditch	0	JNCC
ADH	Dry dwarf shrub heath - acid	1	JNCC
BDH	Dry dwarf shrub heath - basic	1	JNCC
DGM	Dry heath/acid grassland mosaic	1	JNCC
DB	Dry modified bog	3	JNCC
EB	Earth bank	0	JNCC
BM	Fen - basin mire	30	JNCC
FPM	Fen - flood plain mire	30	JNCC
VM	Fen - valley mire	30	JNCC
F	Fence	0	JNCC
AF	Flush and spring - acid/neutral flush	30	JNCC
BF	Flush and spring - basic flush	30	JNCC
PH-	Hedges - defunct - species-poor	10	JNCC
RH-	Hedges - defunct - species-rich	10	JNCC
PH	Hedges - intact - species-poor	10	JNCC
RH	Hedges - intact - species-rich	10	JNCC
PHT	Hedges - with trees - species-poor	10	JNCC
RHT	Hedges - with trees - species-rich	10	JNCC
I	Improved grassland	50	JNCC
AC	Inland cliff - acid/neutral	50	JNCC
BC	Inland cliff - basic	50	JNCC
IS	Introduced shrub	10	JNCC
LH	Lichen/bryophyte heath	10	JNCC
LP	Limestone pavement	50	JNCC
IV	Marginal/inundation - inundation	40	JNCC
MV	Marginal/inundation - marginal	40	JNCC
MG	Marsh/marshy grassland	30	JNCC
MI	Mine	30	JNCC
PMW	Mixed woodland - plantation	35	JNCC
MW	Mixed woodland - semi-natural	35	JNCC
MH	Montane heath/dwarf herb	10	JNCC
MWAY	Motorway or major dual carriageway	50	NFC
SNG	Neutral grassland - semi-improved	30	JNCC
NG	Neutral grassland - unimproved	30	JNCC
NR	Non-ruderal	20	JNCC
OMHOPDL	Open Mosaic Habitat	10	NCC
AR	Other exposure - acid/neutral	50	JNCC
BR	Other exposure - basic	50	JNCC
SBW	Parkland and scattered trees - broadleaved	30	JNCC
Orchard	Parkland and scattered trees - broadleaved	30	NFC
SCW	Parkland and scattered trees - coniferous	30	JNCC
SMW	Parkland and scattered trees - mixed	30	JNCC
SI	Poor semi-improved grassland	30	JNCC
Q	Quarry	50	JNCC
RAIL	Railway line	50	NFC
RB	Raised bog	3	JNCC
FB	Recently felled woodland - broadleaved	10	JNCC
FC	Recently felled woodland - coniferous	10	JNCC
FM	Recently felled woodland - mixed	10	JNCC
Reedbed	Reedbed	40	NCC
R	Refuse tip	30	JNCC
RW	Running water	50	JNCC
RWB	Running water - brackish	50	JNCC
RWD	Running water - dystrophic	50	JNCC
RWE	Running water - eutrophic	50	JNCC
RWC	Running water - marl	50	JNCC
RWM	Running water - mesotrophic	50	JNCC
RWO	Running water - oligotrophic	50	JNCC
AS	Scree - acid/neutral	50	JNCC
BS	Scree - basic	50	JNCC
DS	Scrub - dense/continuous	10	JNCC
SS	Scrub - scattered	10	JNCC
SWALL	Sea wall	0	JNCC
S	Spoil	30	JNCC
SW	Standing water	50	JNCC
SWB	Standing water - brackish	50	JNCC
SWD	Standing water - dystrophic	50	JNCC
SWE	Standing water - eutrophic	50	JNCC
SWC	Standing water - marl	50	JNCC
SWM	Standing water - mesotrophic	50	JNCC
SWO	Standing water - oligotrophic	50	JNCC
SUBURB	Suburban/rural development	50	NFC
Gardens	Suburban/rural development	50	NFC
Paved	Suburban/rural development	50	NFC
SP	Swamp	40	JNCC
TR	Tall ruderal	20	JNCC
TRACK	Track or minor access road	50	NFC
Path	Track or minor access road	50	NFC
?	Unknown	50	NFC
INDUST	Urban industrial development	50	NFC
URBAN	Urban residential/commercial development	50	NFC
W	Wall	0	JNCC
WH	Wet dwarf shrub heath	1	JNCC
WGM	Wet heath/acid grassland mosaic	1	JNCC
WB	Wet modified bog	3	JNCC

WETLAND

WETLAND			
Phase 1 Code	**Phase 1 Habitat Name**	**Wetland Cost**	**Definition Source**
ROAD	A or B road	50	NFC
SAG	Acid grassland - semi-improved	20	NCC
AG	Acid grassland - unimproved	20	NCC
RUNWAY	Airport runway	50	NFC
BG	Bare ground	40	JNCC
P	Bare peat	20	JNCC
BB	Blanket bog	1	JNCC
X	Boundary removed	0	JNCC
CB	Bracken - continuous	30	JNCC
SB	Bracken - scattered	30	JNCC
PBW	Broadleaved woodland - plantation	50	JNCC
BW	Broadleaved woodland - semi-natural	50	JNCC
BUILD	Buildings	50	NFC
Building	Buildings	50	NFC
Buildings	Buildings	50	NFC
SCG	Calcareous grassland - semi-improved	40	JNCC
CG	Calcareous grassland - unimproved	50	JNCC
CS	Caravan site	0	JNCC
CA	Cave	50	JNCC
PCW	Coniferous woodland - plantation	40	JNCC
CW	Coniferous woodland - semi-natural	40	JNCC
AM	Cultivated/disturbed land - amenity grassland	50	JNCC
A	Cultivated/disturbed land - arable	50	JNCC
ESP	Cultivated/disturbed land - ephemeral/short perennial	40	JNCC
DD	Dry ditch	0	JNCC
ADH	Dry dwarf shrub heath - acid	5	JNCC
BDH	Dry dwarf shrub heath - basic	5	JNCC
DGM	Dry heath/acid grassland mosaic	5	JNCC
DB	Dry modified bog	1	JNCC
EB	Earth bank	0	JNCC
BM	Fen - basin mire	1	JNCC
FPM	Fen - flood plain mire	1	JNCC
VM	Fen - valley mire	1	JNCC
F	Fence	0	JNCC
AF	Flush and spring - acid/neutral flush	1	JNCC
BF	Flush and spring - basic flush	1	JNCC
PH-	Hedges - defunct - species-poor	30	JNCC
RH-	Hedges - defunct - species-rich	30	JNCC
PH	Hedges - intact - species-poor	30	JNCC
RH	Hedges - intact - species-rich	30	JNCC
PHT	Hedges - with trees - species-poor	30	JNCC
RHT	Hedges - with trees - species-rich	30	JNCC
I	Improved grassland	50	JNCC
AC	Inland cliff - acid/neutral	50	JNCC
BC	Inland cliff - basic	50	JNCC
IS	Introduced shrub	30	JNCC
LH	Lichen/bryophyte heath	20	JNCC
LP	Limestone pavement	50	JNCC
IV	Marginal/inundation - inundation	1	JNCC
MV	Marginal/inundation - marginal	1	JNCC
MG	Marsh/marshy grassland	1	JNCC
MI	Mine	40	JNCC
PMW	Mixed woodland - plantation	50	JNCC
MW	Mixed woodland - semi-natural	50	JNCC
MH	Montane heath/dwarf herb	20	JNCC
MWAY	Motorway or major dual carriageway	50	NFC
SNG	Neutral grassland - semi-improved	30	JNCC
NG	Neutral grassland - unimproved	20	JNCC
NR	Non-ruderal	30	JNCC
OMHOPDL	Open Mosaic Habitat	20	NCC
AR	Other exposure - acid/neutral	50	JNCC
BR	Other exposure - basic	50	JNCC
SBW	Parkland and scattered trees - broadleaved	30	JNCC
Orchard	Parkland and scattered trees - broadleaved	30	NFC
SCW	Parkland and scattered trees - coniferous	30	JNCC
SMW	Parkland and scattered trees - mixed	30	JNCC
SI	Poor semi-improved grassland	30	JNCC
Q	Quarry	50	JNCC
RAIL	Railway line	50	NFC
RB	Raised bog	1	JNCC
FB	Recently felled woodland - broadleaved	20	JNCC
FC	Recently felled woodland - coniferous	20	JNCC
FM	Recently felled woodland - mixed	20	JNCC
Reedbed	Reedbed	1	NCC
R	Refuse tip	40	JNCC
RW	Running water	1	NCC
RWB	Running water - brackish	1	NCC
RWD	Running water - dystrophic	1	NCC
RWE	Running water - eutrophic	1	NCC
RWC	Running water - marl	1	NCC
RWM	Running water - mesotrophic	1	NCC
RWO	Running water - oligotrophic	1	NCC
AS	Scree - acid/neutral	50	JNCC
BS	Scree - basic	50	JNCC
DS	Scrub - dense/continuous	30	JNCC
SS	Scrub - scattered	30	JNCC
SWALL	Sea wall	0	JNCC
S	Spoil	40	JNCC
SW	Standing water	1	NCC
SWB	Standing water - brackish	1	NCC
SWD	Standing water - dystrophic	1	NCC
SWE	Standing water - eutrophic	1	JNCC
SWC	Standing water - marl	1	JNCC
SWM	Standing water - mesotrophic	1	JNCC
SWO	Standing water - oligotrophic	1	JNCC
SUBURB	Suburban/rural development	50	NFC
Gardens	Suburban/rural development	50	NFC
Paved	Suburban/rural development	50	NFC
SP	Swamp	1	JNCC
TR	Tall ruderal	30	JNCC
TRACK	Track or minor access road	50	NFC
Path	Track or minor access road	50	NFC
?	Unknown	50	NFC
INDUST	Urban industrial development	50	NFC
URBAN	Urban residential/commercial development	50	NFC
W	Wall	0	JNCC
WH	Wet dwarf shrub heath	5	JNCC
WGM	Wet heath/acid grassland mosaic	5	JNCC
WB	Wet modified bog	1	JNCC

WOODLAND

WOODLAND			
Phase 1 Code	**Phase 1 Habitat Name**	**Woodland Cost**	**Definition Source**
ROAD	A or B road	50	NFC
SAG	Acid grassland - semi-improved	30	NCC
AG	Acid grassland - unimproved	30	NCC
RUNWAY	Airport runway	50	NFC
BG	Bare ground	40	JNCC
P	Bare peat	25	JNCC
BB	Blanket bog	30	JNCC
X	Boundary removed	0	JNCC
CB	Bracken - continuous	20	JNCC
SB	Bracken - scattered	20	JNCC
PBW	Broadleaved woodland - plantation	1	JNCC
BW	Broadleaved woodland - semi-natural	1	JNCC
BUILD	Buildings	40	NFC
Building	Buildings	40	NFC
Buildings	Buildings	40	NFC
SCG	Calcareous grassland - semi-improved	30	JNCC
CG	Calcareous grassland - unimproved	30	JNCC
CS	Caravan site	0	JNCC
CA	Cave	50	JNCC
PCW	Coniferous woodland - plantation	20	JNCC
CW	Coniferous woodland - semi-natural	20	JNCC
AM	Cultivated/disturbed land - amenity grassland	50	JNCC
A	Cultivated/disturbed land - arable	50	JNCC
ESP	Cultivated/disturbed land - ephemeral/short perennial	40	JNCC
DD	Dry ditch	0	JNCC
ADH	Dry dwarf shrub heath - acid	25	JNCC
BDH	Dry dwarf shrub heath - basic	25	JNCC
DGM	Dry heath/acid grassland mosaic	25	JNCC
DB	Dry modified bog	30	JNCC
EB	Earth bank	0	JNCC
BM	Fen - basin mire	20	JNCC
FPM	Fen - flood plain mire	20	JNCC
VM	Fen - valley mire	20	JNCC
F	Fence	0	JNCC
AF	Flush and spring - acid/neutral flush	20	JNCC
BF	Flush and spring - basic flush	20	JNCC
PH-	Hedges - defunct - species-poor	1	JNCC
RH-	Hedges - defunct - species-rich	1	JNCC
PH	Hedges - intact - species-poor	1	JNCC
RH	Hedges - intact - species-rich	1	JNCC
PHT	Hedges - with trees - species-poor	1	JNCC
RHT	Hedges - with trees - species-rich	1	JNCC
I	Improved grassland	50	JNCC
AC	Inland cliff - acid/neutral	50	JNCC
BC	Inland cliff - basic	50	JNCC
IS	Introduced shrub	1	JNCC
LH	Lichen/bryophyte heath	40	JNCC
LP	Limestone pavement	50	JNCC
IV	Marginal/inundation - inundation	20	JNCC
MV	Marginal/inundation - marginal	20	JNCC
MG	Marsh/marshy grassland	20	JNCC
MI	Mine	40	JNCC
PMW	Mixed woodland - plantation	1	JNCC
MW	Mixed woodland - semi-natural	1	JNCC
MH	Montane heath/dwarf herb	40	JNCC
MWAY	Motorway or major dual carriageway	100	NFC
SNG	Neutral grassland - semi-improved	30	JNCC
NG	Neutral grassland - unimproved	30	JNCC
NR	Non-ruderal	20	JNCC
OMHOPDL	Open Mosaic Habitat	5	NCC
AR	Other exposure - acid/neutral	50	JNCC
BR	Other exposure - basic	50	JNCC
SBW	Parkland and scattered trees - broadleaved	5	JNCC
Orchard	Parkland and scattered trees - broadleaved	5	NFC
SCW	Parkland and scattered trees - coniferous	30	JNCC
SMW	Parkland and scattered trees - mixed	5	JNCC
SI	Poor semi-improved grassland	30	JNCC
Q	Quarry	50	JNCC
RAIL	Railway line	50	NFC
RB	Raised bog	30	JNCC
FB	Recently felled woodland - broadleaved	5	JNCC
FC	Recently felled woodland - coniferous	5	JNCC
FM	Recently felled woodland - mixed	5	JNCC
Reedbed	Reedbed	20	NCC
R	Refuse tip	40	JNCC
RW	Running water	50	JNCC
RWB	Running water - brackish	50	JNCC
RWD	Running water - dystrophic	50	JNCC
RWE	Running water - eutrophic	50	JNCC
RWC	Running water - marl	50	JNCC
RWM	Running water - mesotrophic	50	JNCC
RWO	Running water - oligotrophic	50	JNCC
AS	Scree - acid/neutral	50	JNCC
BS	Scree - basic	50	JNCC
DS	Scrub - dense/continuous	1	JNCC
SS	Scrub - scattered	1	JNCC
SWALL	Sea wall	0	JNCC
S	Spoil	40	JNCC
SW	Standing water	50	JNCC
SWB	Standing water - brackish	50	JNCC
SWD	Standing water - dystrophic	50	JNCC
SWE	Standing water - eutrophic	50	JNCC
SWC	Standing water - marl	50	JNCC
SWM	Standing water - mesotrophic	50	JNCC
SWO	Standing water - oligotrophic	50	JNCC
SUBURB	Suburban/rural development	25	NFC
Gardens	Suburban/rural development	25	NFC
Paved	Suburban/rural development	50	NFC
SP	Swamp	20	JNCC
TR	Tall ruderal	20	JNCC
TRACK	Track or minor access road	50	NFC
Path	Track or minor access road	50	NFC
?	Unknown	50	NFC
INDUST	Urban industrial development	50	NFC
URBAN	Urban residential/commerical development	40	NFC
W	Wall	0	JNCC
WH	Wet dwarf shrub heath	25	JNCC
WGM	Wet heath/acid grassland mosaic	25	JNCC
WB	Wet modified bog	30	JNCC

Appendix 4 - List of workshop attendees

Sherwood BOM Workshop, 26th February 2013 - list of Attendees				
Name	**Initials**	**Organisation**	**Position**	**E-mail**
Wayne Ball	WB	Sherwood Forest Trust	Landscape Heritage Programme Coordinator	wayne.ball@sherwoodforesttrust.org.uk
Izi Banton	IB	Sherwood Forest Visitor Centre	Site Manager	izi.banton@nottscc.gov.uk
Adrienne Bennett	AB	Forestry Commission	Biodiversity Officer	adrienne.bennett@forestry.gsi.gov.uk
Kira Besh	KB	Mansfield District Council	Sustainable Planning Officer	kbesh@Mansfield.gov.uk
Janice Bradley	JMB	Nottinghamshire Wildlife Trust	Head of Conservation Policy and Planning	Jbradley@nottswt.co.uk
Gareth Broome	GB	Nottinghamshire County Council	Countryside Services Manager	gareth.broome@nottscc.gov.uk
Nick Brown	NB	Thoresby Estate	Land Agent, Thoresby Estate	Nick@thoresby.com
Carl Cornish	CC	RSPB	Conservation Officer (Notts and Lowland Derbys)	ccornish@rspb.org.uk
Nick Crouch	NC	Nottinghamshire County Council	Senior Practitioner Nature Conservation	nick.crouch@nottscc.gov.uk
Josh Dowen	JD	Forest Town Conservation Group	Treasurer	
Shlomo Dowen	SD	Forest Town Conservation Group	Chair	shlomo.dowen@gmail.com
Cathy Gillespie	CG	Nottinghamshire County Council	Team Manager Highway Design (Landscape & Reclamation)	cathy.gillespie@nottscc.gov.uk
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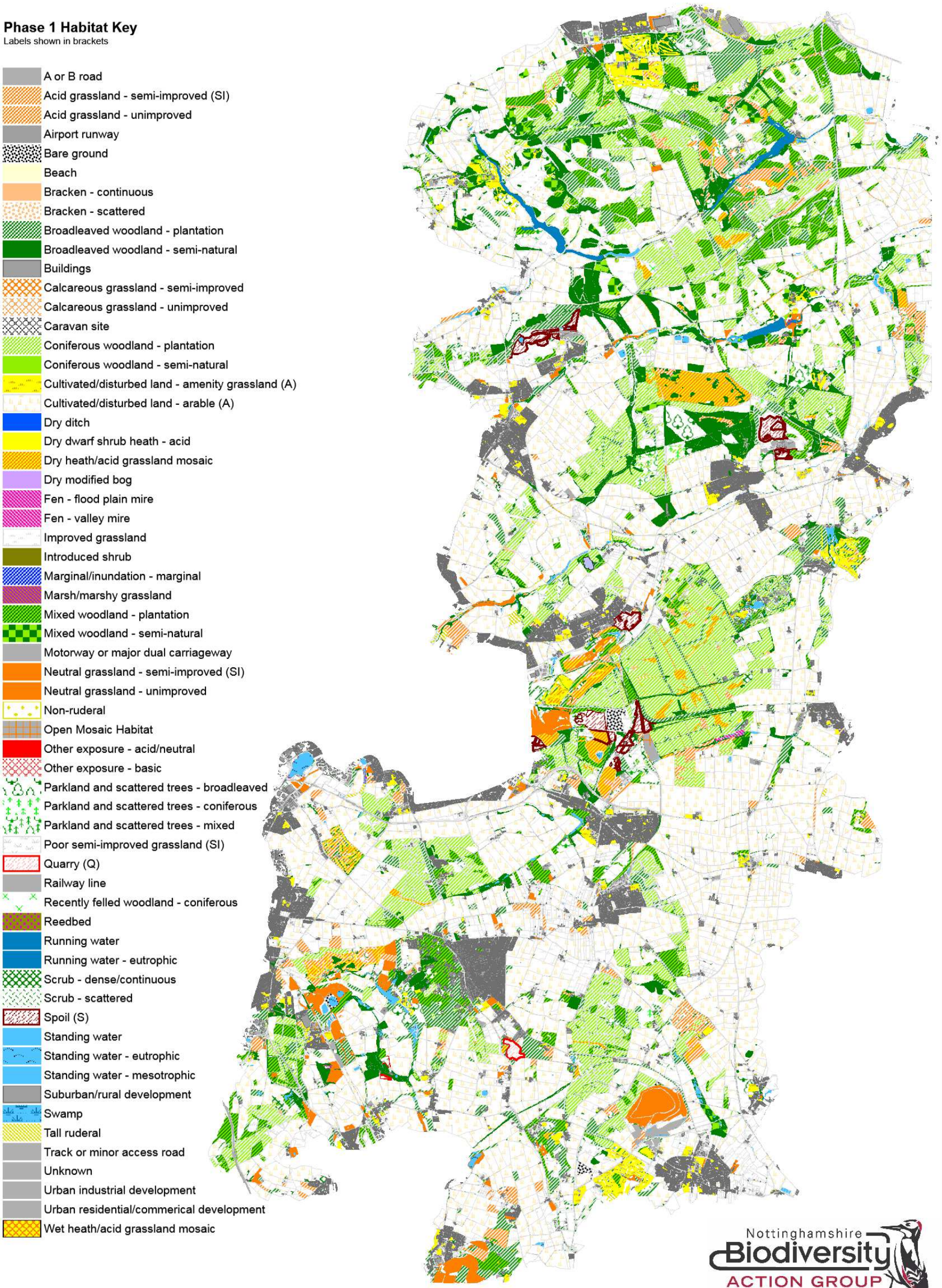
Appendix 5 - The Basemap

Map 1 Phase 1 covering Sherwood Landscape Partnership Area.

Phase 1 Habitat Key

Labels shown in brackets

- A or B road
- Acid grassland - semi-improved (SI)
- Acid grassland - unimproved
- Airport runway
- Bare ground
- Beach
- Bracken - continuous
- Bracken - scattered
- Broadleaved woodland - plantation
- Broadleaved woodland - semi-natural
- Buildings
- Calcareous grassland - semi-improved
- Calcareous grassland - unimproved
- Caravan site
- Coniferous woodland - plantation
- Coniferous woodland - semi-natural
- Cultivated/disturbed land - amenity grassland (A)
- Cultivated/disturbed land - arable (A)
- Dry ditch
- Dry dwarf shrub heath - acid
- Dry heath/acid grassland mosaic
- Dry modified bog
- Fen - flood plain mire
- Fen - valley mire
- Improved grassland
- Introduced shrub
- Marginal/inundation - marginal
- Marsh/marshy grassland
- Mixed woodland - plantation
- Mixed woodland - semi-natural
- Motorway or major dual carriageway
- Neutral grassland - semi-improved (SI)
- Neutral grassland - unimproved
- Non-ruderal
- Open Mosaic Habitat
- Other exposure - acid/neutral
- Other exposure - basic
- Parkland and scattered trees - broadleaved
- Parkland and scattered trees - coniferous
- Parkland and scattered trees - mixed
- Poor semi-improved grassland (SI)
- Quarry (Q)
- Railway line
- Recently felled woodland - coniferous
- Reedbed
- Running water
- Running water - eutrophic
- Scrub - dense/continuous
- Scrub - scattered
- Spoil (S)
- Standing water
- Standing water - eutrophic
- Standing water - mesotrophic
- Suburban/rural development
- Swamp
- Tall ruderal
- Track or minor access road
- Unknown
- Urban industrial development
- Urban residential/commerical development
- Wet heath/acid grassland mosaic



Nottinghamshire Biodiversity Action Group

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Appendix 6 – Habitat Network maps

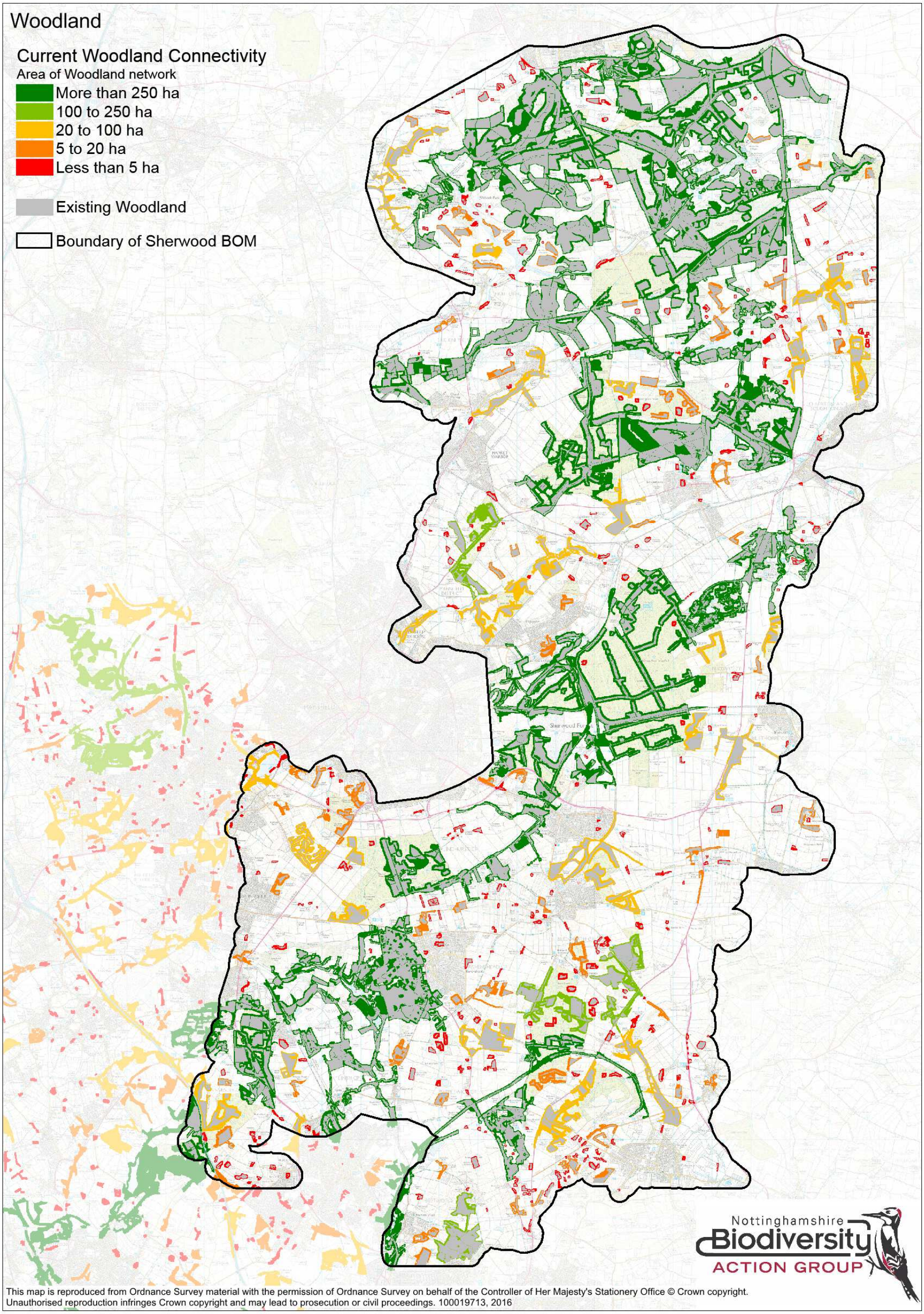
Map 1 Current Woodland Connectivity

Map 2 Current Heathland & Acid Grassland Connectivity

Map 3 Current Grassland Connectivity

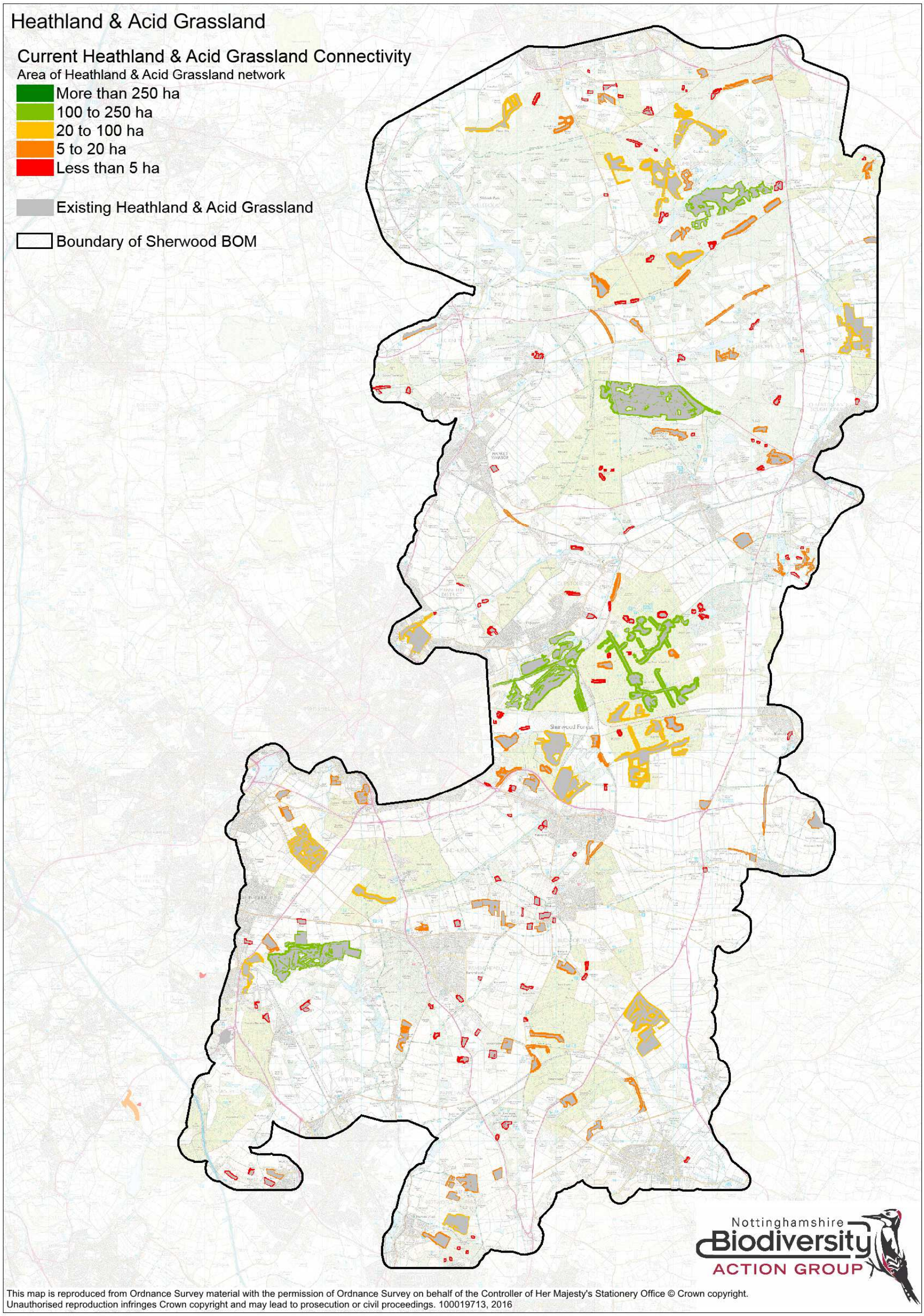
Map 4 Current Wetland Connectivity

Woodland



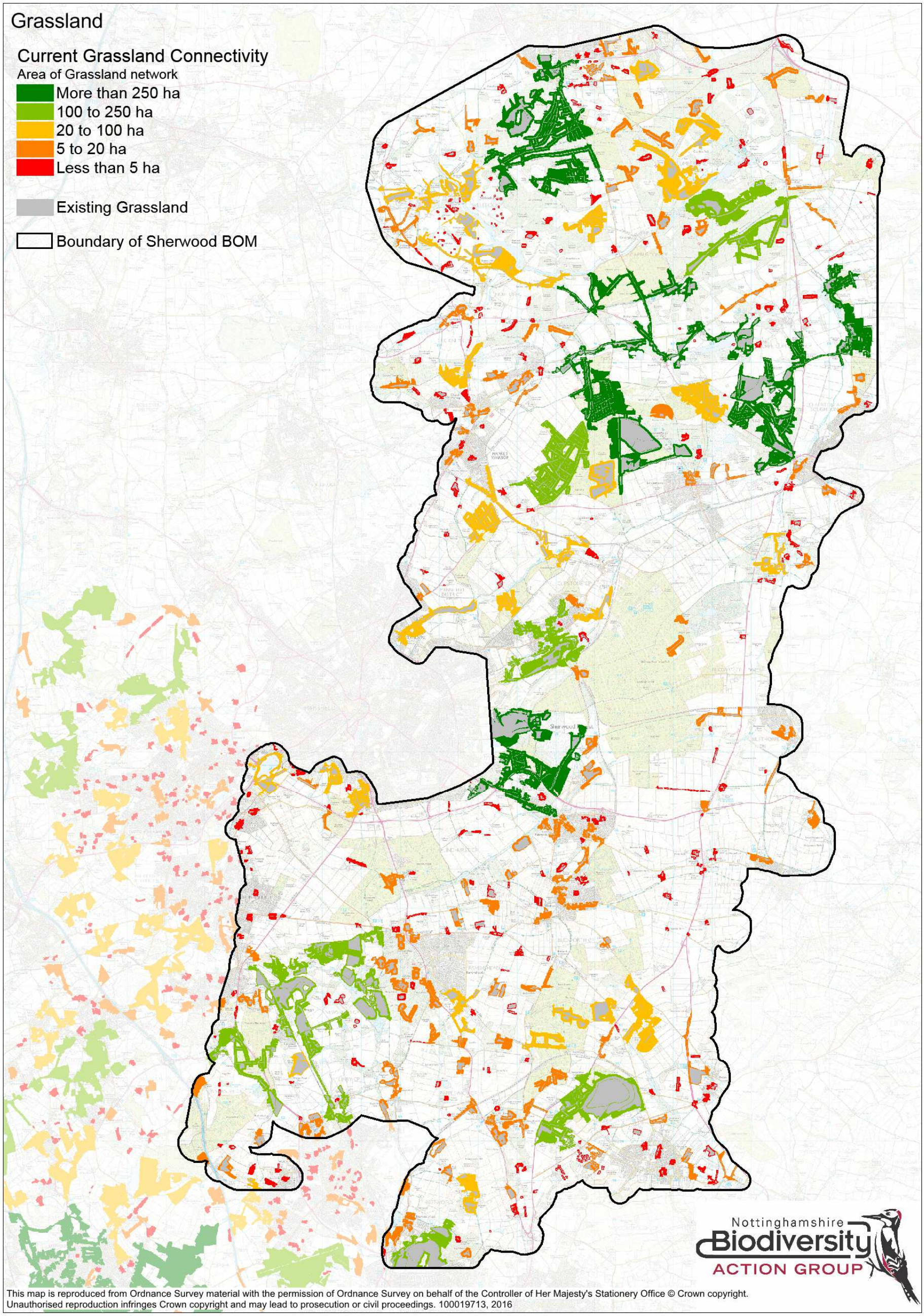
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Heathland & Acid Grassland



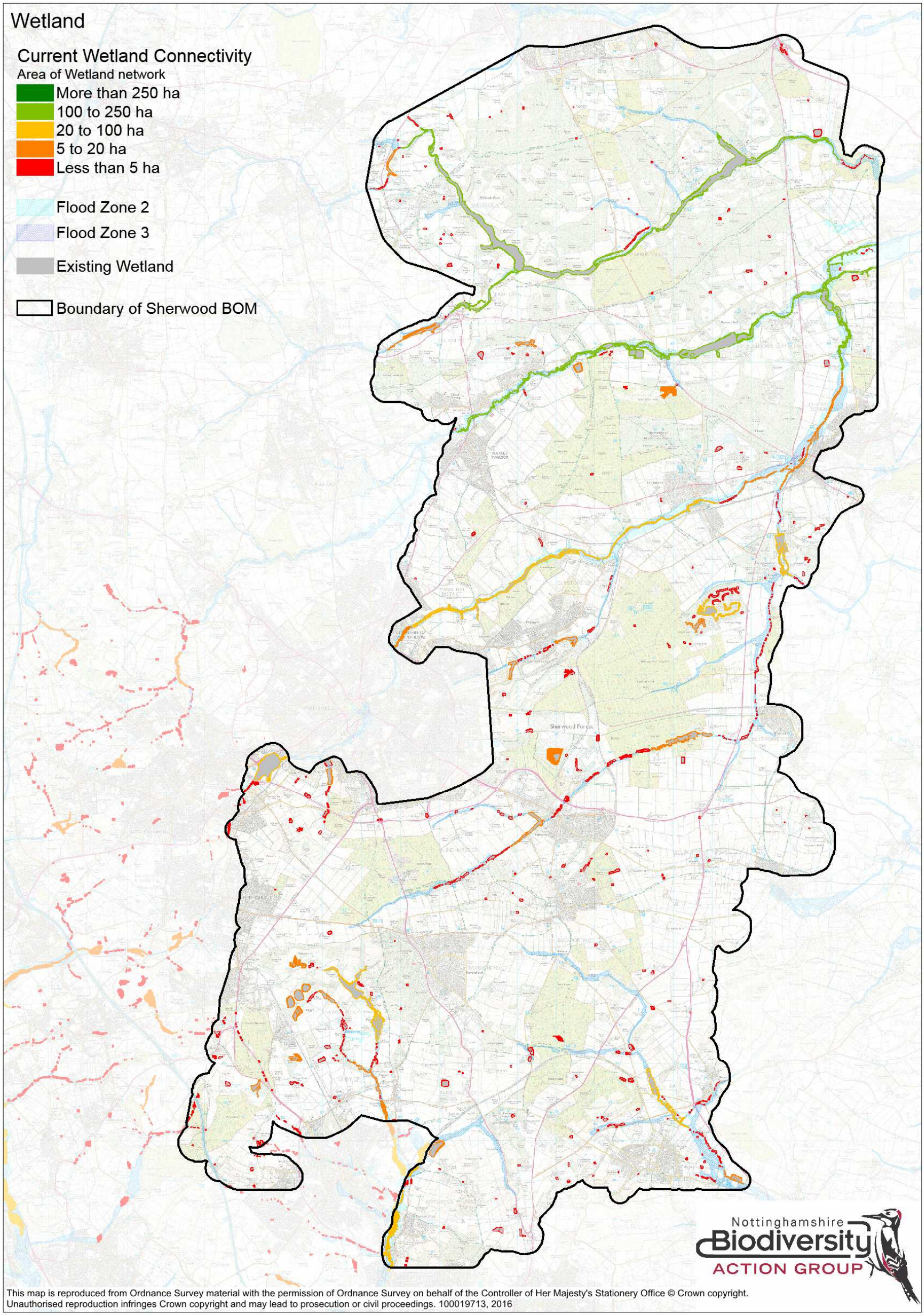
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Grassland



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Wetland



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