Appendix 6 – Process for the mapping of Measures and Areas that Could Become of Particular Importance for Biodiversity

1. Introduction

In addition to the written Statement OF Biodiversity Priorities, the Local Habitat Map (LHM) is the second component of the Local Nature Recovery Strategy. The LHM must map both existing Areas of Particular Importance for Biodiversity ('APIBs'), and Areas that Could Become of Particular Importance ('ACBs'). To generate the ACB's, Responsible Authorities must, where possible and appropriate, map where Potential Measures could be delivered. The mapping of Potential Measures is described as "the final, most important stage of the strategy', and will act as the 'shop window' of the LNRS. Nottinghamshire County Council as Responsible Authority (RA), has followed the guidance issued by DEFRA in March 2024 "Mapping potential measures in Local Nature Recovery Strategies – Advice for Responsible Authorities".

The first component of the LHM - mapping of the existing APIBs - was completed in early 2024. APIBs are those areas and designations meeting the criteria set out in the LNRS statutory guidance, covering:

- National conservation sites: Special Areas of Conservation (SAC), National Nature Reserves (NNR) and Sites of Special Scientific Interest (SSSI)
- Local Nature Reserves (LNR)
- Local Wildlife Sites (LWS)
- Areas of 'irreplaceable habitat': those found in the LNRS area are Ancient and Veteran Trees, Ancient Woodland and Lowland Fen

Boundaries for SACs, NNRs, SSSIs were taken from national datasets. The Local Nature Reserves boundary was also sourced from a national dataset but amended where necessary following consultation with the designating Local Authority.

Local Wildlife Site data was obtained from the Nottinghamshire Biological and Geological Records Centre (NBGRC), using the Autumn 2024 update of the layer.

Irreplaceable habitats - Fen and Ancient Woodland - were mapped using the national datasets. The Fen layer was amended using local knowledge adding Misson Carr and removing 10 sites not considered to be fen, following consultation with the NBGRC. Ancient and veteran tree data was taken from the Ancient Tree Inventory.

In addition, the Sherwood Forest Key Biodiversity Area (KBA) has been included as an APIB; KBAs are sites that contribute to the global persistence of biodiversity and are the most important places in the world for species and habitats. Sherwood Forest KBA[1] is identified as a 'legacy' KBA by Birdlife International, meeting Important Bird and Biodiversity Area (IBA) criteria.

All datasets were used under the terms of the applicable licence/sharing permission.

2. Mapped Measures – general approach

RAs must identify ACBs based on their suitability for carrying out the Potential Measures set out in the LNRS's Statement of Biodiversity Priorities. This means mapping the locations where we want to create or improve habitat which is most likely to deliver the greatest benefit for nature and the wider environment. In deciding what to map, the following were considered:

- ACBs should build on the distribution of existing APIBs and habitats – in line with the Lawton Principles of Bigger, Better, More and Joined Up – in order to join up or expand existing areas to establish larger, more resilient networks of high-quality habitat across the landscape.
- Mapping should be ambitious, but realistic – it is not expected to cover the entire LNRS areas as this will not aid the targeting of available resources
- Some Measures are mappable, others are not
- Look for areas near to people's homes to improve public access to nature,
- Deliver other co-benefits and nature-based solutions

1 Sherwood Forest KBA (keybiodiversityareas.org)

Appendix 6 – Process for the mapping of Measures and Areas that Could Become of Particular Importance for Biodiversity

2.1 Mappable vs unmappable

Whilst many Potential Measures are mappable - Mapped Measures - other cannot be specifically mapped. This may be because:

- They would be similarly beneficial over wide areas – such as planting of hedgerows
- They would not have sufficient impact (i.e. any such mapped areas wouldn't become ACBs)
- A suitable location can't be identified because of current feasibility or deliverability, but it remains a longer-term ambition

Only the Potential Measures that would directly lead to the areas where they are carried out becoming of greater importance for biodiversity and the wider environment should be mapped.

2.2 Mapping of Potential Measures on existing APIBs

The mapping guidance recommends not to map on an existing APIB with a national designation where there are existing management objectives – SSSIs or NNRs. However, clarification was provided by Defra that SSSIs could be mapped if the Potential Measure related to something that was not covered by the SSSI citation (e.g. a habitat or species), thereby adding value to, but not in conflict with, statutory designations.

Potential Measures have also been mapped it is considered action taken would enhance or improve existing locally designated sites (such as Local Wildlife Sites). These areas cannot however become ACBs, as they are already APIBs.

2.3 Relationship with development and habitat banks

National guidance has been followed in relation to development allocations, such that the mapping of Potential Measures on allocated or permitted development sites has generally been avoided, unless the Potential Measure is considered to be compatible with that development and would deliver habitat creation or enhancement of 'strategic significance'. Furthermore, development sites will be covered by unmapped Potential Measures which encourage actions for nature recovery which are generally good things to do as part of any development to make space for nature but are not strategically significant.

Habitat banks being developed for the provision of Biodiversity Net Gain units have also generally not been deliberately mapped, not least as such sites are generally still in development in Nottinghamshire, and their location in most cases was not known.

2.4 Land ownership considerations

For logistical reasons it has not been possible to approach the owner of each mapped areas. Mapping a location does not mean that an activity must take place, and nor does it prevent any other legitimate activities from taking place; however, nor does that the landowner have to give permission for an area to be mapped.

If during public consultation it becomes known that a landowner objects to a particular measure on their land and is unlikely to choose to carry it out then we will try to accommodate their views where this does not undermine the coherence and ambition of the strategy as a whole.

2.5 Existing activity and opportunities

Mapping of Potential Measures was not intended to capture all existing or planned nature conservation activity, and nor was it intended to be an opportunity map per se (noting that Nottinghamshire already benefits from a Biodiversity Opportunity Maps for the county).

2.6 Detailed mapping and landscape areas

Mapped areas comprise detailed mapping, generally mapped to individual field parcels, and landscape areas and buffers, identifying areas within which delivery of a Potential Measure should be focussed. In the case of landscape areas and buffers, it is not proposed that the whole mapped area would, for example, be used to create the habitat relevant to the Potential Measure. Further, an effect of using landscape areas and buffers is that they may cover areas where the Potential Measure is clearly not feasible, and whilst efforts were made to remove obviously incompatible or conflicting areas from these buffers, there continue to be cases where they wash roads, residential areas and other areas of incompatible habitats such as lakes.

Appendix 6 – Process for the mapping of Measures and Areas that Could Become of Particular Importance for Biodiversity

3. Mapping Workshops

3.1 Mapping workshop November 2024

A mapping workshop was held in November 2024, with representatives from organisations on the Strategic Oversight Group invited to attend. Attendees included ecologists, green space officers and planners from the local planning authorities, EMCCA, Natural England, Environment Agency and Forestry Commission, the wildlife NGOs, FWAG (Farming Wildlife Advisory Group), Nottingham Trent University, Severn Trent Water and Nottingham Open Spaces Forum.

Tables around the room were set out with large individual field-scale maps to draw on, covering six broad habitat types – watercourse and wetland, woodland, heathland, grassland, farmland and urban.

The maps included relevant base layers from the national data sets from Natural England, Environment Agency and Forestry Commission. Additional reference resources were available in the room, such as mapping outputs from the Nottinghamshire Biodiversity Opportunity Map.

Each table had a facilitator, and attendees could circulate around the tables as they wanted. Attendees were asked to discuss their ideas and then identify areas where Potential Measures could be delivered by drawing on the maps, having been briefed that this was a Prioritisation exercise to map locations where we want to create or improve habitat which is most likely to deliver the greatest benefit for nature, drawing in the Lawtonian principles of bigger, better, more and connected.

For each area that was drawn on the map, a proforma was completed in order to capture relevant information:

- Link to Potential Measure
- Habitat involved
- Action involved
- Why it is the most important thing to do at this location
- Why the action is going to be impactful
- Why the action is feasible
- What are the co-benefits and/or nature-based solutions delivered

3.2 Follow up Workshops January 2025

A follow up workshop was held in January 2025 for watercourse and wetland habitats attended by representatives from Environment Agency, Trent Rivers Trust and Canal and River Trust. A similar workshop was held in the same month for woodland habitats, with representatives from Forestry Commission, Forestry England, Natural England and Greenwood Community Forest. The purpose of these workshops was to review and refine the outputs from the first workshop.

A further workshop was then held with the LNRS Advisory Group members, joined by a representative from Notts Wildlife Trust, to discuss the outcomes of the mapping workshops and agree the approach to be taken during digitising.

4. Digitising the results

Following the workshops, GIS specialists at the County Council took the paper maps from the workshop and digitised the boundaries to produce polygons in MapInfo. Outputs were cross-checked with information taken from the stakeholder engagement workshops held with organisations in July and September, and which were identified by 'pins' dropped on the map on the Notts Nature Recovery website. During this process, mapped areas were followed up with individuals/organisations as necessary, with a number of calls held to clarify or resolve issues.

4.1 General approach

The LNRS team at the County Council spent a considerable amount of time reviewing and interrogating each digitised area, considering:

- Is this a priority area?
- Is this the best location for delivering this Potential Measure?
- Why is this Potential Measure mapped here and not somewhere else?
- Is there a realistic prospect of delivery over the next 5 - 10 years?
- Where Mapped Measures overlap, can one Potential Measure be prioritised over another?

The provisional map of Mapped Measures was then sent to the attendees of the mapping workshop, Strategic Oversight Group and Planning & BNG Working Group to review, checking for obvious omissions or errors. Amendments were then made Mapped Measures in consultation with the relevant stakeholders.

Appendix 6 – Process for the mapping of Measures and Areas that Could Become of Particular Importance for Biodiversity

4.2 Approach to each habitat layer

In many cases, mapped areas are based on areas that were drawn during the workshops, with areas digitised to field boundaries. However, other datasets were either used to inform this mapping, or in some cases were adopted, as set out below:

Woodland

- Plantation Ancient Woodland Sites (PAWS) were identified using Natural England's Ancient Woodland Inventory dataset, in relation Measure B/M3.
- The Forestry Commission's EWCO Biodiversity – Priority Habitat Network dataset was used in order to target areas for woodland expansion as part of applying Measure B/M4 in buffers around woodlands of 'Higher Spatial Priority' (as defined in the dataset).
- Opportunities for woodland creation (relating to measures B/M4 and B/M5) that would provide natural flood management benefits were mapped using the Forestry Commission's EWCO – Flood Risk Management dataset (Opportunities for Floodplain Woodland subset, but not Opportunities for Wider Catchment woodland). This dataset required extensive cleaning to remove mapped areas entirely within urban areas or on other infrastructure and a size threshold of 0.1ha was used to assist with this process. Where 50% or more of a mapped area was on land where woodland creation could realistically take place, these were generally retained.
- When applying the EWCO datasets, to reduce overlaps and avoid conflicts with other Mapped Measures as far as possible, the following rules were followed:
  - Datasets were clipped to remove wetland and watercourse Mapped Measures, except 50m buffers along watercourses and a wetland landscape area
  - Datasets were clipped to grassland Mapped Measures, except grassland landscape areas.
  - Datasets were clipped to all heathland Mapped Measures
  - Datasets were clipped to all APIBs.

Wetland

- The Water Framework Directive dataset from Environment Agency was used as a basis for generating a 50m buffer zone either side of key watercourses (but not the River Trent); canals were similarly buffered where not already captured by the Water Framework Directive dataset.
- There was a proposal at the first workshop to map Flood Zone 3 in its entirety and use this as the area within which to carry out wetland measure; this approach was discussed at length by key stakeholders and it was agreed that it would not show due prioritisation or deliverability within the timeframe of the first LNRS. However, Flood Zone 3 was used to inform the location of Mapped Measures for wetland, including when mapping specific locations along the Trent, Idle and Erewash rivers.

Grassland

- Road verges relevant to Measure F/M2 were selected from the Local Wildlife Site layer.

Farmland

- The Peaty Soils dataset from Natural England was used to identify areas for paludiculture in the north of the county.

Urban

- A Green Infrastructure dataset from Natural England was used to identify areas of publicly accessible green space in the main urban areas within the LNRS boundary (Greater Nottingham, Newark, Kirkby-in Ashfield, Sutton-in Ashfield, Mansfield, Worksop and Retford), in relation to Measure H/M2, using a 1ha minimum size threshold.
- This dataset supplemented with local datasets of known accessible green spaces (such as Nottinghamshire County Council's Green Spaces sites and Nottinghamshire Wildlife Trust's nature reserves (where over 1ha and within or abutting these urban areas) and was further refined during consultation with stakeholders (e.g. removing sites where there was known to be no public access).
- Sports pitches were included in this mapping, recognising that their use for sport would continue to be their primary purpose but that nature recovery activities (such as tree planting or leaving unmown strips around boundaries) could potentially be accommodated.

Appendix 6 – Process for the mapping of Measures and Areas that Could Become of Particular Importance for Biodiversity

4.3 Historic environment

All Mapped Measures were removed from the Registered Battlefield at East Stoke, and the Conservation Area at Laxton was removed from the grassland Mapped Measure at this location.

4.4 Mapping of Species

The priority assemblages are covered generally by actions under each of their relevant habitat Measures.

For the 14 individual species priorities we have consulted the relevant Species specialists. For some species it was recommended not to show areas on the map because of sensitivity issues around highlighting areas, as for Adder reintroductions, or because the actions could take place along any watercourse, as in Black Poplar.

The actions proposed are as follows:

Taxon group	Scientific name	Common name	Action
Herpetofauna	Vipera berus	Adder	Unmapped –sensitive locations
Birds	Botaurus stellaris	Bittern	Mapped
Birds	Podiceps nigricollis	Black-necked Grebe	Mapped
Butterfly	Plebejus argus	Silver-studded Blue	Mapped
Crustacean	Austropotamobius pallipes	White-clawed Crayfish	Mapped
Fish	Cobitis taenia	Spined loach	Mapped
Mammals	Castor fiber	Beaver	Unmapped –sensitive locations
Mammals	Muscardinus avellanarius	Hazel Dormouse	Mapped
Mammals	Arvicola amphibius	European Water Vole	Unmapped – widely applicable
Moth	Synanthedon culiciformis	Large Red-belted Clearwing	Mapped
Spiders	Thanatus formicinus	Diamond-backed Spider	Mapped
Vascular plants	Dianthus armeria	Deptford Pink	Mapped
Vascular plants	Crocus nudiflorus	Autumn Crocus	Mapped
Vascular plants	Salix repens	Creeping Willow	Mapped
Vascular plants	Populus nigra	Black Poplar	Unmapped – widely applicable

5. Preparing the ACB mapping layer

The Areas that Could Become of Particular Importance for Biodiversity (ACBs) were prepared by combining all of the Mapped Measures, clipped to APIBs. The ACB layer contains no further information (except for an identifier), with the Mapped Measures layers needing to be referred to for details of the applicable Potential Measure(s).