



# **Buckinghamshire Local Nature Recovery Strategy Pilot**

## **TECHNICAL APPENDIX 1: BASELINE MAPS – source data and citations**

Author: Buckinghamshire Pilot Area Team

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## Introduction

The pilot Local Nature Recovery Strategy process in Buckinghamshire included forming a “mapping working group”. The group’s purpose was to select the baseline maps that should be included in the “step 2” Defra outline pilot LNRS process to illustrate the background of Buckinghamshire’s environment. Some of the maps were also made available in the background information for stakeholders to consider in the February 2021 workshops.

This Appendix lists the maps selected by the mapping working group, describes what they show, and the data sources used to form them. We also provide a justification of the mapping selected. All the maps selected are included in the “step 2” pilot LNRS document, which is reproduced in full at Appendix 7.

Those maps indicated with an asterisk (\*) were used in step 5 – systematic conservation planning – to produce the local habitat maps. The methodology and background to the SCP process is described at Appendix 6.

## Baseline Maps: Buckinghamshire’s Nature

Map	Description	Justification for selection	Source data	Citation
1. Broad habitat types and land use in Buckinghamshire*	Shows main habitat types across the entirety of the study area.  <u>Baseline habitat mapping.</u> Ordnance Survey MasterMap polygons were used as the underlying mapping unit and then utilised a series of different data sets to classify each polygon to a detailed habitat type and to associate a range of additional data with each polygon. (Further information on how polygons were assigned to habitats is	Nature’s recovery opportunities are everywhere, not just at specific locations. This baseline helps to illustrate what we currently have. Local habitat maps (SCP) incorporated ‘scrub’ and ‘water, fresh’.	Data used to classify habitats in the basemap: <ul style="list-style-type: none"> <li>• OS MasterMap Topography layer</li> <li>• OS VectorMap District</li> <li>• OS MasterMap Greenspace data</li> <li>• Combined habitat map – supplied by Buckinghamshire and Milton Keynes Environmental Records Centre (BMERC)</li> <li>• Additional habitat layers (e.g. traditional orchards, Road Verge Nature Reserves) supplied by BMERC</li> <li>• Natural England Priority Habitats Inventory</li> </ul>	Rouquette, J.R. (2020). Natural Capital Solutions. Mapping natural capital, ecosystem services and opportunities for habitat creation in Buckinghamshire. Available at: <a href="https://bucksmknep.co.uk/projects/natural-capital-mapping/">https://bucksmknep.co.uk/projects/natural-capital-mapping/</a>  <u>(If underlying data report is needed:</u> Rouquette, J.R. (2020). OxCam LNCP Natural Capital Baseline Assessment: Data Report. Report for OxCam Local Natural Capital Plan Project, Environment Agency. Natural Capital Solutions.

Map	Description	Justification for selection	Source data	Citation
	<p>provided in Box 2 at page 10 of the report).</p> <p>Polygons were classified into Phase 1 habitat types and were also classified into broader habitat groups.</p>		<ul style="list-style-type: none"> <li>• Centre for Ecology and Hydrology (CEH) Landcover Map 2015</li> <li>• CEH Woody Linear Features data set (hedgerows map)</li> <li>• Ancient Woodland Inventory data ( woodland was identified using OS Mastermap, and then overlaid the NFI dataset to identify the woodland type as broadleaved, mixed or coniferous. Also used the Ancient Woodland Inventory)</li> <li>• Built-up Area Boundaries data</li> <li>• Local Wildlife Sites – supplied by BMERC</li> <li>• Digital terrain model (based on OS Terrain 5 data)</li> </ul>	<p>This report is publicly available from: <a href="https://www.oxcamlncp.org/building-our-evidence-base">https://www.oxcamlncp.org/building-our-evidence-base</a>)</p>
2. High quality habitats in Buckinghamshire	<p>The highest quality semi-natural habitats are identified from the basemap (map 1).</p> <p>This is based on habitat type and not condition.</p> <p>(NB: it was not possible to distinguish high quality parkland from any areas containing scattered trees, or higher quality rivers, streams and standing water, hence these habitat types have not been included on this map. Mixed habitats were also not included as although some of these areas are likely to be high</p>	<p>As above and to highlight different habitats of importance, not just restricted to priority habitats or designated sites.</p>	<p>As above. The following high quality habitats are shown:</p> <ul style="list-style-type: none"> <li>• Broadleaved woodland</li> <li>• Mixed woodland</li> <li>• Woodland with semi-natural habitats</li> <li>• Acid grassland</li> <li>• Neutral grassland</li> <li>• Calcareous grassland</li> <li>• CFGM and marshy grassland</li> <li>• Fen and swamp (reedbed)</li> <li>• Heathland</li> </ul>	<p>Rouquette, J.R. (2020). Natural Capital Solutions. Mapping natural capital, ecosystem services and opportunities for habitat creation in Buckinghamshire.</p> <p>Available at: <a href="https://bucksmknep.co.uk/projects/natural-capital-mapping/">https://bucksmknep.co.uk/projects/natural-capital-mapping/</a></p>

Map	Description	Justification for selection	Source data	Citation
	quality habitat, not all such areas will be).			
3. Designated national and local conservation sites in Buckinghamshire*	<p>This map shows the following types of site:</p> <ul style="list-style-type: none"> <li>• National Nature Reserves (NNRs)</li> <li>• Special Areas of Conservation (SACs)</li> <li>• Sites of Special Scientific Interest (SSSIs)</li> <li>• Local Nature Reserves (LNRs)</li> <li>• Local Wildlife Sites (LWS)</li> <li>• Biological Notification Areas (BNS)</li> <li>• Road Verge Nature Reserves (RVNRs)</li> </ul>	<p>Considered important to understand the fuller picture of the nature and location of designated sites – to further understand baseline as well as inform opportunities.</p> <p>Also to reflect the % land in designated / protected sites versus the % land classed as high quality habitat.</p> <p>Local habitat maps (SCP) incorporated all designated sites.</p>	<p>Designated sites:</p> <ul style="list-style-type: none"> <li>• Local Nature Reserves – Natural England dataset - NB This national dataset is “indicative” not “definitive”.</li> <li>• Local Wildlife Sites – Local Wildlife Sites: Buckinghamshire &amp; Milton Keynes Environmental Records Centre (BMERC) 2021.</li> <li>• Road Verge Nature Reserves: BMERC data</li> <li>• SSSIs – Natural England data</li> <li>• SACs – Natural England data</li> <li>• NNRs – Natural England data</li> <li>• BNSs – BMERC data</li> </ul>	<p>Local Nature Reserves: © Natural England copyright. Contains Ordnance Survey data © Crown copyright and database right 2020.</p> <p>Local Wildlife Sites: Local Wildlife Sites: Buckinghamshire &amp; Milton Keynes Environmental Records Centre (BMERC) 2021.</p> <p>Road Verge Nature Reserves: Buckinghamshire &amp; Milton Keynes Environmental Records Centre (BMERC) 2021.</p> <p>SSSIs: © Natural England copyright. Contains Ordnance Survey data © Crown copyright and database right 2021.</p> <p>SACs: © Natural England copyright. Contains Ordnance Survey data © Crown copyright and database right 2021.</p> <p>NNRs: © Natural England copyright. Contains Ordnance Survey data © Crown copyright and database right 2021.</p> <p>BNSs: Buckinghamshire &amp; Milton Keynes Environmental Records Centre (BMERC) 2021.</p>

Map	Description	Justification for selection	Source data	Citation
4. Priority habitats and ancient woodland*	Shows all UK BAP Priority Habitats in Bucks, plus ancient woodland to include PAWS (planted ancient woodland sites).	As above Local habitat maps (SCP) incorporated all priority habitats, 'Ancient & Semi-Natural Woodland' and 'Ancient Replanted Woodland'	<p><i>Priority habitats:</i></p> <ul style="list-style-type: none"> <li>• BMERC local priority habitats data based on the Buckinghamshire Councils Integrated Habitat System (IHS) dataset (2006-2010).</li> </ul> <p>These are Habitats of Principal Importance listed under Section 41 of the Natural Environment and Rural Communities Act (2006). These were formerly called UK Biodiversity Action Plan (UK BAP) Priority Habitats. The UK BAP listed Priority Habitats for conservation in the UK and has been replaced by the UK Post-2010 Biodiversity Framework.</p> <p>Priority Habitats are referred to in paragraph 117 of the National Planning Policy Framework - which states that planning policies should '<i>...promote the preservation, restoration and re-creation of priority habitats</i>'. Traditional Orchards: according to the UK Biodiversity Action Plan- Priority Habitat Descriptions (2008) traditional orchards are defined, for priority habitat purposes, as groups of fruit and nut trees planted on vigorous rootstocks at low densities in permanent grassland; and managed in a low intensity way.</p>	<p>Priority Habitats: Buckinghamshire &amp; Milton Keynes Environmental Records Centre (BMERC) 2021.</p> <p>Ancient woodland inventory:</p>

Map	Description	Justification for selection	Source data	Citation
			<p>Cobnut plats are also included.</p> <ul style="list-style-type: none"> <li>NE Priority Habitats Inventory (NB- both the BMERC own dataset and the NE dataset have been displayed as they don't quite overlap - BMERC data prioritised; and where don't have info for a polygon the NE data us used.)</li> </ul> <p><i>Ancient Woodland:</i></p> <ul style="list-style-type: none"> <li>Ancient Woodland Inventory (comprising Ancient semi-natural woodland and plantations on Ancient Woodland Sites) Natural England mapping – provided on the OpenGov portal.</li> </ul>	<p>@ Natural England copyright. Contains Ordnance Survey data © Crown copyright and database right 2021. <i>(The Resource Locator links are: PHI North, PHI Central and PHI South).</i> See <i>Natural England Open Data Geoportal and transferbigfiles.com download.</i> <a href="https://environment.data.gov.uk/DefraDataDownload/?mapService=NE/AncientWoodlandEngland&amp;Mode=satial">https://environment.data.gov.uk/DefraDataDownload/?mapService=NE/AncientWoodlandEngland&amp;Mode=satial</a></p> <p>Ancient semi-natural woodland (ASNW): © Natural England copyright. Contains Ordnance Survey data © Crown copyright and database right 2021.</p> <p>Plantations on ancient semi-natural woodland (PAWS): © Natural England copyright. Contains Ordnance Survey data © Crown copyright and database right 2021.</p>
5. Composite of Maps 3 and 4: Designated national and local conservation sites plus priority habitats in Buckinghamshire.	Designated national and local conservation sites plus priority habitats in Buckinghamshire.	Shows a busy map to help illustrate the baseline. Also – as above.	As for maps 3 and 4	As for maps 3 and 4

Map	Description	Justification for selection	Source data	Citation
6. Boundary areas relevant to conservation*	<p>Map to show:</p> <ul style="list-style-type: none"> <li>Natural England’s National Character Areas (NCAs) – see Map 10, below).</li> <li>River Catchment boundaries</li> <li>AONB</li> <li>Nature reserves managed by local conservation charities (National Trust, Woodland Trust, BBOWT)</li> </ul>	<p>Partly to inform stakeholder engagement (who to engage and where) and partly for understanding as to how selecting NCA areas as the LNRS ecological sub-areas represents underlying landscapes. Local habitat maps (SCP) incorporated the AONB boundary and Nature reserves managed by three local conservation charities.</p>	<p>NCA data: Natural England</p> <p>Water Catchment Boundaries: Environment Agency</p> <p>AONB data: Chilterns Conservation Board</p> <p>Conservation-based reserves: contains data held by © Buckinghamshire &amp; Milton Keynes Environmental Records Centre (BMERC) 2021</p>	
7. Ecological Status of WFD Waterbodies in Buckinghamshire	<p>Ecological (not chemical) status of waterbodies according to the latest Water Framework Directive data available.</p>	<p>To ensure baseline water environment is taken into account sufficiently in the process.</p>	<p>Environment Agency – available at the public gov.uk site here: <a href="https://data.gov.uk/dataset/0830f003-df64-4b79-a15c-1466881d2241/wfd-river-water-body-catchments-cycle-2-classification-2019">https://data.gov.uk/dataset/0830f003-df64-4b79-a15c-1466881d2241/wfd-river-water-body-catchments-cycle-2-classification-2019</a></p>	

Map	Description	Justification for selection	Source data	Citation
8. Combined geology of Buckinghamshire and Local Geological Sites	Shows a simplification of the underlying baseline geology of Buckinghamshire (bedrock and drift) and Local Geological Sites.	Underlying geology affects what type of habitats might be suitable where.	Bedrock and drift geology: Derived from British Geological Survey data  Local geology sites: BMERC data	Bedrock and drift geology: Derived from BGS Geology 50k, 2,830 km <sup>2</sup> scale BGS Digital Data under Licence 2020/108. British Geological Survey. ©UKRI. All rights reserved.  Local Geology Sites: Buckinghamshire & Milton Keynes Environmental Records Centre (BMERC) 2021.
9. Simplified soil types across Buckinghamshire	Simplified map showing main soil types across Buckinghamshire.	Underlying soils affects what type of habitats might be suitable where – so crucial to understand soils to identify appropriate opportunities for later in the process.	National Soils Map Data (1:25,000) – England and Wales.	Soils Data © Cranfield University (NSRI) and for the Controller of HMSO 2021.
10. Natural England's National Character Areas, covering Buckinghamshire	Map of Buckinghamshire with Natural England's "National Character Areas", overlain to show their geography.	PAT decided to concentrate on NCA-areas in thinking about the required ecological sub-areas for step 2. Also to help inform geographical spread of stakeholder engagement - to ensure the process includes	Natural England – NCA descriptions available online. Available via <a href="https://www.gov.uk/government/publications/national-character-area-profiles-data-for-local-decision-making/national-character-area-profiles">https://www.gov.uk/government/publications/national-character-area-profiles-data-for-local-decision-making/national-character-area-profiles</a>	

Map	Description	Justification for selection	Source data	Citation
		voices from the main NCA areas in the county.		

NB all ecosystem services demand and supply maps: For information on underlying sources / data used to construct these, see:

- Rouquette, J.R. (2020). Natural Capital Solutions. Mapping natural capital, ecosystem services and opportunities for habitat creation in Buckinghamshire. Available at: <https://bucksmknep.co.uk/projects/natural-capital-mapping/>