LEICESTERSHIRE COUNTY COUNCIL

Leicester, Leicestershire and Rutland

Biodiversity Net-gain and Local Wildlife Site Habitat Surveys and Assessment

Planning Ecology Service, August 2022
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CONTENTS

PART 1: Habitat Surveys and Biodiversity Net-gain

1. Habitat surveys for baseline biodiversity net-gain assessments

If the site falls into the category of development that is covered by Biodiversity Net-gain, a habitat survey will be needed. Data from this will then be entered into the standard BNG metric spreadsheet and used to calculate the baseline biodiversity value of the site.

The survey, assessment and metric have to be submitted before the application is determined. There is more information about this in the Biodiversity Net-gain – interim approach guidance document produced by LCC Planning Ecology Services.

The metric spreadsheet will need to be accompanied by a habitat survey report.

Survey techniques

The site should be surveyed using either of the two standard techniques – Phase 1 or UK Habitat Classification (UKHab).

The metric uses similar habitat categories to UKHab, so this may be preferred, but Phase 1 habitats can be converted into metric categories – see the Technical Data section on the current metric spreadsheet v.3.1.

The technique includes an assessment of the habitat condition. This must be done at the same time as the field survey, to the standard and criteria set out in the BNG methodology. The Habitat Conditions Assessment Sheets can be downloaded on a spreadsheet.

Survey season

Mid-April to mid-October is the optimum survey season. It is not possible to survey some habitats – grasslands, wetlands, and open mosaic habitats – outside these times because quality indicator species will not be visible.

Sites which do not have these habitats present can be surveyed outside the optimum.

Grassland habitat survey should be done between April and mid-October - surveys done outside these times are likely to be invalid and will not be accepted.

If surveys of sites are done outside the optimum, re-visits of any grassland, wetlands or open mosaic habitats will be needed within the optimum season.

Surveyor competence and Field identification Skills

Habitat surveys should be done by appropriately qualified and experienced surveyors.

Where higher value habitats are concerned, the technique relies heavily on botanical field skills. However, some habitats can be surveyed by surveyors with a moderate or low skill level. Other habitats require a higher skill-level - notably grasslands and wetlands of all kinds, and 'open mosaic habitats on previously developed land'. The ecologists carrying out these surveys should be appropriately qualified and experienced.

The Botanical Society for the British Isles have published a field skills pyramid and run programmes to assess field skills and assign botanists to a skill level. If the site is currently grassland, wetland, or brownfield/former minerals land, LRERC recommend that an ecologist with FISC level 4 or an equivalent standard should do the field surveys.

How long do habitat surveys last?

As a rule-of-thumb, species-rich, semi-improved or unimproved grasslands, or those with 'ridge-and-furrow', ruderal and early successional communities, open mosaic habitats and wetland last 5 years. Hedges, woodlands and scrub surveys last 10 years. Low value habitats such as arable land and improved grassland may not need to be resurveyed at all but this will depend on some of the factors listed below.

This time-frame is a guideline; factors that can require an update sooner or later than these times include:

- quality and/or date or original surveys;
- current conditions of the land;
- changed management or environmental conditions;
- sensitivity of the habitat to change;
- value and importance of the habitat;
- degree to which the habitat is affected by development;
- changed development plans.

Survey detail required for entering data into metric

Every parcel of land must be surveyed and independently assessed for condition – and data for each of these parcels should be entered individually into the metric.

Even if land parcels are of the same category and conditions, they should be recorded separately. This is because they may be treated differently in the post-development plans.

It is not acceptable to lump all habitat parcels of the same type into one collated habitat description and one line in the metric.

If a field changes in quality across the area, it is acceptable to divide it into parcels of different qualities (but bearing in mind the minimum habitat thresholds set in the metric). If it is not subdivided, then it should be classed according to the part in the highest condition.

Habitat parcels in the metric, habitat survey map and survey report must be clearly cross-referenced.

Survey data

Data will be extracted from the survey report to add to the Sites and Species databases held by the Leicestershire and Rutland Environmental Records Centre (LRERC).

2. Categories of development covered by BNG and needing a habitat survey

The categories of development that will fall under the BNG secondary regulations have not been finalised.

DEFRA's proposals are in the DEFRA consultation of January 2022.

It is very likely that permitted developments and householder developments (such as extensions and conversion of existing residential properties) will not be required to provided measurable BNG. Small developments, including new houses in former back gardens, are likely to be covered by BNG.

Sites with no existing habitats present – such as on hard standings, or entirely built – will not need to provide habitat surveys. Other categories are less clear. Sites with very little vegetation may also be exempt from BNG and habitat surveys, but the thresholds for this have not been set. The use of a simpler 'small-sites metric' may be possible, but details have not been provided yet.

Until there is more clarity from DEFRA or secondary legislation has been published, the Planning Ecology service will exercise their judgement regarding the need for habitat surveys.

3. Phase 1 Habitat Surveys

National guidelines for a Phase 1 Habitat Survey (2016 update) are available from the JNCC website.
The technique involves visiting every parcel of land (as far as this is possible) and mapping the vegetation types according to standard habitat codes. There are three end products of a survey, which must be submitted:

- A habitat map, on a standard OS base map
- A set of descriptive 'Target notes' keyed to the map. The Guidelines say: 'Target notes are an essential part of Phase 1 survey and may provide the basis for selection of sites for Phase 2 survey and for decision-making . . .'
- Statistics on the extent and distribution of each habitat type.

The term ‘Extended Phase 1 survey’ is often used to describe a survey that includes detailed ‘Target notes’.

4. UK Habitat Classification (UKHab)

To use the UK Habitat Classification documentation, you will need to register (free) on the UKHab website. Documents can then be downloaded.

The data collection and field techniques are similar to Phase 1 surveys. The documentation includes a field key, user manual and habitat definitions.

The BNG metric uses habitat categories and descriptions that are closely aligned to UKHab.

5. Interpreting BNG metric grassland habitat categories at a local level

Leicestershire and Rutland is dominated by agricultural land, much of it heavily improved. High quality unimproved species-rich grasslands are scarce and in decline, and most are designated as Sites of Special Scientific Interest. More information can be found on our Biodiversity Action Plan (BAP).

Many species-rich semi-improved grassland are designated as Local Wildlife Sites (LWS).

Species-rich grassland.

The ‘**Lowland meadow’** classification is rarely found and would indicate a grassland of SSSI quality, or approaching this. Most LWS grasslands are ‘**Other neutral grassland’** of either ‘good’ or ‘moderate’ condition. All grassland LWS should be given the highest strategic weighting in the metric, even if the land is considered to be of ‘moderate’ or ‘poor’ condition - these sites are priorities for restorative management in net-gains plans.

It would be possible to enhance some of the best to ‘Lowland meadow’ of ‘moderate’ condition through management, but this may be outside the metric’s time-frame, and it will usually be more realistic to aim for ‘Other neutral grassland’ in ‘moderate’ or ‘good’ condition. Note that this may not reduce the post development gains at all - in some circumstances it will increase the net-gain score. LCC Ecology Service will not accept BNG plans that are unrealistic or unlikely to be achieved within the timeframe or stated management. It is also not acceptable to have small pockets of neutral grassland scattered through a site - the minimum size that we recommend is 0.25ha. This is the size threshold for neutral grassland of LWS quality in Leicestershire and Rutland.

‘Ridge and Furrow’ grassland

‘Ridge and Furrow’ is still relatively common in parts of the two counties and is sometimes grassland of high value. It is an archaeological pattern of ridges and troughs created by a

system of ploughing used in Europe during the Middle Ages, typical of the open field system, and therefore indicates old undisturbed grassland.

A lot is over-grazed and has been treated with selective herbicides, leading to a sward of low species diversity. It should be classed as 'Other neutral grassland', even if the condition is 'poor'. It has high potential for biodiversity enhancement and net-gain through management changes. It also has high heritage value, and retention is a local strategic priority - it therefore has the highest strategic weighting in the BNG metric.

Amenity or agriculturally improved land

Improved grassland of low species-diversity or intensive management is 'Modified grassland'. Note that this does not automatically mean it is of 'poor' condition - a condition assessment according to the technical guidance within the BNG methodology still needs to be made - it can be modified but still good, depending on physical characteristics.

'Modified grassland' can be converted to 'Other neutral grassland' through management change and other techniques such as over-seeding and introduction of Hay-rattle *Rhinanthus minor*, but aims must be realistic. 'Moderate' quality is likely to be achieved; 'good' is less likely.

6. Open Mosaic Habitats ('OMH') on previously developed land

Habitat Value

These are high value habitats formed through natural regeneration on previously developed land, including land formerly quarried, mined or tipped. Open Mosaic Habitats or 'OMH' can be difficult to define; the value depends on the mixture of habitats and structural diversity. The best sites are noted for their high botanical and invertebrate species diversity and are some of most diverse habitats known in the UK. Retention and management of these sites is a priority for conservation - refer to the national BAP for more on this and to Buglife publications:

UK Biodiversity Action Plan Priority Habitat Descriptions (PDF)

Identifying Open Mosaic Habitat (PDF)

Definitions and typical habitats

There must have been a history of disturbance or evidence that soils have been removed or severely modified by a previous use, or that additional material or substrate such as industrial of mining waste has been added.

Vegetation usually includes a significant amount of early successional communities, with stress tolerant species, such as those tolerant of low nutrients, drought, extremes of pH,

heavy metals, etc. The early successional communities include lichens, mosses, annual or ruderal species and species of open grassland or heathland.

Alongside the early successional communities, there are often areas of bare ground, rocks and rubble, derelict buildings, underground voids, cliffs and outcrops. Marshy flushes, ditches, springs, shallow pools, temporary water features, or deep lagoons may be present.

Sparse grassland, flower-rich grasslands, scrub, heath, and wetlands may also be associated, and vegetation structure should be varied and have more variety than a single ecotone (such as scrub/grassland). There should be a diverse range of flowering plant species, providing nectar sources for insects. These species may be either native, or non-native but beneficial to wildlife.

The BNG technical data defines OMH as having "spatial variation, forming a mosaic of at least four early successional communities (a) to (h) PLUS bare substrate AND pools. (a) annuals; (b) mosses/liverworts; (c) lichens; (d) ruderals; (e) inundation species; (f) open grassland; (g) flower-rich grassland; (h) heathland."

Conservation

Conservation is best achieved through retaining a varied topography and low-nutrient mineral substrate, of varying grain, and by allowing natural regeneration to take place. Ongoing management is usually needed to control scrub and maintain the open-ness of the habitat; retaining some scrub of varied age structure is desirable. Controlled ground disturbance to recreate the conditions for re-establishing early successional communities is possible. Removal of invasive non-native species may be required (and is essential to achieve 'good' condition).

Identifying OMH in a BNG baseline plan

For the purposes of BNG, Open Mosaic Habitats should be recognised as a single habitat and not broken down into their constituent habitats – however, is helpful to map these individual habitats as a secondary layer of information - these will be useful when drawing up enhancement plans for the area. The boundaries of the site should correspond to the boundaries of the previous development. Woodland and amenity grassland should be excluded, except as small pockets, but scattered scrub should be included.

Historic maps or past aerial photos can be used to identify the boundaries of previously developed land.

Some former OMH that have succeeded to scrub or secondary woodland may be returned to OMH through management, and this needs to be recognised as a potential post-development gain. Such sites would be valuable offsetting sites. Due to the nature of the habitat, this is a difficult habitat to create on land that has not been previously developed – it would require stripping a site down to rock substrate or import a significant depth of low-

nutrient substrate or mineral – in effect, to replicate the impacts of mineral extraction, excavation or tipping. Because it is a habitat of high distinctiveness, this means that losses are hard to off-set – bespoke solutions will almost always be needed, but losses should also be avoided.

Part 2: Local Wildlife Sites

1. Local Wildlife Sites in Leicester, Leicestershire and Rutland

Local Wildlife Site criteria and local Biodiversity Action Plan

Local Wildlife Sites and candidate Local Wildlife Sites are the most important places for wildlife in Leicester, Leicestershire and Rutland together with legally protected land such as Sites of Special Scientific Interest (SSSIs). The primary purpose of the LWS system is to contribute to the Leicester, Leicestershire and Rutland Biodiversity Action Plan, by identifying the most important sites where BAP actions can be focussed.

The criteria used for identifying Local Wildlife Sites are closely linked to the priority habitats listed in our Biodiversity Action Plan (BAP). The criteria were drawn up by a panel of local ecologists, and most rely on recording a set of indicator species or habitat features. LWS status depends on set thresholds being reached.

Status in law and planning policy

Local Wildlife Status is a non-statutory designation – it does not create any obligation on a landowner to manage the land for biodiversity.

Leicestershire and Rutland Environmental Records Centre (LRERC) provides information to planning authorities on the wildlife value of land within their administrative area. This is in response to policies in the National Planning Policy Framework regarding biodiversity conservation. Planning authorities should "*Identify, map and safeguard components of local wildlife-rich habitats and wider ecological networks, including the hierarchy of international, national and locally designated sites of importance for biodiversity; wildlife corridors and stepping stones that connect them; and areas identified by national and local partnerships for habitat management, enhancement, restoration or creation; and b) promote the conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species; and identify and pursue opportunities for securing measurable net gains for biodiversity*".

Most Planning authorities will have specific policies referring to conservation of Local Wildlife Sites. This doesn't mean that land designated as LWS receives protection from development, but the wildlife value of the site is a material consideration when the planning authority makes its decision of a planning application that could affect the LWS.

It is the current value of the land that matters, not its past value, but it is helpful to planning authorities and other bodies for LRERC to keep a register of land known to have ecology value, so that up-to-date surveys of the land are triggered if a development proposal is made.

LWS and Biodiversity Net-gain

Local Plan policies for conserving LWS work in parallel to BNG policy and legislation - BNG does not over-rule these other policies. The principles of the mitigation hierarchy of **Avoidance-Mitigation-Compensation** still have to be followed, and because LWS are by definition the best sites in the two counties for wildlife, avoidance should be the primary objective, with mitigation of any impacts, and compensation only as a last resort.

Local Wildlife Sites database

LRERC maintains a database of sites considered to be of importance for biodiversity, based on an assessment against published Local Wildlife Site criteria. The data is shared on request with the district planning authorities, Neighbourhood Plans groups and any person or organisation that asks LRERC for ecology information. They will then decide how to use and interpret the information we have sent them; LRERC do not provide this as part of their data-search. LRERC collates data from many sources to add to the database, including its own surveys and those of ecology consultants submitted with a planning application.

2. When is a Local Wildlife Site assessment needed?

The result of the Biodiversity Net-gain baseline survey or a designated sites data-search of the Local Environmental Records Centre will indicate whether a Local Wildlife Site (LWS) assessment will be needed in support of a planning application – for example:

- The development will affect a designated site of known biodiversity value: e.g. a Local Wildlife Site (LWS), candidate/potential LWS, Local Nature Reserve (LNR);
- The development will affect a site that is known from the data-search to have had biodiversity value in the past, and appears from aerial photographs to be unchanged;
- Analysis of desk study or survey data indicates that there is a strong possibility that the development will affect a site that supports a local or a UK Biodiversity Action Plan priority habitat, or a site that meets the Local Wildlife Site criteria.

It is the developers' responsibility to commission up-to-date independent ecological surveys, but often ecologists from LCC will also want to visit the land to survey it and assess it against the criteria. Local planning authorities have a right of access to land in order to assess development proposals.

3. Surveying a Local Wildlife Site

Walkover survey

A comprehensive walkover survey is all that is required, recording indicator species or habitat features. If possible, an indication of frequency using 'DAFOR' can be given, but this is difficult to do at some times of year and on some sites. Some helpful guidance from the Norfolk Wildlife Trust.

National Vegetation Classification (NVC)

An NVC survey is not needed, and is rarely helpful; this technique is used for site monitoring, not initial evaluation and assessment. It is also time-consuming and requires high botanical skill levels to identify all species within the sward. The LWS indicator species are all relatively common and can be identified with confidence by a skilled botanist, even when not in flower or in close-grazed turf.

Field skills and botanical recording

A habitat survey should be done by an experienced ecologist with a good knowledge of field botany. The Botanical Society for the British Isles (BSBI) recommendations state that the minimum Field Identification Skills Certificate (FISC) level for a person conducting a Phase 1 Survey is Level 3, and the minimum level for a consultant is Level 4. LRERC recommend that all Phase 1 surveys are supervised by a FISC level 4 botanist.

An understanding of the local and national distribution of habitat types and plant species is essential.

The field survey should be backed up by desk study data obtained from Leicestershire and Rutland Environmental Records Centre, the local authority's in-house ecologist, the local Wildlife Trust or specialist naturalist groups.

Scientific names of plants must always be used, and should be those used in a standard text such as Stace C. (2019) *New Flora of the British Isles 4th edition*. C&M Floristics. English names are optional.

Target notes

Sites and habitats recorded as part of a Habitat Survey should be assessed against the LWS criteria, to see if they meet the standard or are likely to meet it. The LWS criteria should therefore be borne in mind when conducting the Habitat survey - especially when making Target notes, as it is the information contained in the Target notes that will be used as evidence for the site meeting LWS standard.

The following information should be target-noted:

- Veteran trees: species and girth/diameter, with a note of whether estimated or measured.
- Species-rich hedgerows: species and estimated average number per 30m
- Species-rich grasslands: LWS indicator species; notable species; ridge and furrow
- Ponds, rivers, streams and wetlands: list of LWS indicator species and features
- Woodlands: Ancient woodland Indicator species
- Plants: Colonies of nationally and locally rare plant species (ref: M Jeeves)
- Badgers: Location of setts and other evidence
- Bats: any trees with 'bat potential'
- Other species: observations of UKBAP species, Red Data Book species, protected species or other notable species.

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