Habitat Guide

The Small Sites Metric (Statutory Biodiversity Metric)

Habitat Management and Monitoring Plan Template

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NATURAL ENGLAND

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Foreword

This Habitat Guide is the companion document to the Small Sites Metric (Statutory Biodiversity Metric) Habitat Management and Monitoring Plan Template. It provides descriptions of proposed habitat types and conditions allowed in the Small Sites Metric (SSM).

The Habitat Guide is published by Natural England.

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Natural England commission a range of reports from external contractors to provide evidence and advice to assist us in delivering our duties. The views in this report are those of the authors and do not necessarily represent those of Natural England.

Introduction

The purpose of the guide is to assist SSM users, who may not be professional ecologists, in preparing plans for long-term management and monitoring of habitats meeting the SSM criteria. The SSM HMMP Template is suitable only for use with the SSM. You can use the main HMMP Template with Companion Document for small sites, if required, but this SSM Habitat Guide is not suitable for informing the management and monitoring plans for major developments or more complex habitats.

Habitat Descriptions

The habitat descriptions below outline the characteristics of common SSM habitat ‘type’ outcomes. These are for widespread habitats that can be created and managed relatively easily on typical ‘small sites’ meeting SSM criteria. The descriptions are referred to as ‘Target Habitat Descriptions’ because these are the descriptions of the characteristics to be demonstrated by each habitat and allowable condition in the SSM resulting from the habitat creation, enhancement, management and monitoring activities.

This guide does not include the specific management actions needed to deliver each desired habitat outcome. Rather, the guide gives an outline of characteristics required to show that the relevant habitat targets have been met, to demonstrate biodiversity net gain. The characteristics outlined are not exhaustive.

As an HMMP author, you should decide which specific management actions to include in your plan to achieve your habitat targets. There may be different management options available to achieve the required outcome. It is important to consider the circumstances of specific locations and conditions.

You should plan the habitat types and conditions that are realistically achievable for the unique conditions of your site, and which can be maintained for the 30-year management period. This includes identifying risks and actions to resolve any issues that may arise. Plan the monitoring to effectively track the success of the HMMP habitats.

The UK Habitat Classification System (UKHab) descriptions and the Statutory Biodiversity Metric Condition Assessment Criteria underpin the habitat condition criteria for BNG. For habitats not included in this guide, a competent person can use these to prepare their HMMP. It is important to provide a full justification in your SSM HMMP for how the proposed management actions will achieve the targeted outcomes. This will help the reviewer and habitat manager understand your plan.

Habitat Conditions

The habitat descriptions outline the ‘Target Conditions’ available for a range of SSM habitats. They start with the characteristics required to demonstrate ‘moderate’ condition habitats, then move up to describe the additional characteristics you need to plan for to demonstrate ‘good’ condition. For example:

- If planning for a habitat in ‘moderate’ condition, the descriptions outline the more achievable characteristics for that habitat in moderate condition.
- If planning for a habitat in ‘good’ condition, the additional guidance outlines the further improved condition requirements that will be needed in addition to the characteristics described for the related moderate condition habitat.

More Specific or Complex Habitats

This guide does not include every habitat possible in the SSM. Certain SSM habitats will require more complex habitat creation and management measures. In these cases, someone competent in managing those specific habitats will need to prepare the management proposals. Refer to the Small Sites Metric (Statutory Biodiversity Metric): User Guide for information on competence.

Check that you or your team have the skills, information or equipment needed to identify, create and manage the habitats set out in the plan so that they achieve the condition specified in the accompanying SSM.

Use the main HMMP Template and associated Companion Document if your plan involves more complex or larger-scale habitats, priority habitats or protected species. Also, for projects that used the main statutory biodiversity metric calculator.

This Habitat Guide is not suitable for use with the main Statutory Biodiversity Metric and HMMP Template.

Appendix A lists all the habitats that can be planned with the SSM. It includes both the list of habitats covered in this guide and those omitted due to requiring more specialist competency.

Source Information

The Habitat Guide has been informed by review and reference to the following core documents of The Small Sites Metric (Statutory Biodiversity Metric):

i) UKHab Category Descriptions

ii) The Small Sites Metric (Statutory Biodiversity Metric) User Guidance

iii) The Statutory Biodiversity Metric Condition Assessment Sheets.

Grassland

Modified Grassland

Target Habitat Description for Moderate Condition

In a management plan aiming to achieve ‘moderate’ condition the grassland will show:

- A minimum of 6 plant species per square metre achieved by,
    - sowing a diverse grassland seed mix that includes a range of native grasses and wildflowers, to create new or enhance existing grasslands
    - choosing a mix with 100% native species
    - choosing species that can tolerate a variety of soil conditions and mowing.

- Less than 20% scrub and less than 20% bracken cover.

- No invasive non-native plant species as listed on Schedule 9 of the Wildlife and Countryside Act (1981).

Target Habitat Description for Good Condition

In addition to the characteristics for moderate condition, modified grasslands in ‘good’ condition will show these features:

- A varied sward height. At least 20% of the grass area is shorter than 7 cm and at least 20% is taller than 7 cm. This height variation offers different grassy environments and microclimates, for different small animals (vertebrates and invertebrates) to live and breed.

- Protection from physical damage so that bare ground and other signs of damage (e.g. excessive littering) covers below 5% of the total area.

    - Grassland subject to excessive damage through regular footfall, such as in car parks or in front of building entrances, is unlikely to achieve good condition.

Other Neutral Grassland

A grassland or wildflower meadow growing on neutral soils.

Target Habitat Description for Moderate Condition

In a management plan aiming to achieve ‘moderate’ condition the grassland will show:

- A minimum of 9 native plant species (grasses, sedges and wildflowers) per square metre on average, created or enhanced through,
    - soil testing to check habitat will be on neutral[1], low fertility[2] soils, informing the grassland design and species suitability
    - sowing a species-rich, native grassland seed mix with wildflowers, or by spreading green hay from a local donor site providing appropriate species for the location
- Wildflowers (and may include sedges) growing over at least 20% of the habitat area.
- Less than 30% of grassland covered by perennial ryegrass *Lolium perenne* and white clover *Trifolium pratense* combined.
- A diverse range of native grasses and wildflower species managed to prevent the more dominant ‘species to avoid[3]’ taking over the grassland.
- Less than 5% scrub and less than 20% bracken cover.
- No invasive non-native plant species as listed on Schedule 9 of the Wildlife and Countryside Act (1981).
- Protection from physical damage so that bare ground and other signs of damage (e.g. excessive littering) covers below 5% of the total area. Grassland subject to excessive damage through regular footfall, such as in car parks or in front of building entrances, is unlikely to achieve this habitat type.

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[1] Acid or calcareous soils result in other grassland habitat types. These habitats will require specialist input from a competent person and the use of the main metric.

[2] For soils with higher nutrient levels, plan to create a habitat that can tolerate the higher level of nutrients, e.g. modified grassland.

[3] Species to avoid: perennial ryegrass *Lolium perenne,* creeping thistle *Cirsium arvense*, spear thistle *Cirsium vulgare*, curled dock *Rumex crispus*, broad-leaved dock *Rumex obtusifolius*, common nettle *Urtica dioica*, creeping buttercup *Ranunculus repens*, greater plantain *Plantago major*, white clover *Trifolium repens* and cow parsley *Anthriscus sylvestris.* Seek advice from a competent professional if you are not sure.

Other Neutral Grassland

A grassland or wildflower meadow growing on neutral soils.

Target Habitat Description for Good Condition

In addition to the characteristics for moderate condition, other neutral grasslands in 'good' condition will show these features:

- A minimum of 10 native plant species (grasses and wildflowers) per square metre, on average.

- Less than 5% of the total grassland area is covered by species[4] such as creeping thistle, docks, and nettles. These species may indicate higher soil fertility than desired.

[4] Species to avoid: e.g. creeping thistle *Cirsium arvense*, spear thistle *Cirsium vulgare*, curled dock *Rumex crispus*, broad-leaved dock *Rumex obtusifolius*, common nettle *Urtica dioica*, creeping buttercup *Ranunculus repens*, greater plantain *Plantago major*, white clover *Trifolium repens* and cow parsley *Anthriscus sylvestris*

Scrub

Mixed Scrub

Target Habitat Description for Moderate Condition

In a management plan aiming to achieve ‘moderate’ condition the mixed scrub will show:

- A canopy dominated by native shrub species less than 5m tall, with any scattered trees above this height recorded as individual trees.
- At least 3 native woody species included. No single species dominates more than 75% of the total area.
- Native species only or, where non-native[5] species are present, they make up less than 20% of the total canopy area.
- Signs of new seedlings, saplings and young shrubs growing naturally alongside more mature shrubs and with management maintaining this mix of age ranges.
- No invasive non-native species as listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended).
- Cover of non-native ground cover ‘species to avoid[6]’ less than 5% cover.

Target Habitat Description for Good Condition

In addition to the characteristics for moderate condition, mixed scrub in ‘good’ condition will show these features:

- Scrub blocks within, or next to, another semi-natural habitat like tall grassland or wildflowers. Ideally this will be a medium distinctiveness habitat such as (but not limited to) other neutral grassland, other broadleaved woodland, or a pond. The habitat edges blend smoothly into the nearby habitat(s).
- Scrub blocks large enough to incorporate open spaces like glades, rides and clearings, which are maintained and add habitat diversity.

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[5] Non-native tree and shrub species to avoid: non-native conifers, tree-of-heaven *Alianthus altissima*, holm oak *Quercus ilex*, European turkey oak *Quercus cerris*, cherry laurel *Prunus laurocerasus*, snowberry *Symphoricarpos spp*., shallon (Gaultheria shallon), buddleia *Buddleja spp*., any *cotoneaster Cotoneaster spp*.

[6] Non-native ground-cover species to avoid e.g. shallon *Gaultheria shallon*, American skunk cabbage *Lysichiton americanus*, Spanish bluebell *Hyacinthoides hispanica* and hybrid bluebells *Hyacinthoides x massartiana*.

Hazel Scrub
Hawthorn Scrub
Blackthorn Scrub
Gorse Scrub
Willow Scrub

Target Habitat Description for Moderate Condition

In a management plan aiming to achieve 'moderate' condition the respective scrub habitat will show:

- The species characteristic of the planned scrub habitat - hazel *Corylus avellana,* hawthorn *Crataegus monogyna,* blackthorn *Prunus spinosa*, gorse *Ulex europaeus* or willow *salix*. The respective species will cover 50 to 75% of the total canopy area.

- A canopy dominated by native shrub species less than 5m tall, with any scattered trees above this height recorded as individual trees.

- At least 3 native woody species included. No single species dominates more than 75% of total area (the exception is hazel scrub, which can cover up to 100%).

- Native species only or, where non-native[7] species are present, they make up less than 20% of the total canopy area.

- Signs of new seedlings, saplings and young shrubs growing naturally alongside more mature shrubs and this mix of age ranges is maintained.

- No invasive non-native species as listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended). Over of non-native ground cover 'species to avoid[8]' less than 5% cover.

- Cover of non-native ground cover 'species to avoid'[8] less than 5% cover.

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[7] Non-native tree and shrub species to avoid: non-native conifers, tree-of-heaven *Alianthus altissima*, holm oak *Quercus ilex*, European turkey oak *Quercus cerris*, cherry laurel *Prunus laurocerasus*, snowberry *Symphoricarpos spp*., shallon (Gaultheria shallon), buddleia *Buddleja spp*., any *cotoneaster Cotoneaster spp*.

[8] Non-native ground-cover species to avoid e.g. shallon *Gaultheria shallon*, American skunk cabbage *Lysichiton americanus*, Spanish bluebell *Hyacinthoides hispanica* and hybrid bluebells *Hyacinthoides x massartiana*.

Target Habitat Description for Good Condition

In addition to the characteristics for moderate condition, hazel, hawthorn, blackthorn, gorse or willow scrub habitat in ‘good’ condition will show these features:

- Scrub blocks within, or next to, another semi-natural habitat like tall grassland or wildflowers. Ideally this will be a medium distinctiveness habitat such as (but not limited to) other neutral grassland, other broadleaved woodland, or a pond. The habitat edges blend smoothly into the nearby habitat(s).

- Scrub blocks large enough to incorporate open spaces like glades, rides and clearings, which are maintained and add habitat diversity.

Bramble scrub

Dominated by bramble. No further specific requirements for this habitat.

Lakes

Ponds (non-priority)

Ornamental ponds

Target Habitat Description for Moderate Condition

In a management plan aiming to achieve ‘moderate’ condition the pond will show:

- Design is for wildlife rather than a sustainable drainage system (SuDS). If the pond is to have a sustainable drainage system, the metric calculation shows it as a SuDS feature (a different habitat type).

- No artificial pipework draining water into pond. Not artificially connected to other waterbodies via ditches or pipes.

- Water levels can change naturally throughout the year. No artificial dams, pumps or pipework.

- No fish artificially stocked into the pond.

- Pond is free from invasive non-native animal or plant species listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) or any species included on the Water Framework Directive (WFD) UKTAG GB High Impact Species List.

- Pond is free from excessive duckweed *Lemna* spp. and blanket weed (filamentous algae). Individually or both combined, these species cover less than 10% of the water surface.

- Semi-natural habitat surrounding the pond. Less than 50% of the water surface is shaded by adjacent trees and shrubs. (If it’s a woodland pond there may be more shading)

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Ponds (non-priority)

Ornamental ponds

Target Habitat Description for Good Condition

In addition to the characteristics for moderate condition, ponds in ‘good’ condition will show these features:

- Semi-natural habitat of medium distinctiveness surrounding pond and extending out at least 10 metres from the pond edge. Although high and very high distinctiveness habitats are not available in the SSM, these habitats can be present adjacent to the SSM site and the pond.

- Clean and clear water with no obvious signs of pollution or cloudiness.

- A variety of plants growing at the edges, within the pond and floating on it (excluding duckweed). These plants cover approximately half of the pond area in the places where it is less than 3 metres deep (Applies if not in a woodland - woodland ponds will have less pond vegetation).

Urban

Bioswale

Sustainable drainage system (SuDS)

Target Habitat Description for Moderate Condition

In a management plan aiming to achieve ‘moderate’ condition the bioswale or SuDs will show:

- Different plant species that flower at different times of the year, providing nectar sources for a range of insects and other invertebrates. Plant species offer flowers for wildlife over most of the year and are appropriate according to size and type of SuDS.

- Mostly of native species.
  Where non-native plant species are present, they are not harmful[9] to wildlife. The planting mix would exclude invasive non-native species (INNS). If INNS are present, they cover less than 5% of the total area.

Target Habitat Description for Good Condition

In addition to the characteristics for moderate condition, the bioswales or SuDs in ‘good’ condition will show these features:

- A variety of plants and habitat components that give structure to the bioswale or SuDs habitat. Includes features such as open water, vegetation in the water or at the edges, wet grassland, areas of longer grasses, shrubs or trees. The variety means no single habitat component or vegetation type covers more than 80% of the habitat area.

- 100% native species that are suitable for wetland environments, including the structural vegetation types, or native species characteristic of pond edges.

[9] Examples of harmful plants include species listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) or those listed by the local planning authority as invasive species. The GB Non-native Species Information Portal (GBNNSIP) portal has information for INNS.

Rain Gardens

Target Habitat Description for Moderate Condition

In a management plan aiming to achieve ‘moderate’ condition the rain garden will show:

- A variety of flower species attracting insects like bees and butterflies and other wildlife. Plants are appropriate to the size and design of the rain garden. Preferably they are native species. The various plants produce flowers during different times of year, providing nectar through the seasons.

- Mostly native species. Where non-native plant species are present, they are not harmful[10] to wildlife. The planting mix would exclude invasive non-native species (INNS). If INNS are present, they cover less than 5% of the total area.

Target Habitat Description for Good Condition

In addition to the characteristics for moderate condition, rain gardens in ‘good’ condition will show these features:

- A varied vegetation structure, with at least two physically different habitat elements or vegetation types or heights. For example, areas of pond-edge wetland plants, wetland grasses, shrubs, or trees. These provide habitat for a range of animal species (vertebrates and invertebrates). The variety means no single vegetation type covers more than 80% of the habitat area.

[10] Examples of harmful plants include species listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) or those listed by the local planning authority as invasive species. The GB Non-native Species Information Portal (GBNNSIP) portal has information for INNS.

Biodiverse Green Roof

Target Habitat Description for Moderate Condition

In a management plan aiming to achieve 'moderate' condition the biodiverse green roof will show:

- A variety of flower species attracting insects like bees and butterflies and other wildlife. Plants are appropriate to the size and design of the green roof. The various plants produce flowers during different times of year, providing nectar through the seasons.

- Mostly native species.
  Where non-native plant species are present, they are not harmful[11] to wildlife. The planting mix would exclude invasive non-native species (INNS). If INNS are present, they cover less than 5% of the total area.

Target Habitat Description for Good Condition

In addition to the characteristics for moderate condition, biodiverse green roofs in 'good' condition will show these features:

- A varied vegetation structure, with at least two physically different habitat elements or vegetation types or heights. For example, open water pools, bare ground or gravel, sedums, grasses with wildflowers, shrubs or even trees providing habitat for a range of animal species (vertebrates and invertebrates). The variety means no single vegetation type covers more than 80% of the habitat area. Bare ground should not be the most common habitat type.

- A variation in substrate (e.g. soil, sand, or gravel) depth of between 80-150mm, with at least half of the area at 150mm depth. Made up of at least two different habitat features, like sand piles, stones, gravel piles, logs or rubble piles. The distinctive features provide different micro-climates for plants, insects, and other invertebrates.

[11] Examples of harmful plants include species listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) or those listed by the local planning authority as invasive species. The GB Non-native Species Information Portal (GBNNSIP) portal has information for INNS.

Intensive Green Roof

Target Habitat Description for Moderate Condition

Intensive green roofs are like a roof garden.

In a management plan aiming to achieve 'moderate' condition the intensive green roof will show:

- A variety of flower species attracting insects like bees and butterflies and other wildlife. Plants are appropriate to the size and design of the green roof. The various plants produce flowers during different times of year, providing nectar through the seasons.

- Mostly of native species.
  Where non-native plant species are present, they are not harmful[12] to wildlife. The planting mix would exclude invasive non-native species (INNS). If INNS are present, they cover less than 5% of the total area.

Target Habitat Description for Good Condition

In addition to the characteristics for moderate condition, intensive green roofs in 'good' condition will show these features:

- A varied vegetation structure, with at least two physically different habitat elements or vegetation types or heights. For example, open water pools, bare ground or gravel, sedums, grasses with wildflowers, shrubs or even trees providing habitat for a range of animal species (vertebrates and invertebrates). The variety means no single vegetation type covers more than 80% of the habitat area. Bare ground should not be the most common habitat type.

- Soil and vegetation covering 70% of the roof area, rather than hard standing or built garden features. Water features can be included within the 70% area.

[12] Examples of harmful plants include species listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) or those listed by the local planning authority as invasive species. The GB Non-native Species Information Portal (GBNNSIP) portal has information for INNS.

Other Green Roof

Target Habitat Description for Moderate Condition

In a management plan aiming to achieve ‘moderate’ condition the other green roof habitat will show:

- A variety of flower species attracting insects like bees and butterflies and other wildlife. Plants are appropriate to the size and design of the green roof. The various plants produce flowers during different times of year, providing nectar through the seasons.

- Mostly of native species. Where non-native plant species are present, they are not harmful[13] to wildlife. The planting mix would exclude invasive non-native species (INNS). If INNS are present, they cover less than 5% of the total area.

Target Habitat Description for Good Condition

In addition to the characteristics for moderate condition, other green roofs in ‘good’ condition will show these features:

- A varied vegetation structure, with at least two physically different habitat elements or vegetation types or heights. For example, open water pools, bare ground or gravel, sedums, grasses with wildflowers, shrubs or even trees providing habitat for a range of animal species (vertebrates and invertebrates). The variety means no single vegetation type covers more than 80% of the habitat area. Bare ground shouldn't be the most common habitat type.

Ground Level Planters

There are no specific requirements for ground level planters. Use your professional judgement to select appropriate species for planting.

Introduced Shrub

There are no specific requirements for Introduced Shrub. Use your professional judgement to select appropriate species for planting.

[13] Examples of harmful plants include species listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) or those listed by the local planning authority as invasive species. The GB Non-native Species Information Portal (GBNNSIP) portal has information for INNS.

Individual Trees

The Individual Trees habitat type refers to young trees over 7.5 cm in diameter at breast height whose canopies are not touching.

In and around urban areas, this includes trees along streets, highways, railways and canals. Also, former field boundary trees incorporated into developments. In the SSM, groups of urban trees that don't match the descriptions for woodland may be assessed within this category, whereas in rural areas these would generally be referred to as woodland. You cannot choose 'tree groups' for rural trees in the SSM Calculation Tool.

See Small Sites Metric (Statutory Biodiversity Metric) User Guide. A competent person should decide which habitat type to propose.

Urban Trees

Target Habitat Description for Moderate Condition

Individual Trees. In a management plan aiming to achieve 'moderate' condition the urban individual trees will show:

- Native tree species.
- Protected from damage caused by human activities, such as inappropriate management or vandalism.
- The tree can grow to at least 75% of its expected canopy area in relation to its age, height and species, because it is in an area where there is enough space to grow, and it is not pruned regularly.

Urban Tree Groups. In a management plan aiming to achieve ‘moderate’ condition urban tree groups will show:

- At least 70% of the trees in the group are native species.
  A new group of trees, not qualifying as woodland, includes only native species.
  For existing areas of individual trees with less than 70% native trees, the proportion of native tree species can be increased to 70%. For example, habitat enhancement through targeted thinning of existing trees, then subsequent planting with native species, where appropriate.

- Tree canopy layer is generally continuous, with any gaps in the canopy covering less than 10% of the total area.

- The trees are not subject to adverse impacts by people and can grow to at least 75% of their expected canopy area for their age, height and species, because they are in an area where there is enough space to grow and they are not pruned regularly.

Target Habitat Description for Good Condition

In addition to the characteristics for moderate condition,

Urban **individual trees** in ‘good’ condition will show these features:

- The tree is mature, with enough space around it to enable it to reach a mature height, in relation to the species of tree.

Urban **tree groups** in ‘good’ condition will show these features:

- At least half of the trees in the group are mature. Any new planting has been planned to ensure the trees are sufficiently spaced apart to reach a mature height, but still close enough together for the group to form a continuous canopy.

Urban individual trees and tree groups in ‘good’ condition will show these features:

- The tree or trees are situated in an area where more than 20% of the canopy area is oversailing vegetation beneath. This can be any vegetation type, but no more than 80% of the area underneath the tree(s) canopy is artificial ground cover or unvegetated bare ground.

- The tree or tree group has a range of features attractive for animals, particularly invertebrates. These could include deadwood, cavities, ivy or loose bark.

Rural Trees

Target Habitat Description for Moderate Condition

In a management plan aiming to achieve ‘moderate’ condition the rural individual trees will show:

- The tree is a native species.

- The tree is protected from adverse impacts by people and can grow to at least 75% of its expected canopy area in relation to its age, height and species, because it is in an area where there is enough space to grow, and it is not pruned regularly.

Target Habitat Description for Good Condition

In addition to the characteristics for moderate condition, rural individual trees in ‘good’ condition will show these features:

- The tree is mature with enough space around it to enable it to reach a mature height, in relation to the species of tree.

- The tree is situated in an area where more than 20% of the canopy area is oversailing vegetation beneath. This can be any vegetation type, but no more than 80% of the area underneath the tree(s) canopy is artificial ground cover or unvegetated bare ground.

- The tree has a range of features attractive for animals (vertebrates and invertebrates). These could include deadwood, cavities, ivy or loose bark.

Woodland and Forest

Other woodland; coniferous
Other woodland; scots pine
Other woodland; broadleaved
Other woodland; mixed

Target Habitat Description for Moderate Condition

In a management plan aiming to achieve 'moderate' condition the woodland will show:

- 80% or more of woodland canopy is formed of either coniferous or broadleaved trees, depending on the woodland type planned. In mixed woodlands, no tree type (coniferous or broadleaved) dominates more than 80% of the canopy.

- At least two different age classes of trees (young, intermediate and/or old) across the woodland once the habitat has developed. Achieved through appropriate species selection and appropriate management for at least 30 years. Different tree species mature at different ages. For example:
    - Oak: young trees 0-20yrs, intermediate trees 21-150yrs and >150yrs for old trees
    - Birch: young trees 0-20yrs, intermediate 21-60yrs and >60yrs for old trees

- A minimum of two woodland storeys (layers) of trees and shrubs. These are at least a canopy layer of taller trees and an understorey of smaller trees or shrubs.

- Woodland that is regenerating through management like selective thinning or coppicing (coppicing is a traditional method of cutting back - used if appropriate to the location), showing a range of young trees, saplings, and seedlings or re-growth (if coppiced).

- Native tree species occupying more than 80% of the total canopy area. Includes five or more species.

- It is free from invasive non-native species (INNS), such as rhododendron *Rhododendron ponticum spp.* and cherry laurel *Prunus laurocerasus* and species listed on Schedule 9 of the Wildlife and Countryside Act (as amended).

- No signs of significant damage from wild, domestic and feral animals. Prevention measures are in place to manage any significant browsing damage.

- Most trees are healthy due to appropriate best practice management, including disease prevention and removal of obviously diseased trees.

- Deadwood, (such as standing deadwood, fallen deadwood or dead branches), or small cavities in trees are observed across a minimum of 25% of the total woodland area.

Other woodland; coniferous
Other woodland; scots pine
Other woodland; broadleaved
Other woodland; mixed

Target Habitat Description for Good Condition

In addition to the characteristics for moderate condition, woodlands in ‘good’ condition will show these features:

- More deadwood present than the presence for ‘moderate’ condition, achieved by not clearing away dead trees and branches that naturally form (unless caused by a disease) and leaving felled trees and brash piles in place. At least 50% of the whole woodland area has deadwood and small cavities in living trees.

- Ground vegetation layer is made up of characteristic, native woodland wildflowers and other plants.

- Two or more of the following options demonstrated:

  There are different ways to achieve the target of woodland in good condition, including creating or enhancing existing woodland and the best way to achieve this may vary depending on the local conditions. A competent person can help inform the best options for your site.

  i. No signs of nutrient enrichment or damaged ground such as soil compaction from machinery, trampling, animal poaching or litter. Signs of nutrient enrichment include dominance of species such as common nettle *Urtica dioica*, cleavers *Galium aparine* or thistles *Cirsium spp*.

  ii. Diverse woodland ground flora made up of 100% native species, including a range of characteristic ancient woodland ground flora. For example, English bluebell *Hyacinthoides non-scripta*, wood anemone *Anemone nemorosa*, wood sorrel *Oxalis acetosella*, wild garlic *Allium ursinum*, dog’s mercury *Mercurialis perennis*, red campion *Silene dioica*, hard fern *Blechnum spicant* and hart’s tongue fern *Asplenium scolopendrium*.

  iii. Three or more storeys in the woodland, including upper canopy, middle, shrub and ground layer.

  iv. Veteran trees can be seen in existing woodlands that are being enhanced.

Hedgerows

The following descriptions are relevant to each hedgerow type in moderate and good condition.

Species-rich native hedgerow:

- At least 80% native woody species, with at least 5 native species per average 30m length of hedgerow. In northern and eastern England, there are at least 4 native species per average 30m length of hedgerow. The definition of an 'average 30m length' is outlined in the survey methodology in the Hedgerow Survey handbook.

Native hedgerow:

- At least 80% native woody species.

Native hedgerow - associated with bank or ditch:

- Bank: At least 80% native woody species, with a hedgebank (an earth bank or mound distinct from the surrounding landform) that is at least 0.5 metres in height from its base underneath the hedgerow and the hedgerow growing along the top of the hedgebank, or
- Ditch: At least 80% native woody species, with a ditch within 2m of the hedgerow edge

Native hedgerow with trees:

- At least 80% native woody species, including trees along its length. Some of the trees' canopies are taller than the general hedgerow canopy height. The trees' canopy edges are spaced no more than 20m apart.

Ornamental Hedgerows:

- A hedgerow at least 20m in length, made up of more than 20% non-native woody species.

The Target Habitat Descriptions below provide further specific habitat aims in relation to each type.

All Hedgerows

This excludes ornamental hedgerows which are not subject to any specific requirements.

Target Habitat Description for Moderate Condition

In a management plan aiming to achieve ‘moderate’ condition the hedgerow will show:

- At least 80% native woody species.

- At least 1.5m wide or 1.5m tall (ideally both).
  If width and height options are restricted due to the hedgerow’s location, there will be undisturbed ground along the hedgerow’s length on one or both sides. This is to allow grasses and wildflowers to grow. The strip must be at least 1 metre in width, measured from the edge of the hedgerow growth, not the middle.

- No damage caused by human activities, such as inappropriate management or vandalism.
  If more than 10% of the hedgerow shows damage, there is relevant management put in place to stop the damage continuing. This adjustment is to maintain the hedgerow in the condition required in the SSM and management plan. It could include additional planting to replace any damaged hedgerow plants.

- A continuous, dense natural boundary feature with no gaps in the canopy or lower parts of the hedgerow.

- It is free from invasive non-native species (INNS) listed on Schedule 9 of the Wildlife and Countryside Act (as amended).

All Hedgerows

This excludes ornamental hedgerows which are not subject to any specific requirements.

Target Habitat Description for Good Condition

In addition to the characteristics for moderate condition, hedgerows in ‘good’ condition will show these features:

- At least 1.5m wide and 1.5m tall. There will be enough space for the hedgerow to grow to this required size and be maintained at this size.

- A minimum of 1-metre-wide strip of undisturbed ground along the hedgerow length on one or both sides, for grasses and wildflowers to grow. The strip width is measured from the edge of the hedgerow growth, not the middle. This space requirement is included in the plan for creating or improving hedgerows.

- Species that indicate high nutrient levels in the soil, such as nettles *Urtica spp*., cleavers *Galium aparine* and docks *Rumex spp* take up less than 20% of the ground layer under the hedgerow.

Where trees are present in the hedgerow:

- At least 95% are in healthy condition, with little evidence of adverse impact on tree health from animals, pests, diseases, or human activity.

Line of Trees

The following descriptions are relevant to each line of trees type in moderate and good condition:

Line of trees: A line at least 20 metres long of trees which are mature or will be allowed to grow to maturity. No shrub layer – if creating a shrub layer with a line of trees, ‘hedgerow’ or ‘hedgerow with trees’ are more appropriate options.

Line of trees - associated with bank or ditch: A line of trees at least 20 metres long, which are mature, or will be allowed to grow to maturity, with either:

- a hedgebank (an earth bank or mound distinct from the surrounding landform) that is at least 0.5 metres in height from its base underneath the lines of trees running along the top of the hedgebank,

- a ditch within 2m of the hedgerow edge.

Line of Trees

Target Habitat Description for Moderate Condition

In a management plan aiming to achieve ‘moderate’ condition the line of trees will show:

- At least 70% native woody species.
  A newly created line of trees includes a range of species to boost diversity.

- A continuous tree canopy for at least 90% of the total length with no canopy gaps wider than 5m wide.
  A newly created line of trees has trees spaced far enough apart to be able to properly mature. Once mature, their canopies will form a continuous feature.

- Shows no signs of damage caused by human activities such as inappropriate management or vandalism.
  If more than 5% of the trees show signs of damage or disease, there are relevant management activities put in place to prevent the damage or disease continuing. The management may include additional planting to replace any damaged trees.

- Trees are healthy with relevant management activities in place to prevent disease. This may include pruning to restore vigor, or targeted removal of unhealthy trees and replacement with new trees.

Line of Trees

Target Habitat Description for Good Condition

In addition to the characteristics for moderate condition, the line of trees in ‘good’ condition will show these features:

- Vegetation can grow naturally in a strip that is at least 6 metres wide on both sides of the line of trees. There are no footpaths, arable fields, intensive grazing, or lawns within the 6-metre buffer area.
  A newly created line of trees is situated in an area managed for biodiversity for at least six metres on both sides.

- One or more of the trees will be mature enough to provide natural habitat features to support birds, mammals, insects and other creatures. This may include standing deadwood and dead branches, holes and cavities, ivy or loose bark.

Watercourses

Ditches

Target Habitat Description for Moderate Condition

In a management plan aiming to achieve ‘moderate’ condition the ditch will show:

- Protection from physical damage, including trampling by livestock causing excessive poaching, damage from machinery use or storage, and other similar risks.

- A fringe of wetland plants growing along the water edges of the ditch (marginal plants), along more than 75% of its length.

- Less than 10% shaded by buildings or shrubs, trees or woodlands.

- It is free from invasive non-native animal or plant species listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) or any species included on the Water Framework Directive (WFD) UKTAG GB High Impact Species List.

- In addition to the above, the ditch should have at least one of the following characteristics:
    i. A minimum summer water depth of 50cm (not including drought periods) with a diverse range of wetland plants and water plants growing in and at the edges of the water. There will be more than 10 native plant species per 20 metre length of ditch.
    ii. Good water quality with clear water and no obvious signs of pollution. Also, less than 10% cover of blanket weed (filamentous algae) and or duckweed *Lemna* spp., as these are a symptom of too many nutrients in the water, i.e. poorer water quality.

Target Habitat Description for Good Condition

In addition to the characteristics for moderate condition, ditches in ‘good’ condition will show these features:

- Both of the optional characteristics outlined for moderate condition ditches (i and ii above). The ditch will have:

    i. Sufficient water levels (minimum summer water depth of 50cm);
    ii. A diverse range of vegetation;
    iii. Good water quality and
    No, or very little (<10% cover), filamentous algae and or duckweed *Lemna* spp.

Appendix A: Checklist of Small Sites Metric Habitats

The information below lists all the possible habitat types that can be input in the small sites metric calculation tool and states whether or not guidance has been provided in this Habitat Guide document. For those where guidance has not been provided, information is given for where to seek advice if required.

The following list shows the 'Broad Habitat Type' in larger, **bold** text and 'Specific Habitat' in non-bold text.

If the habitat is included in this guide, it is hyperlinked to the description in **bold** text. Other habitats listed, that are available in the SSM but not included in this guide, are shown in plain text. The reason for not including these other habitats is included below the relevant habitat.

Arable

- Arable field margins cultivated annually
- Arable field margins game bird mix
- Arable field margins pollen and nectar
- Arable field margins tussocky
- Cereal crops
- Winter stubble
- Non-cereal crops
- Horticulture
- Intensive orchards
- Temporary grass and clover leys

Arable habitats are not included in this habitat guide because there is no condition assessment for arable habitats. If this habitat can justifiably be targeted, specialist knowledge is needed to create agricultural habitats. A competent person should demonstrate an appropriate level of knowledge and experience in creating, enhancing and/or managing arable habitats or advice can be sought from experience from an agricultural land agent.

Grassland

- Grassland-Bracken

Grassland-Bracken habitat does not have a condition assessment, so advice has not been included in this guide.

- **Modified Grassland**
- Other lowland acid grassland

Other lowland acid grassland habitat requires specific conditions and habitat creation and management targets. If planning this habitat using the SSM, the competent person completing this HMMPT should demonstrate appropriate experience in grassland creation and management.

- **Other neutral grassland**
- Upland acid grassland

Upland acid grassland habitat requires specific conditions and habitat creation and management targets. If planning this habitat using the SSM, the competent person completing this HMMPT should demonstrate appropriate experience in grassland creation and management.

Scrub

- **Blackthorn scrub**
- **Bramble scrub**
- **Gorse scrub**
- **Hawthorn scrub**
- **Hazel scrub**
- **Willow scrub**
- **Mixed Scrub**
- Rhododendron scrub

Rhododendron scrub habitat does not have a condition assessment, so advice has not been included in this guide.

- Sea buckthorn scrub

Sea buckthorn scrub habitat requires specific conditions and habitat creation and management targets. If targeting this habitat using the SSM, the competent person completing this HMMPT should demonstrate appropriate knowledge and experience.

Lakes

- **Ornamental pond**
- Ornamental lake

A competent person should demonstrate an appropriate degree of knowledge and experience in creating, enhancing and or managing lakes to target this habitat in the SSM. Advice has not been provided in this guide.

- **Ponds (non-priority habitat)**
- Reservoirs

A competent person should demonstrate an appropriate degree of knowledge and experience in creating, enhancing and or managing reservoirs to target this habitat in the SSM. Advice has not been provided in this guide.

Sparsely vegetated land

- Ruderal/Ephemeral

Ruderal/Ephemeral habitat often develops due to a lack of management on bare or sparsely vegetated areas, so advice has not been included in this guide.

- Other inland rock and scree

Other inland rock and scree habitat requires specific conditions and habitat creation and management targets. If targeting this habitat using the SSM, the competent person completing this HMMPT should demonstrate appropriate experience and knowledge. Advice has not been provided in this guide.

- Tall forbs

Tall forbs habitat often develops due to a lack of management on bare or sparsely vegetated areas, so advice has not been included in this guide.

Urban

- Allotments

Allotment habitat will typically have dual purposes between community function, private use, and biodiversity. The degree to which the management of this habitat type will also likely vary depending on how allotments are rented to tenants. As such, a competent person should demonstrate an appropriate degree of experience and knowledge in the management of allotments for biodiversity. Advice has not been provided in this guide.

- Artificial unvegetated, unsealed surface

Artificial unvegetated, unsealed surface habitat type is a very low distinctiveness habitat and so there are no specific requirements for management.

- **Bioswale**
- **Brown roof** (Other green roof)
- Cemeteries and churchyards

Cemeteries and churchyard habitat will typically have dual purposes between community function and biodiversity. As such, a competent person should demonstrate an appropriate degree of experience and knowledge in the management of cemeteries and churchyards for biodiversity, so advice has not been provided in this guide.

- Developed land; sealed surface

Developed land; sealed surface habitat type is a very low distinctiveness habitat and so there are no specific requirements for management.

- **Intensive green roof**

- Façade-bound green wall
- Ground based green wall

The design and management of green walls will have specific competency requirements which should be demonstrated where these habitats are targeted in the SSM. Advice has not been provided in this guide.

- **Ground level planters**
- **Biodiverse green roof**
- **Other green roof**
- **Introduced shrub**
- **Rain garden**
- Sand pit quarry or open cast mine

The design and management of quarries and mines will have specific competency requirements which should be demonstrated where these habitats are targeted in the SSM, so, advice has not been provided in this guide.

- **Sustainable drainage feature / system (SuDS)**
- Unvegetated garden

There are no specific requirements for the management of unvegetated garden habitat type in the SSM, so advice has not been provided in this guide.

- Vacant or derelict land

Vacant or derelict habitat type is a very low distinctiveness habitat and so there are no specific requirements for management.

- Bare ground

Bare ground habitat type is a low distinctiveness habitat and so there are no specific requirements for management.

- Vegetated garden

There are no specific requirements for the management of vegetated garden habitat type in the SSM, so, advice has not been provided in this guide.

Woodland and forest

- **Other woodland; coniferous**
- **Other woodland; scots pine**
- **Other woodland; broadleaved**
- **Other woodland; mixed**

Coastal saltmarsh

- Artificial saltmarshes and saline reedbeds

The design and management of coastal habitats will have specific competency requirements which should be demonstrated where these habitats are targeted in the SSM, so advice has not been provided in this guide.

Intertidal sediment

- Intertidal sediment-Littoral coarse sediment
- Artificial saltmarshes and saline reedbeds
- Artificial littoral coarse sediment
- Artificial littoral mud
- Artificial littoral sand
- Artificial littoral muddy sand
- Artificial littoral mixed sediments
- Artificial littoral seagrass
- Artificial littoral biogenic reefs
- Littoral sand

The design and management of coastal habitats will have specific competency requirements which should be demonstrated where these habitats are targeted in the SSM, so advice has not been provided in this guide.

Intertidal hard structures

- Artificial hard structures
- Artificial features of hard structures
- Artificial hard structures with integrated greening of grey infrastructure (IGGI)

The design and management of coastal habitats will have specific competency requirements which should be demonstrated where these habitats are targeted in the SSM, so advice has not been provided in this guide.

Hedgerow

- **Species rich native hedgerow**
- **Native hedgerow – associated with bank or ditch**
- **Native hedgerow with trees**
- **Native hedgerow**
- **Non-native and ornamental hedgerow**

Line of trees

- **Line of trees**
- Ecologically valuable line of trees

Ecologically valuable line of trees has not been included as it requires the inclusion of mature, and/or veteran trees and this requires the knowledge of a competent person.

- **Line of trees – associated with bank or ditch**
- Ecologically valuable line of trees – with bank or ditch

Ecologically valuable line of trees – with bank or ditch has not been included as it requires the inclusion of mature, and/or veteran trees and this requires the knowledge of a competent person.

Watercourses

- **Ditches**

Appendix B: Glossary

Assemblage

A group of species found in the same location or using the same habitat type.

Avoidance

Seeking options that avoid harm to ecological features, habitats and species (for example, by locating on an alternative site).

Arboriculture

The cultivation of trees or shrubs. (Cultivation is the planting, tending, improving, or harvesting of crops and plants. It is also the preparation of ground to promote growth.)

Bioswale

Vegetated and gently sloping feature designed to manage water runoff, filter pollutants and increase rainwater infiltration. (UKHab)

Brown roof

A type of green roof where the substrate used to cover the roof is allowed to self-vegetate rather than be artificially sown or planted.

Canopy

The top layer of a habitat that spreads out and covers an area, for example the branches and leaves that spread out at the top of trees in a forest.

Clearing

A small area in a forest where there are no trees.

Coppicing

A form of woodland management where trees or shrubs are cut right down to the base of the stem/trunk, but the stump is left to regenerate. Not all tree or shrub species respond well to this form of management.

Ecological feature

Habitats, species or ecosystems.

Emergent plant species

Wetland plants where they are rooted in the base of a waterbody, but their stems and leaves extend out of the water surface.

Ephemeral

Lasts only for a very short time. Typically used in an ecological context to describe plants or habitats that only have a short life cycle.

Façade

Refers to a building, especially a large one, to it's front wall or the wall that faces the street.

Filamentous algae

Colonies of microscopic plants that link together to form threads. They look like long stringy plants growing within ponds or lakes.

Flora

The plants growing in a particular area.

Glade

A grassy space without trees in a wood or forest.

Grey infrastructure

Structures such as dams, seawalls, roads, pipes or water treatment plants.

Habitat

The natural environment in which a plant normally lives or grows. Often used in the wider sense referring to major assemblages of plants and animals found together.

Habitat components

A term used to describe the specific component parts of a habitat mosaic. For example, a green roof could include areas of grasses, bare ground, short-growing ephemeral plants, open water or shrubs. Each one of these would comprise of the habitat components which form part of the overall green roof habitat type.

Habitat distinctiveness

In the context of BNG, habitat distinctiveness is one of a series of multipliers used to calculate the value of habitats. It is automatically assigned by the small sites metric based on habitat type. See the Small Sites Metric User Guide for more information.

Habitat parcel

A distinct area of a habitat on your site. Use parcel reference within the HMMP to help reviewers understand where habitat prescription/s will be undertaken.

Hedgebank

Earthbank with height ≥0.5m from its base with a more or less continuous hedgerow or line of trees along its top (UKHab)

Invertebrates

An animal that does not have a spine, for example an insect or a worm.

Littoral

Of or relating to the shore of a sea or lake.

Micro climate

The distinctive climate of a small-scale area or habitat, especially when different from the climate of the rest of the locality.

Modified grassland

Species-poor vegetation (less than 9 species per m^2) dominated by a few fast-growing grasses on fertile, neutral soils. It is frequently characterised by an abundance or rye grasses *Lolium* spp. And White Clover *Trifolium repens*. Most broadleaved species present will be associated with high fertility.

Native species

Plants that are native to a particular region live or grow there naturally and were not brought there.

Neutral grassland

Grassland or wildflower meadow growing on neutral soils.

Open water pool

A small area of water that is open (i.e. free from emergent vegetation).

Oversail

To project beyond, i.e. in the context of trees, when their canopy extends over ground vegetation, such as an area of grassland on the ground below.

Perennial

A perennial plant lives for several years and has flowers each year.

Prescription
A proposal or a plan which gives ideas about how to solve a problem or improve a situation. In the context of a management plan, a prescription provides a set of instructions that should be followed to achieve the targeted outcomes.

Ride

A linear trackway through woodland or scrub that is typically designed for access. It will usually have a range of zones including a central track or path with taller grasses either side of it that grade into the surrounding habitat type.

Ruderal

A plant species that is the first to colonise areas of disturbed ground. This can include wasteland, areas that have been recently dug or areas that have been damaged by human activity.

Sapling

A young tree typically with a stem diameter at breast height of less than 4cm.

Scree

A mass of loose stones on the side of a mountain.

Scrub

Patches of shrubs that are less than 5m in height.

Scrub block

A distinct parcel of scrub habitat.

Sedge

Grass-like plants that belong to the *Carex* genus. This is a large genus comprising over 2,000 species. Typically distinguished from grasses by having a triangular cross section in their stems/leaves as opposed to the round cross section of grasses.

Sedum

A rock plant of the genus *Sedum*, including the houseleeks and stonecrops, with fleshy succulent leaves and clusters of white, yellow, or pink flowers.

Soil Compaction

The condition of soil when it is compressed due to livestock or machinery used in agriculture, horticulture and forestry. Can also be caused on a smaller scale by excessive footfall.

Species

A group of organisms which all have similar characteristics to each other and can breed with each other to produce fertile offspring.

Stubs

A short piece remaining after a plant has been cut, removed, e.g. the stump of a tree or plant.

Stumps

A stump is a small part of a plant that remains when the rest of it has been removed or broken off.

Substrate

The surface or material on or from which an organism lives, grows or obtains it's nourishment.

Sustainable drainage system (SuDs)

Sustainable drainage systems slow the rate of surface water run-off and improve infiltration, by mimicking natural drainage in both rural and urban areas. This reduces the risk of "flash-flooding" which occurs when rainwater rapidly flows into the public sewerage and drainage systems. SuDS use natural features wherever possible.

Thinning

Removal of a portion of plants within an area which still maintains enough plants so that the habitat type doesn't change. Typically used as a form of woodland or scrub management.

Turbidity

The quality of being cloudy, opaque or thick with suspended matter.

Tussock

A small piece of grass which is much longer and thicker than the grass around it.

Understory

A lower tier of shrubs and small trees underneath the main canopy of forest trees.

Unsealed surface

A ground substrate that has not been artificially sealed (i.e. with tarmac) or paved.

Vegetation

Plants, trees, and flowers can be referred to as vegetation.

Veteran trees

Trees that have developed some of the features found on ancient trees. However, veteran trees are usually only in their second or mature stage of life as opposed to being ancient.

www.gov.uk/natural-england