

---

**Bumpers Farm Battery Storage, Phase 2**  
on behalf of Harmony Energy  
Biodiversity Management Plan



Document Control				
Project Name:		Bumpers Farm Battery Storage, Phase 2		
Project Number:		Harmo-011-1498		
Report Title		Biodiversity Management Plan		
Issue	Date	Notes	Prepared	Reviewed
V1	14/10/2021	Draft for Client Review	L Pimlott <i>MSc, MCIEEM</i> Z Hinchcliffe <i>MRes BSc (Hons.)</i>	<i>J Stevens BSc (Hons)</i>
V2	19/10/2021	Revision 1	Z Hinchcliffe <i>MRes BSc (Hons.)</i>	<i>J Stevens BSc (Hons)</i>

# CONTENTS

<b>1</b>	<b>INTRODUCTION .....</b>	<b>1</b>
1.2	Implementation of the BMP .....	1
<b>2</b>	<b>ECOLOGICAL BASELINE – PRE-DEVELOPMENT .....</b>	<b>1</b>
<b>3</b>	<b>ECOLOGICAL MITIGATION MEASURES.....</b>	<b>2</b>
3.1	Designated Sites and Habitats.....	2
3.2	Badger .....	2
3.3	Bats.....	2
3.4	Hazel Dormouse.....	3
3.5	Birds.....	3
3.6	Amphibians and Reptiles .....	3
<b>4</b>	<b>ECOLOGICAL ENHANCEMENT MEASURES.....</b>	<b>3</b>
4.1	Habitat Enhancement .....	3
<b>5</b>	<b>HABITAT MANAGEMENT .....</b>	<b>8</b>
5.1	Hedgerow and Tree Management .....	8
<b>6</b>	<b>ECOLOGICAL MONITORING .....</b>	<b>11</b>
<b>7</b>	<b>INDICATIVE MANAGEMENT SCHEDULE .....</b>	<b>12</b>

# 1 INTRODUCTION

- 1.1.1 This Biodiversity Management Plan (BMP) sets out habitat protection and enhancement measures for a proposed battery storage development located on land at Ilmer in Buckinghamshire (the Site). This document also details ecological management practices to be adopted with the aim of developing and maintaining wildlife habitats to provide a net gain for local biodiversity.
- 1.1.2 The site-specific approach provided within this report provides recommendations for long-term management of the land to conserve and improve landscape habitat connectivity with the wider landscape for wildlife through protecting and enhancing potentially important wildlife corridors and habitats. This will contribute to the establishment of coherent ecological networks, supporting the biodiversity net-gain targets of the National Planning Policy Framework (2021).

## 1.2 Implementation of the BMP

- 1.2.1 The implementation of the BMP will be the responsibility of the Developer of the Site, working in conjunction with the landowners (“Owners”) and/or appointed management organisation.
- 1.2.2 All works associated with the implementation of the BMP will be undertaken by experienced contractors and / or under the watch of a suitably qualified (and where required, licenced) ecologist.
- 1.2.3 The Developer shall be responsible for the cost of implementing the BMP including the cost of carrying out any management, monitoring, or other such activities.

# 2 ECOLOGICAL BASELINE – PRE-DEVELOPMENT

- 2.1.1 This Biodiversity Management Plan should be read in conjunction with the *Soft Landscape Plan (Revision B)*. Detailed descriptions of habitats and species can be found in the *Ecological Assessment Report* (Avian Ecology Limited, 2021<sup>1</sup>).
- 2.1.2 The Site is not located within any statutory designated sites however there is a single Site of Special Scientific Interest (Chinner Hill SSSI) and a Local Nature Reserve (Snakemoor LNR) located within 5km of the Site. No statutory designated sites are located within 2km of the Site. Four non-statutory designated sites are located within 2km of the Site comprising three Local Wildlife Sites (LWS) and a railway cutting Biological Notification Site (BNS).
- 2.1.3 The Site is approximately 2.49ha, located between Thame and Princes Risborough in Buckinghamshire at approximate central grid reference SP 76809 06183. The Site comprises sections of arable farmland and poor semi-improved grassland with fields bounded by hedgerows. The construction access track will require a culvert across an existing flowing watercourse. Immediately adjacent to the west of the Site is Bumpers Farm Solar Farm.
- 2.1.4 The arable land forming the majority of the Site is considered to be of low ecological value. The boundary hedgerows and line of trees are of higher value and are likely to provide shelter, foraging and commuting habitat for a range of species typical of the local area.

---

<sup>1</sup> Avian Ecology Ltd (2021) *Bumpers Farm Battery Storage: Ecological Assessment Report*. A report prepared on behalf of Harmony Energy.

## 3 ECOLOGICAL MITIGATION MEASURES

### 3.1 Designated Sites and Habitats

- 3.1.1 Adjacent habitats will be protected by perimeter security fencing which will be erected first to prevent the encroachment of construction works beyond the Site boundary.
- 3.1.2 Standard measures to ensure runoff control and pollution prevention will be implemented; these measures will safeguard retained habitats within and surrounding the Site.
- 3.1.3 Hedgerows will be retained on Site and along with mature trees and woodland around the construction area, will be protected in-line with BS 5837:2012 *Trees in relation to design, demolition and construction*.
- 3.1.4 There will be clear delineation of working areas and access routes for vehicles entering the Site and instructions on these will be given to all site construction staff, delivery drivers and subcontractors.

### 3.2 Badger

- 3.2.1 A pre-construction badger survey will be undertaken immediately prior to works commencing to check for active or any newly constructed setts (between the initial baseline survey and the construction start date) within at least 30m of construction areas.
- 3.2.2 If baseline conditions have altered and significant disturbance to badgers or their setts is considered likely during the proposed works, one or both of the following options will be incorporated:
  - The development design will be amended to avoid works which may impact upon badgers and their setts (e.g. alteration of the configuration of the battery storage units and/or fencing); and/or,
  - A disturbance licence will be obtained from Natural England before construction commences.
- 3.2.3 Any excavations of trenches created during construction will be backfilled or covered overnight to prevent animal entrapment.

### 3.3 Bats

- 3.3.1 Protection of all mature trees, hedgerows and woodland on and adjacent to the Site or along access routes will safeguard potential roost sites and maintain foraging and commuting opportunities.
- 3.3.2 In order to protect foraging / commuting bats, lighting required during construction and/or operation of the battery storage facility will be used in a sensitive manner and directed away from field boundary habitats and habitats bordering the Site. This will be achieved in a number of ways, including the use of low-level lighting and use of hoods and careful selection of lighting (further information is provided in BCT guidance (2009) *Bats and Lighting in the UK: Bats and the Built Environment Series*<sup>2</sup>).

---

<sup>2</sup> Bat Conservation Trust. (2009). *Bats and Lighting in the UK: Bats and the Built Environment Series*. available at: [http://www.bats.org.uk/data/files/bats\\_and\\_lighting\\_in\\_the\\_uk\\_final\\_version\\_version\\_3\\_may\\_09.pdf](http://www.bats.org.uk/data/files/bats_and_lighting_in_the_uk_final_version_version_3_may_09.pdf)

### **3.4 Hazel Dormouse**

- 3.4.1 The majority of the Site offer negligible potential for hazel dormouse *Muscardinus avellanarius*. During construction, two 10m sections of hedgerow/line of trees will be required for removal for the creation of a construction access track to the Site from the nearby A4129 to the north.
- 3.4.2 The implementation of a series of Reasonable Avoidance Measures (RAMs) will be sufficient to avoid impacts on individual hazel dormouse, as detailed within Appendix 3 of the *Ecological Assessment Report* (Avian Ecology Ltd. 2021); this will ensure that the potential for effects on reptiles during construction will be avoided.

### **3.5 Birds**

- 3.5.1 Site clearance works should be undertaken outside of the breeding bird season in so far as reasonably practical. The breeding bird season is generally considered to be 01<sup>st</sup> March to 31<sup>st</sup> August inclusive. Where this cannot be avoided, a suitably experienced ecologist will be appointed to undertake a pre-site clearance survey to identify the presence of any wild bird nests being built or in use (including those of ground nesting birds such as skylarks *Alauda arvensis*). Only once the appointed ecologist is satisfied that an offence under Part 1 of the Wildlife and Countryside Act 1981 (as amended) will not occur, may works proceed.
- 3.5.2 If a nesting species is identified, suitable work exclusion zone will be established around nest site where required, in line with best practice guidance and in consultation with the advising ecologist.
- 3.5.3 During operation, disturbance will be minimal and limited to intermittent maintenance activities.

### **3.6 Amphibians and Reptiles**

- 3.6.1 The implementation of a series of Reasonable Avoidance Measures (RAMs) will be sufficient to avoid impacts on individual amphibians and reptiles, as detailed within Appendix 3 of the *Ecological Assessment Report* (Avian Ecology Ltd. 2021); this will ensure that the potential for effects on reptiles during construction will be avoided.

## **4 ECOLOGICAL ENHANCEMENT MEASURES**

### **4.1 Habitat Enhancement**

- 4.1.1 Management practices are proposed that will enhance the Site for the benefit of local wildlife. The design and long-term management of the land seeks to maintain and improve functionality through protecting and enhancing potentially important wildlife corridors i.e. through creation, enhancement and maintenance of native species hedgerows within and around the Site. The *Soft Landscape Plan (Revision B)* sets out the landscape planting and maintenance specifications.
- 4.1.2 All planting stock supplied shall be healthy and viable and comply with BS 3936: Parts 1 to 10 as relevant, and BS 4043, the National Plant Specification, published by the Horticultural Trades Association (HTA) as appropriate. Supplying nurseries will be registered under the HTA Nursery Certification Scheme. All plants will be packed and transported in accordance with the Code and Practice for Plant Handling as produced by CPSE.

- 4.1.3 All seeding shall be carried out in accordance with BS 4428:1989 Code of Practice for general landscape operations (excluding hard surfaces), or the most up to date and current British Standard and in accordance with seed supplier's technical advice.
- 4.1.4 It is advised that herbicides are not used on Site; however, if herbicides are required, the herbicide handbook (English Nature, 2003<sup>3</sup>) provides guidance on appropriate herbicide use in relation to nature conservation works.
- 4.1.5 Planting will not be carried out when the ground is waterlogged, frost bound or during periods of cold drying winds.
- 4.1.6 All bare-root planting stock will be kept covered until actually planted in order to minimise water-loss and prevent the roots from drying out. Bare root stock shall be planted while dormant (November-April) or alternatively cell or container grown stock shall be used.

### ***Hedgerow Planting***

- 4.1.7 New hedgerow planting proposed as part of the development includes a new mixed native species hedgerow within the Site.
- 4.1.8 The following species will form the hedgerow planting within the Site:
- hawthorn *Crataegus monogyna* (50%);
  - field maple *Acer campestre* (15%);
  - common dogwood *Cornus sanguinea* (10%);
  - blackthorn *Prunus spinosa* (20%); and,
  - dog rose *Rosa canina* (5%).
- 4.1.9 Additional planting of standard trees is to be included in the section of newly-planted hedgerow along the south eastern boundary of the Site with the following tree species (Planting specifications for trees are presented below from 4.1.20):
- common alder *Alnus glutinosa*;
  - common hornbeam *Carpinus betula*; and,
  - field maple

### **Ground Preparation**

- 4.1.10 Where necessary existing weeds will be manually removed or treated with a suitable herbicide as specified within the herbicide handbook (English Nature, 2003) or hand-weeding.
- 4.1.11 All extraneous matter such as plastic, wood, metal and stones greater than 50mm diameter will be removed from site to a registered waste disposal facility.

### **Planting**

- 4.1.12 Hedgerows will be planted in a double staggered row at 5 plants per linear metre.

---

<sup>3</sup> English Nature (2003) *The Herbicide Handbook: Guidance on the use of herbicides on nature conservation sites*. Natural England, Peterborough.

- 4.1.13 The exact timing of the proposed hedgerow planting will be dependent on the ground conditions but bare-root planting should ideally take place between the months of December-February inclusive. It is expected that ground conditions and climate will allow for earlier planting (i.e. before January), and this will allow the plants more time to establish a network of feeder roots before the onset of spring. Planting should avoid freezing and water-logged conditions.
- 4.1.14 Planting slots shall be made using a planting spade. Plant notches should be T, L- shaped or straight, using spades of a design suitable for this purpose. The planting notches must be vertical and deep enough for the roots to hang freely, with the transplant being planted so that the root collar is exactly level with the ground surface. The notch must then be closed and the soil will be well firmed round the roots in line with the guidelines as set out in BS 4428 (1989).
- 4.1.15 If ground conditions are dry during the time of planting (unlikely during December-February) then all individual plants should be well watered following planting.
- 4.1.16 All hedgerow planting stock will be protected from rabbit damage using approved proprietary Tubex shrub shelter, supported with canes or stakes as advised by the manufacturer.

### ***Shrub and tree planting***

- 4.1.17 Planting proposed as part of the development includes a new structure scrub within the Site. In addition, a total of 45 standard trees are to be planted adjacent to hedgerows within the Site.
- 4.1.18 The following species will form the scrub within the Site:
- Field maple (1%)
  - common dogwood (10%);
  - common hazel *Corylus avellana* (10%);
  - hawthorn (25%);
  - common spindle *Euonymus europeus* (7%);
  - holly *Ilex aquifolium* (8%);
  - privet *Ligustrum vulgare* (10%);
  - crab apple *Malus sylvestris* (10%);
  - pedunculate oak *Quercus robur* (1%);
  - dog rose (6%);
  - goat willow *Salix caprea* (6%); and,
  - rowan *Sorbus aucuparia* (6%).
- 4.1.19 Additional planting of standard trees is to be included adjacent to two sections of the onsite hedgerows as standalone trees. A total of 45 trees are to be planted with the following tree species:
- Pedunculate oak (10 plants);
  - Common hornbeam (21 plants); and,
  - Field maple (14 plants).



### Ground Preparation

- 4.1.20 If the formation level is compacted it will be ripped through before topsoiling.
- 4.1.21 Where necessary existing weeds will be uprooted or will be treated with a suitable herbicide as specified within the herbicide handbook (English Nature, 2003). No use of chemicals within 10m from the top of ditches/pond will be undertaken.
- 4.1.22 Select standard trees/shrubs are to be placed into pits that will accommodate the roots comfortably, with approximately 75mm space outside the extent of the roots.
- 4.1.23 The bottom and sides shall be forked to break up the subsoil. All extraneous matter such as plastic, wood, metal and stones greater than half brick size will be removed from site.
- 4.1.24 Topsoil to be stored in accordance with British Standards or other guidance current at the time of planting. Imported topsoil to conform to requirements of British Standards or other guidance current at the time of planting.

### Planting

- 4.1.25 The exact timing of the proposed planting will be dependent on the ground conditions but planting should ideally take place between the months of December and February inclusive, this will allow the plants more time to establish a network of feeder roots before the onset of spring. Planting should avoid freezing and water-logged conditions.
- 4.1.26 Trees/shrubs are to be placed into the pits and backfilled with local topsoil previously stripped from the Site. A general-purpose slow release fertiliser (at the rate of 75gm/m<sup>2</sup>) and Tree Planting and Mulching Compost (at the rate of 20litres/m<sup>2</sup>) are to be incorporated into the top 150mm of topsoil during backfilling. Where tree pits are more than 300mm deep, backfilled material shall be consolidated / firmed in 150mm layers.
- 4.1.27 All trees will be protected from grazing damage by the fitting of approved tree guards. If the bushiness of the tree prevents the use of standard tree guards then an alternative design of guard shall be used in agreement with the project landscape architect. Composted bark mulch will be spread to a depth of 50mm in a 1m diameter circle around all individual trees, ensuring that desirable groundcover plants (where present) are not buried.
- 4.1.28 All trees/shrubs shall be watered in at the end of each day of planting.

### ***Onsite and Offsite Grassland Creation***

- 4.1.29 A benefit to wildlife will be achieved through the creation of more species and structurally diverse grassland within the Site and immediately adjacent to the Site, favourable to invertebrates and foraging bats, birds, amphibians and reptiles.
- 4.1.30 The main body of the Site is currently poor semi-improved grassland with sections of arable fields. The development footprint of the Site will be dominated by developed land, with sections of existing grassland enhanced to more floristically diverse grassland both within the Site and immediately adjacent to the Site through sowing a suitable seed mix and subsequent management.
- 4.1.31 Undeveloped areas located within the Site boundary will be sown with a more species-diverse meadow mix such as *Emorsgate EM2- Standard General Purpose Meadow Mixture*, or similar.
- 4.1.32 The grassland mixtures used is subject to final soil tests and may be amended if necessary.

4.1.33 The ground preparation, sowing and on-going management and aftercare will be undertaken in accordance with the seed suppliers' recommendations, specific to each seed mix and in accordance with the Landscape Specification.

## 5 HABITAT MANAGEMENT

### 5.1 Hedgerow and Tree Management

#### *Hedgerows*

- 5.1.1 During the establishment period (the first five years), all dead, dying or diseased stock will be replaced with stock of similar size and species by the appointed contractor at his own cost. If the failure of the plant is due to disease and the disease is considered likely to re-occur then an alternative native species of local provenance may be used as a replacement. The exact timing of the planting of replacement hedgerow plants is dependent on the ground conditions; however, planting should ideally take place between the months of December and February inclusive, this will allow the plants more time to establish a network of feeder roots before the onset of spring.
- 5.1.2 The planting areas will be kept weed-free during the establishment period, using approved hand-weeding or if necessary, herbicide treatment (applications in April, June and August). The herbicide handbook (English Nature, 2003) provides guidance on appropriate herbicide use in relation to nature conservation works. Where used, herbicides will be sprayed in appropriate weather conditions, to avoid affecting adjacent grassland areas.
- 5.1.3 During the establishment period, the planted hedgerows should be inspected during periods of warm weather and drought. If it is considered that the ground conditions are too dry, the planted hedgerows will be watered on a regular basis until weather conditions are considered suitable for watering to cease.
- 5.1.4 During establishment, hedgerows will be trimmed outside each growing season; hedgerows will be cut back by half the growth of that year with pruning aiming to encourage the development of healthy well-shaped specimens. New hedgerows will be trimmed using powered hand-held machinery (not flail cutters) for the first 3 years until established.
- 5.1.5 Once established, all hedgerows will be cut on a 2-3 year rotational basis and will be cut on different sides each year and not all hedgerows will be cut in the same year to allow a varied structure for the benefit of wildlife and to allow plants to flower and set seed/fruit. Established hedgerows will be cut between late September and February using a tractor mounted flail or by using tractor mounted circular saws to reshape and manage more mature overgrown hedges.
- 5.1.6 No cutting or trimming is to be undertaken during the breeding bird season (01<sup>st</sup> March to 31<sup>st</sup> August inclusive).
- 5.1.7 If of a sufficient amount, cuttings can be collected and used to create habitat piles / wildlife refuges.
- 5.1.8 After the establishment period hedgerow planting guards (where used) will be removed and all hedgerows will be maintained at a height of approximately 2-4m.
- 5.1.9 Existing trees within hedgerows will be left to grow naturally and not cut. These will be clearly marked to ensure that they are not cut back during hedgerow trimming/maintenance works.

#### *Scrub and trees*

- 5.1.10 During the first five years after planting, all dead, dying or diseased stock will be replaced with stock of similar size and species by the appointed contractor at their own cost.

- 5.1.11 If the failure of the plant is due to disease and the disease is considered likely to re-occur then an alternative native species of local provenance may be used as a replacement. The exact timing of the planting of new scrub species is dependent on the ground conditions; however, planting should ideally take place between the months of December and February inclusive, this will allow the plants more time to establish a network of feeder roots before the onset of spring.
- 5.1.12 The planting areas will be kept weed-free during the first two years of planting, using approved hand-weeding or if necessary herbicide treatment (applications in April, June and August). The herbicide handbook (English Nature, 2003<sup>4</sup>) provides guidance on appropriate herbicide use in relation to nature conservation works. Where used, herbicides will be sprayed in appropriate weather conditions, to avoid affecting adjacent grassland areas.
- 5.1.13 Trees within the scrubland will be allowed to establish with no cutting required. Any cutting will be limited to pruning to ensure trees remain healthy and any trees that may pose any potential danger to nearby infrastructure.
- 5.1.14 Any trimming to be carried out within the scrubland will ideally be undertaken in late January/February. No cutting or trimming is to be undertaken during the breeding bird season (1<sup>st</sup> March to 31<sup>st</sup> August inclusive).
- 5.1.15 After the 5-year establishment period, or when plants grow trunks of 2-3in in diameter, planting guards (where used) will be removed.

### ***Grassland Management***

- 5.1.16 The grassland vegetation within the Site and Off-site will be managed to provide a varied habitat structure providing nesting opportunities for birds and nectar, pollen and shelter for invertebrates and foraging opportunities for bats.

### **Initial Management**

- 5.1.17 Grassland management will be carried out in accordance with the seed supplier's technical advice during the establishment phase to develop a strong sward. Most of the sown meadow species are perennial and will be slow to germinate and grow and will not usually flower in the first growing season. There will often be a vigorous initial growth and a flush of annual weeds during the first season. This should be managed across all of the seeded areas by mowing throughout the first year at regular intervals. Regular cutting to establish the grassland will take place during Year 1 after seeding and possibly also in Year 2 if growth is particularly vigorous. In the unlikely event that the grassland planting fails and the area of bare ground is greater than 20%, these areas will be re-seeded.
- 5.1.18 Problem perennial weeds will be controlled by hand pulling. Alternatively, annual weeds can be managed by topping and mowing prior to setting seed which will encourage lateral development of the grasses. No herbicides will be used. Any cut material will be removed from the Site.

### **Long-term Management**

- 5.1.19 Following establishment of a suitable sward, the grassland habitats will be managed either through low intensity grazing or alternatively by cutting, as detailed below.

---

<sup>4</sup> English Nature (2003) *The Herbicide Handbook*: Guidance on the use of herbicides on nature conservation sites. ([https://www.whatdotheyknow.com/request/574168/response/1408137/attach/4/The%20Herbicide%20Handbook%202003%20PT1.pdf?cookie\\_passthrough=1](https://www.whatdotheyknow.com/request/574168/response/1408137/attach/4/The%20Herbicide%20Handbook%202003%20PT1.pdf?cookie_passthrough=1))

## Grazing Regime

- 5.1.20 Once established the grassland within the Site can be managed by sheep grazing, adopting a low-intensity grazing regime detailed as follows. Depending upon landowner requirements for land located off-site, a grazing regime may not be favourable.
- 5.1.21 The grassland would be subject to light intermittent grazing by sheep between approximately September and January where conditions allow. Moderate trampling will expose ground for colonisation by annuals the next spring; however, heavy trampling can lead to ground poaching and infestations by weed species that will be detrimental to the site. During the spring and summer (March to August), sheep will be removed or stocking density reduced to allow summer flowering plants to set seed. Grazing will be carefully monitored in the winter period in order to prevent excessive compaction of wet earth.
- 5.1.22 Sheep are a favourable grazing option, being widely available and effective at reducing sward height in the autumn, while also providing moderate trampling. Sheep are not efficient grazers of long grasses, therefore if used; an initial control cut may be required before introducing sheep.
- 5.1.23 Ideally, it is best to aim for a stocking rate just sufficient to maintain a varied structure, rather than the maximum that the grassland can support. Grazing density (Table 5.1) is based on medium sized sheep (e.g. 60kg). It is important to constantly monitor the Site to ensure the grassland is not under or over grazed and stock density and duration altered accordingly. The stocking density should be reduced in wet periods or in conditions when poaching would lead to a break-up of the sward and colonisation by aggressive weed species.

**Table 5.1: A guide to stocking levels for lowland grassland (number of sheep per hectare). Adapted from the Lowland Grassland Management Handbook produced by Natural England.**

Number of grazing weeks per year	Neutral Grassland (sheep per ha)
16	12.5
20	10
24	8
36	5.5
52	4

- 5.1.24 The following indicators will be used to review and amend stocking densities:
- An increase in the amount of uneaten grass, the accumulation of litter, an increase in vigorous rank and unpalatable grasses, and a reduction in low growing herbs indicates stocking density is too low (increase density).
  - A reduction in density of plants, excessive poaching, weed invasion and the development of bare patches indicates stocking density is too high (reduce density).

## 6 ECOLOGICAL MONITORING

- 6.1.1 The development of the biodiversity interest of the Site will be monitored over time by a suitably experienced ecologist. A walkover survey will be undertaken on years 1, 3 and 5. This will involve an inspection of the habitats to ensure that they are being managed in a manner suitable for the development of the habitats as planned and the enhancement of wildlife interest. The management plan will be amended, if necessary, based on the monitoring recommendations (including amending the cutting/grazing regime if necessary).
- 6.1.2 Following the outcomes of each monitoring survey it will be the duty of “the Owner” of the site to amend the BMP to inform future changes in management including amending the cutting/grazing regime, if needed.
- 6.1.3 Monitoring procedures are outlined in **Table 6.1**.

**Table 6.1: Monitoring procedures and key indicators.**

Biodiversity feature	Monitoring procedure	Key indicators
Hedgerows and Shrub Planting	Walk full length of planted hedgerows and check shrub planting	Weeds, gaps, dead or damaged plants.
Grassland areas (Onsite and Off-site)	Walkover of planted areas	<p>Increase in the amount of uneaten grass/accumulation of litter/vigorous rank and unpalatable grasses – indicates need to increase stock densities.</p> <p>Reduction in density of plants or plant species present (count and check against original seed mix species list) - Indicates need to reduce stock densities or amend cutting regime.</p> <p>Excessive poaching, weed invasion or unwanted perennial weeds (docks, thistles) may need control by occasional spot treatment with an herbicide or other specific remediation.</p> <p>Occasional bare patches at the edges of the grassland are acceptable as they provide diversity within the grassland habitat for invertebrates and birds.</p>

## 7 INDICATIVE MANAGEMENT SCHEDULE

7.1.1 The following management programme shows possible months in which activities will commence within the first planting period after construction:

### *Initial Habitat Enhancement Year 1*

Management Activity	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Hedgerow and shrub planting	✓	✓										✓*
Grassland creation (*recommended)			✓*	✓*	✓	✓	✓	✓	✓			

### *Habitat Management Year 2*

Management Activity	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Herbicide treatment or hand-weeding of hedgerow planting bed				✓		✓		✓				
Trimming of new hedgerows	✓	✓							✓	✓	✓	✓
Initial management of grassland / meadows areas (targeted herbicide treatment of perennial weeds or cutting/topping where necessary)				✓		✓		✓				

### *Ongoing Annual Management – Year 3 onwards*

Management Activity	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Herbicide treatment or hand-weeding of hedgerow planting bed (establishment period first five years)				✓		✓		✓				
Trimming of new hedgerows (up to year 3 and established)	✓	✓							✓	✓	✓	✓
Established hedgerows cut on a 2 or 3 year cycle (no more than 1/3 cut in any one year).	✓	✓							✓	✓	✓	✓
Grassland cutting		✓						✓	✓			
Sheep gazing	✓	✓							✓	✓	✓	✓