



envirotech

Ecological Consultants

Environmental and Rural Chartered Surveyors

Habitat Management and Monitoring Plan (HMMP)

Millom Iron Line



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ACCURACY OF REPORT

This report has been compiled based on the methodology as detailed and the professional experience of the surveyor. Whilst the report reflects the situation found as accurately as possible, all of the protected species this survey covers are wild and can move freely from site to site. Their presence or absence detailed in this report does not entirely preclude the possibility of a different past, current or future use of the site surveyed.

We would ask all clients acting upon the contents of this report to show due diligence when undertaking work on their site and/or in their interaction with protected species. If protected species are found during a work programme, and continuing the work programme could result in their disturbance, injury or death, either directly or indirectly an offence may be committed. If in doubt, stop work and seek further professional advice.

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Item	Details
Project Name	Millom Iron Line
Site Location	Land At Hodbarrow Nature Reserve, Millom
Planning Reference	.4/25/2198/0F1
Landowner	Cumberland Council
Developer/Applicant	Cumberland Council
Ecological Consultant	Envirotech NW Ltd
HMMP Version	1.0
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1. NON-TECHNICAL SUMMARY

- 1.1.1 This Habitat Management and Monitoring Plan (HMMP) has been prepared to guide the creation, enhancement and long-term care of habitats associated with the Millom Iron Line project at Hodbarrow Nature Reserve, Millom.
- 1.1.2 The project includes construction of a new visitor centre, improvements to paths and access routes, refurbishment of existing facilities such as the tern hide, and a range of visitor experience and interpretation features. Alongside these works, the plan ensures that wildlife habitats are protected, improved and managed for a period of 30 years.
- 1.1.3 The plan sets out how existing habitats—such as lowland meadow, calcareous grassland, mixed scrub and bramble scrub—will be protected and maintained, while areas of hardstanding and disturbed ground will be replaced with newly created neutral grassland. Areas of existing grassland and scrub will be enhanced to improve species richness, structure and ecological value, supporting biodiversity across the wider nature reserve.
- 1.1.4 The HMMP details the actions that will be taken to establish these habitats, how they will be monitored, and how any declines in habitat condition will be corrected. Management includes cutting, scrub control, removal of invasive species, protection from nutrient enrichment and trampling, and maintaining the structural variety that is important for wildlife. These measures are essential because the site lies adjacent to the Duddon Estuary SSSI, SPA and Ramsar designations, and contributes to the wider ecological network of grassland, scrub and coastal wetland habitats in the area.
- 1.1.5 The 30-year management period will begin only after all habitat creation and enhancement works have been completed. The HMMP aligns directly with the Biodiversity Net Gain (BNG) assessment, ensuring that habitats are created and improved to meet the distinctive and condition targets used to calculate biodiversity units for the project. The plan also includes risk management, monitoring schedules, reporting requirements and a clear governance framework to ensure that all habitat commitments are delivered over the long term.
- 1.1.6 Overall, the HMMP ensures that the environmental enhancements associated with the Millom Iron Line project are secured, allowing the site to function as a high-quality wildlife resource while providing improved public access and visitor facilities.

2. INTRODUCTION

- 2.1.1 The following Habitat Management and Monitoring Plan (HMMP) has been prepared by Envirotech and details the habitat creation proposals and the subsequent future management of areas of green infrastructure associated with “Erection of visitor centre with café/shop, group room, staff/volunteer, toilet facilities and car park; consolidation, repair and installation of interpretive sculpture to towsey hole windmill; refurbishment of existing tern hide; new bird hides/viewing screens, pathways, gateway features, street furniture and demarcation of spaces at existing car park; enhancement of wildlife habitats; associated landscaping and drainage infrastructure; and maintenance of byway with restricted vehicular access (the iron line project)”.
- 2.1.2 This management plan covers thirty years management and provides information on the management of retained and newly-created habitats in order to ensure their establishment and safeguard their long-term biodiversity value.
- 2.1.3 The management plan and objectives should be reviewed after 3 years and adjusted if required but indicative management requirements are specified for a full 30 years.
- 2.1.4 The plan should be read in conjunction with the landscape plans, ecology surveys and LEMP to provide additional context of the site.

3. Explanation for Deviation from the Natural England HMMP Template

3.1.1 This Habitat Management and Monitoring Plan (HMMP) does not follow the Natural England (NE) template verbatim. This is intentional and justified for the following reasons:

- **The NE template is a minimum framework, not a prescribed format:** Natural England's HMMP template provides a basic structure for registering a biodiversity gain site, but it explicitly allows alternative formats provided the plan includes all mandatory information. The template is not mandatory and does not prohibit enhanced or more detailed formats.
- **The site contains complex habitat mosaics requiring additional technical detail:** The Natural England template is designed for simple, single-habitat or single-landowner sites. This project includes a mixture of:
 - Neutral grassland creation
 - Calcareous grassland enhancement
 - Mixed scrub enhancement
 - Retained bramble scrub
 - Retained lowland meadow
 - Multiple visitor access routes and infrastructure

These require site-specific prescriptions, monitoring methods and risk management sections that the NE template does not accommodate. Additional sections are required to meet planning condition obligations.

- **The LPA requires detail beyond the NE template to ensure the plan is enforceable under planning condition / S106.** Therefore, sections on governance, deviation management, visitor impact management, and funding security have been added.
- **The NE template does not include operational tools needed for long-term delivery.** To ensure the 30-year delivery of biodiversity units, this HMMP includes:
 - A full 30-year work programme
 - Risk register
 - Monitoring indicators per habitat
 - Adaptive management framework
 - Deviation approval procedure

These elements are not provided in the NE template but are essential for practical long-term management.

- **The NE template assumes a simple “one habitat to one parcel” structure.** The project includes multiple compartments, overlapping habitat conditions, and enhancement gradients. A more detailed structure is necessary to maintain clarity for contractors, ecologists, landowners and regulators.

- All NE-required content is included—the format is simply expanded.

This HMMP includes all mandatory information required by Natural England, including:

- Baseline habitats
- Target condition
- Prescriptions
- Monitoring
- Remedial action
- Compliance with regulation 6(3)
- Alignment with the Statutory Biodiversity Metric

The difference is in **layout**, not in **compliance**.

The expanded structure improves usability and ensures clear delivery over 30 years.

- The enhanced format improves transparency and auditability.
- A detailed, expanded HMMP reduces ambiguity, supports enforcement, and ensures that habitat contractors and future managers can implement the plan without relying on external interpretation.

4. STATUTORY COMPLIANCE STATEMENT (REGULATION 6(3))

- 4.1.1 In accordance with Regulation 6(3) of the Biodiversity Gain Site Register Regulations 2024, the 30-year habitat management and monitoring period will commence only after all habitat creation and enhancement works described in this HMMP have been fully completed.
- 4.1.2 No management period will start earlier than the physical completion of creation/enhancement works, and creation works will be certified as complete by a Suitably Qualified Ecologist (SQE) prior to the start of the 30-year management term.

5. BIODIVERSITY METRIC ALIGNMENT STATEMENT

5.1.1 This Habitat Management and Monitoring Plan delivers and maintains the biodiversity units identified in the submitted Statutory Biodiversity Metric (BNG Report). All habitat prescriptions, condition thresholds and monitoring actions are designed to:

- Achieve the target distinctiveness and condition stated in the metric;
- Deliver the required uplift in area-based, linear and/or watercourse biodiversity units;
- Maintain all created/enhanced habitats in the required condition for a minimum of 30 years;
- Ensure that no retained habitat declines below its assessed baseline condition.
- The HMMP is therefore directly linked to, and dependent upon, the habitat outcomes modelled in the BNG assessment.

6. BASELINE HABITAT SUMMARY

Habitat Type (UKHab)	Area (ha)	Distinctiveness	Condition	Notes
Bracken	0.0312	Low	Condition Assessment N/A	Lost and replaced
Lowland calcareous grassland	0.0127	High	Good	Lost and replaced
Lowland calcareous grassland	0.0006	High	Moderate	Lost and replaced
Lowland calcareous grassland	0.1202	High	Moderate	Enhanced
Lowland calcareous grassland	0.3077	High	Moderate	Enhanced
Lowland calcareous grassland	0.1652	High	Moderate	Enhanced
Lowland meadows	0.0546	V.High	Good	Retained
Other neutral grassland	0.028	Medium	Good	Lost and replaced
Bramble scrub	0.9846	Medium	Condition Assessment N/A	Retained
Bramble scrub	0.2145	Medium	Condition Assessment N/A	Enhanced
Bramble scrub	0.1084	Medium	Condition Assessment N/A	Enhanced
Hawthorn scrub	0.0292	Medium	Moderate	Lost and replaced
Mixed scrub	0.0353	Medium	Good	Lost and replaced
Mixed scrub	0.0913	Medium	Moderate	Lost and replaced
Mixed scrub	0.1177	Medium	Moderate	Enhanced
Mixed scrub	0.0455	Medium	Moderate	Retained
Mixed scrub	0.0362	Medium	Moderate	Enhanced
Mixed scrub	0.373	Medium	Moderate	Enhanced
Artificial unvegetated, unsealed surface	4.5954	V.Low	N/A - Other	Retained
Developed land; sealed surface	0.0278	V.Low	N/A - Other	Retained
Developed land; sealed surface	0.1372	V.Low	N/A - Other	Retained

Table 1- Baseline Habitat

7. SUMMARY OF HABITAT LOSSES, GAINS AND TRANSITIONS

7.1.1 A summary of baseline and post-development habitat changes, drawn from the BNG Report, is provided below to meet Natural England transparency requirements.

7.2 *Baseline Overview*

7.2.1 The site supports a mosaic of grassland, scrub, bramble scrub, calcareous grassland, lowland meadow and artificial surfaces. Several habitats are medium-high distinctiveness.

7.3 *Habitat Changes*

- Areas of hardstanding/artificial surfaces are replaced with Other Neutral Grassland (Created).
- Parcels of calcareous grassland receive targeted enhancement to raise condition.
- Areas of dense bramble scrub are transitioned into mixed scrub enhancement compartments.
- Mixed scrub and bramble scrub are retained but managed to maintain or improve condition.
- Lowland meadow is retained and protected with maintenance actions to avoid condition decline.

7.4 *Habitat Gains Delivered*

The works deliver:

- Increased area and condition of semi-natural grassland.
- Increased ecological functionality of scrub habitats.
- Reduced dominance of undesirable species.
- Improved structural variety and species richness.
- Connectivity and edge improvements between grassland and scrub habitats.

8. FACTORS INFLUENCING MANAGEMENT PROPOSALS

8.1 *Overview*

8.1.1 Management proposals for the site have been informed by the baseline ecological conditions, the conservation importance of retained habitats, and the enhancement and creation measures identified in the Biodiversity Net Gain Assessment and Landscape & Ecological Management Plan. The site supports a mixture of existing scrub, lowland calcareous grassland, other neutral grassland, artificial surfaces and areas identified for

targeted enhancement. Many baseline habitats fall within medium to high distinctiveness categories, with several parcels assigned high strategic significance due to their location adjacent to the Duddon Estuary SSSI, SPA and Ramsar designations

8.1.2 The primary factors influencing proposed management include:

- **Baseline condition and distinctiveness:** Several habitats, including scrub and grassland mosaics, were assessed as moderate to good condition, requiring careful long-term maintenance to ensure no deterioration once construction and visitor pressure increase.
- **Statutory and policy context:** Due to proximity to internationally and nationally designated sites, management must prevent indirect effects such as recreational pressure, invasive species spread, trampling, dust, and hydrological changes, as outlined in both reports
- **BNG Trading Rules:** Habitats with medium/high distinctiveness and high strategic significance require enhancement rather than replacement, and created habitats must be maintained for a minimum of 30 years in accordance with the Environment Act 2021.
- **Presence of invasive species:** Japanese knotweed, cotoneaster, variegated yellow archangel, Japanese rose and other invasives require ongoing control to ensure created and enhanced habitats achieve target condition.
- **Landscape/engineering constraints:** Paths, new formalised surfaces, and reinstated areas (e.g., BOAT working strip) limit where habitats can be created, dictating a mosaic approach rather than large contiguous parcels.
- **Access and visitor management:** To avoid degradation of sensitive restored grasslands and scrub edges, measures for signage, fencing, visitor flow and seasonal restrictions have influenced the management strategy.

8.2 *Habitat Creation*

8.2.1 Habitat creation proposals are driven by the need to offset small areas of habitat loss, provide compensatory biodiversity gains, and respond to the opportunity presented by areas of artificial unvegetated, sealed and unsealed surfaces that can be converted into functioning semi-natural habitats.

8.2.2 Habitat creation comprises:

- **Other Neutral Grassland:** Created on areas where existing hardstanding is to be broken up and removed. These areas will be seeded with a neutral grassland mix appropriate to the local calcareous context. Management proposals consider:
 - Conditioned establishment through early weed control;
 - Appropriate mowing or grazing regimes;
 - Prevention of soil enrichment and trampling;
 - Maintaining vegetation structure in line with target condition criteria.

- **Developed land / sealed surface paths:** New paths and formalised surfaces will be installed using naturalistic permeable materials, ensuring run-off does not impact adjacent habitats. These do not contribute BU but influence the spatial arrangement of created habitat.
- **Habitat creation linked to BOAT and greenway improvements:**
 - As surfaced tracks are reinstated, flanking areas—currently disturbed or degraded—offer opportunities for low-nutrient grassland creation, scrub edge establishment, and strategic planting.
 - Translocated habitats where relevant (e.g., Annex I grassland turves): Although translocation is referenced primarily in the LEMP rather than the BNG, created habitats must integrate translocated vegetation (where used) through appropriate ground preparation, aftercare irrigation, weed control and monitoring.

8.2.3 The overarching creation objective is to establish self-sustaining, species-rich grassland and scrub mosaics that contribute to the 30-year BNG uplift and align with Cumbria BAP priorities.

8.3 Retained Habitats

8.3.1 Retained habitats were identified as those of sufficient ecological value to remain in situ and form the structural foundation of the site's long-term ecological network. As described within both documents, the retained habitats include areas of:

- Bramble scrub and mixed scrub in moderate to good condition;
- Lowland meadow/calcareous grassland pockets requiring no soil disturbance;
- Artificial unvegetated surfaces that remain functionally necessary;
- Developed land adjacent to operational areas that must be managed for biosecurity and to prevent colonisation by invasives.

The management of retained habitats is shaped by:

- **Condition maintenance:** Avoiding deterioration of good condition parcels through selective scrub control, access management and invasive species removal.
- **Protection during construction:** Fencing, dust suppression and adherence to CEMP protocols ensure retained habitats are not damaged (LEMP Section 4)
- **Buffering and edge management:** Retained habitats bordering paths or visitor infrastructure require low-intensity management to prevent erosion of condition through trampling or nutrient enrichment.
- **Long-term functioning within the habitat mosaic:** Retained habitats provide reference conditions for enhanced/created parcels and contribute to connectivity for invertebrates, reptiles and ground-nesting birds.

8.3.2 Overall, retained habitats serve as the ecological anchor for the HMMP, supporting continuity of species assemblages while enabling enhancements elsewhere.

8.4 Enhanced Habitats

8.4.1 Enhancement proposals focus on raising existing habitats from moderate to good condition, particularly those assessed as mixed scrub, bramble scrub, lowland/calcareous grassland, and other neutral grassland in the BNG baseline. The BNG Report highlights the following enhancement activities to deliver uplift

- **Scrub enhancement:**
 - Removal of invasive woody species;
 - Gradual thinning to diversify age and structure;
 - Creation of scalloped edges, glades and transitional zones;
 - Retaining nectar resources and invertebrate habitat.
- **Grassland enhancement (calcareous and neutral):**
 - Reduction of dominant species cover (e.g., bramble where encroaching);
 - Targeted removal of nutrient-enriching soil and accumulated litter;
 - Overseeding with locally appropriate calcareous grassland species to raise condition from moderate to good;
 - Implementation of seasonal cutting or light grazing to maintain sward height.
- Visitor-facing habitat enhancement near the Visitor Centre and car park: These include selective scrub management, reinforcement planting and surface repairs around the paths to maintain ecological functionality despite footfall pressures (refer LEMP Section 6)
- Scrub and grassland interface enhancement around working areas such as BOAT and Towsey Hole: Enhancements accelerate recovery following construction, stabilise edges, and improve habitat suitability for reptiles, amphibians and key bird species.

8.4.2 Enhancement actions aim to achieve measurable improvements aligned with Statutory Biodiversity Metric condition criteria and to ensure the site meets the 30-year statutory management requirement.

8.5 Habitat Dependencies and Sensitivity Analysis

Neutral Grassland (Created)

- Low-nutrient soils required. No enrichment or deposition.
- Sensitive to: compaction, dog-fouling, arisings left on site.
- Requires full sunlight; shading will reduce forb richness.

- Establishment dependent on early weed suppression.

Calcareous Grassland (Enhanced)

- Requires open aspect, thin soils, low fertility.
- Sensitive to scrub encroachment and coarse grass dominance.
- Dependent on appropriate grazing/cutting regime.
- Requires periodic disturbance (scarification) for forb recruitment.

Mixed Scrub (Enhanced)

- Dependent on rotational cutting to maintain age-class diversity.
- Sensitive to:
 - Total removal (ecological shock),
 - Unmanaged bramble dominance,
 - Rapid woodland succession.

Retained Bramble Scrub

- Dependent on maintaining structural variety, not uniform monoculture.
- Sensitive to soil disturbance and tipping of nutrient-rich waste.

Lowland Meadow (Retained)

- Requires nutrient-poor soils and strict arisings removal.
- Sensitive to enrichment, trampling, and shading.

9. OBJECTIVES AND HABITAT CREATION, ENHANCEMENT AND MANAGEMENT PRESCRIPTIONS

9.1 Overview

- 9.1.1 The following section provides the prescriptions and management objectives of the proposed and retained habitats. The management plan and objectives should be reviewed after 3 years and adjusted if required. The management plan will run for 30 years.
- 9.1.2 Some habitats have a default condition score they need therefore only be created and then retained as the required general habitat type and do not need to be subject to detailed management. This habitat is “developed land sealed surface” and “Artificial unvegetated, unsealed surface”
- 9.1.3 Condition assessments within this HMMP include two types of criteria: “**must meet**” and “**should meet**”. These terms reflect their relative importance in determining whether a habitat has achieved the target condition stated in the Biodiversity Metric and therefore whether it is delivering its required biodiversity value.

Must Meet Criteria

- 9.1.4 Must meet criteria are mandatory requirements that the habitat must satisfy for it to be classed as being in the target condition (e.g. Moderate or Good). These are usually fundamental structural or compositional attributes such as:
- Maximum allowable scrub or bramble cover
 - Minimum species richness thresholds
 - Limits on undesirable species
 - Presence of key indicator species
 - Habitat being a recognisable example of the target type
- 9.1.5 Failure to meet any must-meet criterion means the habitat cannot be considered in its target condition under the Statutory Biodiversity Metric. This automatically triggers remedial actions, increased monitoring, and a re-assessment.

Should Meet Criteria

- 9.1.6 Should meet criteria are desirable supporting attributes that strengthen the ecological quality and resilience of a habitat, but which are not always critical for it to reach the target condition score. These include:
- Optimal sward height variation
 - Additional structural diversity
 - Presence of supplementary indicator species

- Preferred ratios of grass-to-forb cover
- Distributional patterns of species across the habitat

9.1.7 These criteria should be met where possible, and failure to meet one or more may indicate early decline or suboptimal management. However, if all must-meet criteria are satisfied, occasional shortfall in should-meet criteria does not automatically cause failure of the condition assessment.

Use in Monitoring and Reporting

9.1.8 During each monitoring visit:

- Must meet criteria are assessed first and determine pass/fail status.
- Should meet criteria are then reviewed to identify trends, risks and opportunities for improvement.
- Failure of must-meet criteria triggers mandatory remediation, while failure of should-meet criteria triggers adaptive management to prevent decline.

9.1.9 This structured approach ensures that the habitat is managed to the standards required by the Biodiversity Metric while still allowing flexibility to adapt to natural variation, climate, weather patterns and ecological succession.

Habitat Type	Area/Length	Target Distinctiveness	Target Condition	Time to Target (years)	Difficulty/Risk
Habitat Created					
Other neutral grassland	0.0358	Medium	Moderate	5	Low
Artificial unvegetated, unsealed surface	0.1027	V.Low	N/A - Other	0	Low
Artificial unvegetated, unsealed surface	0.0133	V.Low	N/A - Other	0	Low
Developed land; sealed surface	0.0982	V.Low	N/A - Other	0	Low
Developed land; sealed surface	0.2889	V.Low	N/A - Other	0	Low
Habitat Enhanced					
Lowland calcareous grassland	0.1049	High	Good	10	High
Lowland calcareous grassland	0.3077	High	Good	10	High

Habitat Type	Area/Length	Target Distinctiveness	Target Condition	Time to Target (years)	Difficulty/Risk
Lowland calcareous grassland	0.1652	High	Good	10	High
Mixed scrub	0.2145	Medium	Good	10	Low
Mixed scrub	0.1084	Medium	Good	10	Low
Mixed scrub	0.1177	Medium	Good	3	Low
Mixed scrub	0.0362	Medium	Good	3	Low
Mixed scrub	0.373	Medium	Good	3	Low

Table 2- Habitat Objectives

9.2 Other Neutral Grassland creation

9.2.1 Existing hardstanding areas will be broken up and Other Neutral Grassland created. Condition score to be at least MODERATE. GOOD condition targeted but scored as MODERATE in metric. May fail Condition 8 or 9 but would remain at least MODERATE. 0.0358Ha to be enhanced.

Condition Criterion	Target Requirement	Pass/Fail Threshold	Monitoring Notes
1. Habitat is a good representation of the target type	Grassland community clearly reflects a floristically diverse neutral grassland typical of local calcareous influences.	Must meet criterion.	Species composition assessed against UKHab and local reference communities.
2. Sward height variation	At least 20% of sward <7 cm AND at least 20% >7 cm during peak growing season.	Must meet criterion.	Demonstrates structural mosaic; achieved by cutting/grazing regime.
3. Bare ground cover	<10% bare ground including localised areas (e.g., rabbit warrens).	Must meet criterion.	Measured as percentage of visible substrate; excludes cracks in soil in drought conditions.
4. Bracken cover	<5% total bracken cover across the grassland parcel.	Must meet criterion.	Bracken presence assessed through summer survey; early frond emergence monitored.
5. Undesirable species cover	<5% combined cover of undesirable species: creeping thistle, spear thistle, curled dock, broad-leaved dock, common ragwort, common nettle, marsh ragwort, cow parsley, bracken.	Must meet criterion.	Combined cover of target species visually estimated using standard DAFOR/percentage class.

Condition Criterion	Target Requirement	Pass/Fail Threshold	Monitoring Notes
6. Scrub and woody encroachment	<5% cover of scrub, woody seedlings, or bramble.	Must meet criterion.	Checked annually; mechanical/hand removal as required.
7. Litter, nutrient enrichment & trampling	No evidence of nutrient enrichment (e.g., rank grass dominance), minimal trampling, and no significant litter accumulation.	Should meet criterion.	Includes dog fouling impacts, soil compaction, or tipping of grass cuttings.
8. Species richness	Minimum of 8-12 desirable grassland species recorded within each representative 4 m ² quadrat (or equivalent metric spec).	Must meet criterion.	Species list compared with target seed mix / local calcareous-neutral species pool.
9. Invasive non-native species	No invasive non-native species present (e.g., Japanese knotweed, cotoneaster, variegated yellow archangel).	Must meet criterion.	Any presence triggers immediate remedial action.

Table 3- Other Neutral Grassland Target Condition Indicators

- 9.2.2 Areas of existing hardstanding within the site will be broken up and removed to enable the creation of **Other Neutral Grassland**. This habitat type is appropriate to the local context, reflecting the calcareous influence of the wider reserve and the need to replace areas of artificial surface with semi-natural vegetation of higher ecological value.
- 9.2.3 Following removal of the hardstanding, the underlying substrate will be cultivated and prepared to ensure a free-draining, low-nutrient soil profile suitable for the establishment of a species-rich sward. All debris and compacted material will be removed prior to sowing. A locally appropriate neutral grassland seed mix, such as Boston Seeds Chalk & Limestone Soils Wildflower Seed BS2M 80/20 reflecting the calcareous character of adjacent grassland communities, will be applied in early autumn or spring to maximise germination and establishment rates.
- 9.2.4 During the establishment period, early-stage management will focus on controlling competitive ruderal and invasive species, along with regular monitoring to confirm successful germination and sward development. Cutting will be undertaken as necessary during the first year to suppress vigorous annual weeds and to promote tillering of desirable grasses.
- 9.2.5 Once established, the neutral grassland will be managed through an annual cutting regime with removal of arisings, or where practical, light grazing, to maintain a structurally diverse sward and prevent encroachment by scrub or dominant species. Nutrient enrichment, soil compaction and uncontrolled public access will be avoided to ensure that the habitat develops towards and is maintained within the '**moderate**' condition threshold defined for Other Neutral Grassland under the Statutory Biodiversity Metric. Good condition will be targeted but is not scored as such in the metric.

9.2.6 This newly created grassland will contribute to long-term biodiversity enhancement across the site and will be subject to ongoing monitoring in accordance with the HMMP to ensure successful establishment and sustained condition improvement over the 30-year maintenance period.

9.2.7 Management will continue for 30 years.

9.3 Lowland calcareous grassland enhancement

Existing Lowland calcareous grassland will be enhanced. Condition score to be at least GOOD. 0.5778Ha to be enhanced.

Condition Criterion	Target Requirement	Pass/Fail Threshold	Monitoring Notes
1. Representation of calcareous grassland type	Vegetation composition clearly reflects species-rich calcareous grassland with characteristic calcicolous flora; no dominance by nutrient-demanding grasses.	Must meet criterion.	Assessed against local calcareous reference community and seed mix, ensuring visible chalk/calcareous indicator species presence.
2. Sward height variation	At least 20% of sward <10 cm and at least 20% >10 cm during peak season to reflect a varied, structurally diverse sward.	Must meet criterion.	Compatible with extensive cutting or light grazing; avoids rank sward development.
3. Bare ground cover	<10% bare ground, excluding natural small chalk/limestone exposures.	Must meet criterion.	High bare ground indicates erosion or nutrient/poaching pressures.
4. Scrub and bramble encroachment	<5% bramble, coarse scrub, woody seedlings or gorse encroachment.	Must meet criterion.	Essential for preventing calcareous grassland loss through succession.
5. Undesirable species cover	<5% combined cover of undesirable competitive species (creeping thistle, spear thistle, curled dock, broad-leaved dock, ragwort spp., nettle, cow parsley, hogweed) and coarse grasses (e.g., cocksfoot, false oat-grass).	Must meet criterion.	Focus on preventing encroachment by nutrient-enriched species.
6. Invasive non-native species	No invasive non-native species present (e.g., cotoneaster, Japanese rose, Japanese knotweed).	Must meet criterion.	Any detection requires immediate eradication.
7. Species richness	Minimum 12-15 desirable calcareous grassland species recorded within each	Must meet criterion.	Must include calcareous indicators such as <i>Lotus corniculatus</i> , <i>Primula veris</i> ,

Condition Criterion	Target Requirement	Pass/Fail Threshold	Monitoring Notes
	representative 4 m ² quadrat (or metric equivalent).		<i>Briza media</i> , <i>Pimpinella saxifraga</i> , <i>Helianthemum nummularium</i> , <i>Thymus polytrichus</i> .
8. Indicator species frequency	≥2-3 calcareous indicator species present in every quadrat assessed.	Must meet criterion.	Ensures floristic diversity and prevents homogenisation.
9. Litter, nutrient enrichment & dominance	No signs of nutrient enrichment (litter accumulation, dunging hotspots, significant rank grass dominance).	Should meet criterion.	Includes avoidance of nutrient drift from adjacent land or path edges.
10. Structural diversity / openess	At least 30% of the sward shows fine-leaved grasses and forbs, with no more than 30% coarse grasses.	Should meet criterion.	Ensures the open, herb-rich structure typical of calcareous grassland.

Table 4- Lowland calcareous grassland enhancement condition Indicators

9.3.1 Enhancement measures for calcareous grassland aim to improve the floristic diversity, structure and overall ecological condition of existing grassland parcels identified in the BNG assessment as being of **moderate condition** and capable of uplift to **good condition** through targeted management. These habitats form a key component of the site's semi-natural mosaic, supporting invertebrates, reptiles and ground-nesting birds, and contribute significantly to the biodiversity value of the surrounding landscape.

9.3.2 As set out in the BNG Report, calcareous grassland within the site requires interventions to reduce dominance by competitive species, diversify the sward and prevent encroachment by scrub and bramble. The LEMP reinforces the need for structured management to restore these grasslands and maintain their characteristic calcareous species assemblages.

Enhancement Approach

9.3.3 Enhancement will begin with a programme of selective removal of undesirable vegetation, including coarse grasses, nutrient-demanding species and early-stage scrub. This will be undertaken outside the bird nesting season, using hand tools or mechanical methods where appropriate, to avoid soil disturbance and maintain the integrity of existing calcareous turf.

9.3.4 Following initial clearance, the sward will be opened up through light scarification or raking to create small patches of exposed soil suitable for receptivity to **overseeding** with a calcareous grassland enhancement mix. This mix will contain locally appropriate calcicolous forbs and fine-leaved grasses, reflecting species characteristic of high-quality limestone grassland communities. Overseeding will be undertaken in early autumn or spring to maximise establishment.

9.3.5 Management during the establishment phase will prioritise preventing re-dominance by competitive vegetation. Ruderal species will be removed through spot control, while cutting regimes will be adjusted to promote a varied sward structure and encourage the establishment of forb-rich patches. Removal of arisings will prevent nutrient accumulation, maintaining the low-fertility conditions required for calcareous grassland persistence.

Long-Term Enhancement Management

9.3.6 Once enhanced areas are established, a tailored cutting or grazing regime will be implemented to maintain a structurally diverse and floristically rich sward. Cutting will generally be undertaken once annually, after seed-set, with arisings removed. Where feasible, controlled light grazing may be used to maintain a short, varied turf and reduce coarse species dominance.

9.3.7 Scrub encroachment will be monitored and controlled annually to ensure that woody vegetation remains below the 5% cover threshold necessary for achieving Good condition. Spot-control of invasive non-native species will be undertaken immediately on detection.

9.3.8 The success of enhancement will be measured against the Statutory Biodiversity Metric condition criteria for calcareous grassland, including species richness, presence of characteristic indicator species, structural diversity and absence of undesirable or invasive species. Monitoring surveys at Years 1, 2, 5 and every five years thereafter will confirm whether the habitat is progressing toward and maintaining the target Good condition over the 30-year management period.

9.4 Scrub Enhancement

Existing Bramble scrub will be enhanced to Mixed Scrub. Condition score to be at least GOOD. 0.8498Ha to be enhanced.

Existing Bramble scrub will be retained as Bramble Scrub. No condition score is applied and so long as it remains as Bramble Scrub it will meet the condition scores automatically. 0.7269Ha is retained.

Condition Criterion	Requirement	Pass Threshold	Assessment Method
1. Structural diversity	Presence of young, mature, and transitional scrub; structural layering	Must meet criterion.	Structural mapping & height bands
2. Bramble dominance	Bramble ≤20-30% cover within enhanced compartments	Must meet criterion.	% cover mapping
3. Open glades/scalloped edges	≥10-20% open ground/glade structure	Must meet criterion.	GIS mapping / on-ground transects

Condition Criterion	Requirement	Pass Threshold	Assessment Method
4. Ground flora diversity	Herb-rich patches present in opened areas; recovering herb layer	Must meet criterion.	Quadrat/DAFOR
5. Scrub composition	Mixed native scrub (hawthorn, blackthorn, dog-rose, willow) with diversity > single-species dominance	Must meet criterion.	Species composition
6. Invasive non-native species	0% presence (e.g., cotoneaster, Japanese rose)	Must meet criterion.	Walkover
7. Successional control	Woody encroachment outside enhancement envelope <10%	Should meet criterion.	Mapping
8. Litter, nutrient enrichment & disturbance	No evidence of enrichment, tipping, trampling damage	Should meet criterion.	Observation
9. Connectivity	Scrub patches linked to grassland edges with transitional zones	Must meet criterion.	Habitat mosaic assessment

Table 5- Scrub enhancement condition Indicators

9.4.1 Enhancement of mixed scrub will focus on improving the structural and floristic diversity of areas currently dominated by bramble (*Rubus fruticosus* agg.), which suppresses herb layer development and limits habitat value for invertebrates, birds and small mammals. The objective is to transition dense, homogeneous bramble stands into a varied scrub community with scalloped edges, open glades and patches of developing grassland and forb-rich vegetation, in accordance with the uplift targets identified in the BNG assessment.

Enhancement Approach

9.4.2 Initial works will involve **selective reduction of bramble cover**, undertaken in a phased manner to avoid sudden loss of cover that supports nesting birds and provides refuge for wildlife. Cutting will focus on the densest blocks first, reducing the height and footprint of bramble to allow light penetration to the ground layer. Mechanical cutting may be used where access allows, with hand-cutting employed in more sensitive locations to avoid excessive ground disturbance.

9.4.3 Following reduction, targeted removal of bramble root systems will be undertaken in limited patches to create small openings where a more diverse ground flora can re-establish. These areas will be lightly cultivated or scarified to encourage colonisation by native grasses, herbs and regenerating scrub species such as hawthorn, blackthorn, dog-rose and willow.

9.4.4 The creation of glades and scalloped edges will be integral to enhancement, providing warm, sheltered microhabitats for invertebrates and increasing structural variation. Edges will be managed to maintain a graded transition from scrub to grassland, increasing biodiversity and ensuring the habitat does not revert to dense, single-species bramble thickets.

Long-Term Enhancement Management

- 9.4.5 Ongoing management will prevent bramble from re-dominating while allowing a balanced scrub structure to develop. Annual or biennial cutting of selected sections will maintain heterogeneity, with rotational management ensuring a mixture of young and mature scrub components. Scrub growth will be monitored to ensure woody vegetation does not exceed thresholds that would compromise the condition objectives for adjacent grassland habitats.
- 9.4.6 Open patches and glades will be maintained through periodic cutting or low-intensity grazing (where feasible) to retain early-successional vegetation and discourage deep shade. Any regrowth of dense bramble in these enhanced patches will be selectively controlled to retain structural openness.
- 9.4.7 Invasive non-native scrub species will be removed immediately on detection. Arisings from scrub management will be removed from site or stacked in discrete, low-impact habitat piles to avoid nutrient enrichment and provide refuge for reptiles and invertebrates.

9.5 Scrub Retained

- 9.5.1 *Existing mixed scrub will be retained. Condition score to be at least MODERATE.* (retained habitat must be maintained so that it does not fall below its baseline condition). 0.0455Ha to be retained.

Condition Criterion	Requirement	Pass Threshold	Assessment Method
1. Structural diversity	Scrub contains a range of ages and structures (young shoots, mid-age stems, mature growth)	Must meet criterion.	Visual structural mapping; height classes
2. Species composition	Scrub composed of mixed native species (e.g., hawthorn, blackthorn, dog-rose, willow, bramble) with no single-species dominance	Must meet criterion.	Species composition survey
3. Bramble dominance	Bramble $\leq 20-30\%$ cover within retained scrub areas	Must meet criterion.	% cover estimate
4. Scrub density and openness	Presence of open glades , scalloped edges or herb-rich margins; scrub not forming closed-canopy blocks	Should meet criterion.	Transect or compartment-level mapping
5. Encroachment into adjacent grassland	Scrub/saplings beyond retained boundary $\leq 5\%$	Must meet criterion.	Boundary checks; mapping encroachment lines
6. Ground flora diversity	Ground flora present in at least some open patches; not fully suppressed by dense shade or bramble	Must meet criterion.	Ground-layer quadrats

Condition Criterion	Requirement	Pass Threshold	Assessment Method
7. Deadwood and habitat features	Some deadwood or structural features retained without causing safety issues	Must meet criterion.	Visual assessment
8. Invasive non-native species	0% presence (e.g., cotoneaster, Japanese rose, knotweed)	Must meet criterion.	Walkover
9. Litter / nutrient enrichment	No evidence of tipping, nutrient hotspots, garden waste, or excessive thatch accumulation	Should meet criterion.	Site inspection
10. Disturbance indicators	No significant trampling, erosion, or unauthorised access damaging scrub roots or structure	Should meet criterion.	Observation
11. Browsing/grazing pressure	Browsing pressure (if present) not causing die-back, stem stripping or recruitment failure	Should meet criterion.	Assessment of shoots & stems

Table 6- Scrub retained condition Indicators

9.5.2 Retained mixed scrub forms an important structural and ecological component of the site, providing cover, foraging habitat and connectivity for birds, invertebrates, small mammals, amphibians and reptiles. The BNG assessment identifies these scrub parcels as medium-high distinctiveness habitats, requiring safeguarding to ensure their condition does not deteriorate over the 30-year management period

9.5.3 The LEMP provides guidance on ongoing scrub management to maintain ecological function, structural diversity and prevent encroachment into adjacent grassland habitats

9.5.4 The objective is therefore to maintain a diverse, multi-aged scrub habitat composed of native woody species such as hawthorn, blackthorn, dog-rose, willow and bramble, while preventing excessive dominance by any single species and avoiding progression towards closed-canopy woodland.

Scrub Structure and Composition

9.5.5 Management will maintain a mixed, structurally diverse scrub community, supporting a range of successional stages. Retained scrub will contain:

- Young regenerating shoots;
- Established mid-height scrub;
- Occasional mature stems;
- Areas of open ground or herb-rich margins along scrub edges.

9.5.6 This structure reflects the LEMP's emphasis on maintaining habitat heterogeneity, glades and transitions between scrub and grassland communities.

Control of Excessive Bramble and Single-Species Dominance

- 9.5.7 While bramble forms a natural component of mixed scrub, unchecked dominance can suppress ground flora and reduce structural complexity. In line with the BNG condition criteria and LEMP guidance, bramble cover will be maintained at acceptable levels to prevent homogenisation while still providing valuable wildlife cover.
- 9.5.8 Selective cutting or thinning will be carried out where bramble or other vigorous species begin to dominate, ensuring no abrupt or large-scale clearance occurs that could impact nesting birds or protected fauna.

Edge Management and Transitional Zones

- 9.5.9 Scrub margins will be managed to maintain a graded transition into adjacent grasslands, with some scalloping and natural glade development retained. This approach is consistent with the LEMP, which highlights the ecological importance of maintaining open edges and transitional scrub-grassland interfaces.
- 9.5.10 Edges will be selectively cut on a rotational basis to prevent uniformity and maintain structural variation.

Retention of Valuable Features

- 9.5.11 Key habitat features—such as mature hawthorn and blackthorn stands, deadwood, dense refuge areas and natural nesting substrates—will be retained where safe and ecologically appropriate. Deadwood will be left in situ unless obstructing paths or creating safety hazards, reflecting LEMP recommendations for maintaining habitat complexity.

Scrub Encroachment Control

- 9.5.12 To protect adjacent retained grassland habitats (lowland meadows and calcareous/neutral grassland), scrub spread will be monitored annually. Encroachment control will involve:
- Removal of woody seedlings outside defined scrub boundaries;
 - Selective cutting of advancing scrub edges;
 - Preventing shading of sensitive grassland areas.
- 9.5.13 These measures maintain the integrity of adjacent habitats as required by the BNG baseline mapping and LEMP prescriptions.

Invasive and Non-Native Species Control

- 9.5.14 Retained scrub will be kept free of invasive species such as cotoneaster, Japanese rose or hybrid knotweed. Any such species identified during routine checks will be removed promptly using methods proportionate to the scale of infestation, in line with the LEMP's invasive species protocols.

Protection From Disturbance

9.5.15 During any works, retained scrub will be protected through:

- Adherence to seasonal restrictions (particularly avoiding the bird nesting season unless checks by a qualified ecologist confirm no nesting activity);
- Fencing or protective buffers where contractor access is required;
- Minimising soil disturbance.

9.5.16 These measures reflect the LEMP's construction and operational best practice standards.

Monitoring and Adaptive Management

9.5.17 Monitoring of retained mixed scrub will follow the same schedule as other retained habitats: Years 1, 2, 5, and every five years thereafter. Monitoring will assess:

- Species composition and structural diversity;
- Presence and cover of bramble and other dominant species;
- Extent of scrub encroachment into grassland;
- Presence of open glades or transitional edges;
- Absence of invasive species;
- Overall compliance with BNG condition criteria.

9.5.18 Adaptive management will be applied where the scrub shows signs of excessive densification, dominance by a single species or loss of structural variation.

9.6 Bramble Scrub Retained

9.6.1 Existing Bramble scrub will be retained as Bramble Scrub. No condition score is applied and so long as it remains as Bramble Scrub it will meet the condition scores automatically. 0.7269Ha is retained.

Condition Criterion	Requirement	Pass Threshold	Assessment Method
1. Habitat representation	Area remains recognisable as bramble-dominated scrub, providing dense cover and structural refuge	Must meet criterion.	Visual confirmation of bramble scrub character
2. Structural variation	Scrub includes a mix of ages and heights of bramble (young regrowth, mid-height stems, mature arches)	Should meet criterion.	Height band mapping

Condition Criterion	Requirement	Pass Threshold	Assessment Method
3. Woody species mix	Occasional native shrubs present (e.g., hawthorn, rose, willow), but scrub not transitioning to closed-canopy woodland	Should meet criterion.	Species composition & cover estimates
4. Bramble cover	Bramble remains the dominant component, typically >50%, but without forming 100% monoculture and allowing some edge heterogeneity	Must meet criterion.	% cover surveys
5. Edge and transitional habitat	Scrub edges retain structural variation: scalloped edges, patchiness, and small open areas	Should meet criterion.	Boundary transects
6. Encroachment into adjacent habitats	Bramble spread into retained meadow or grassland ≤5% beyond baseline footprint	Must meet criterion.	Annual edge mapping
7. Ground flora	Some tolerant ground flora persists beneath or adjacent to bramble stands; not 100% bare due to shading	Should meet criterion.	Ground-layer quadrats
8. Invasive non-native species	0% presence of invasives (e.g., cotoneaster, Japanese rose, knotweed)	Should meet criterion.	Walkover survey
9. Litter and nutrient inputs	No evidence of tipping, nutrient enrichment, dog fouling hotspots, or discarded arisings	Should meet criterion.	Visual inspection
10. Disturbance and access damage	No significant trampling, root exposure or unauthorised path creation through the scrub	Should meet criterion.	Site walkover
11. Succession control	No development toward tall woody scrub or woodland (saplings >2 m cover ≤5%)	Must meet criterion.	Stem count & sapling mapping

Table 7- Bramble Scrub retained condition Indicators

9.6.2 Retained bramble scrub forms part of the site's mosaic of semi-natural habitats and provides valuable refuge, nesting cover and foraging resources for a range of species including small mammals, breeding birds and invertebrates. The BNG assessment identifies bramble-dominated scrub as a baseline habitat that must be safeguarded from deterioration, encroachment or unfavourable succession over the 30-year management period

9.6.3 The LEMP highlights the need for ongoing scrub management that preserves ecological function, structural variation and prevents unwanted spread into adjacent grassland habitats.

9.6.4 The aim of long-term maintenance is to retain bramble scrub as a stable, structurally varied and species-supporting scrub habitat, while preventing excessive expansion, nutrient enrichment or transition toward tall woody scrub or woodland.

Scrub Structure and Composition

9.6.5 Retained bramble scrub will be maintained to ensure a heterogeneous structure, characterised by:

- Dense mature bramble providing shelter;
- Patches of younger bramble regrowth;
- Localised open areas and broken edges;
- Occasional presence of native shrubs such as hawthorn, rose or willow without progressing toward closed-canopy woodland.

9.6.6 This structure follows the LEMP's emphasis on maintaining habitat diversity and avoiding the creation of extensive uniform scrub blocks.

Control of Spread Into Adjacent Habitats

9.6.7 Bramble will be prevented from spreading into retained lowland meadow, neutral grassland or enhanced calcareous grassland. Annual control of creeping stolons and new bramble expansion will ensure that scrub remains within its baseline footprint. Encroachment beyond defined boundaries will be cut back by hand or with mechanical tools where appropriate, ensuring soil disturbance is avoided.

Retention of Ecological Value

9.6.8 Bramble scrub supports a wide range of fauna; therefore, works will be timed to avoid impacts on nesting birds, with any necessary cutting scheduled outside March-August, unless a qualified ecologist confirms the absence of active nests, in line with LEMP operational guidance. Habitat piles created from occasional bramble cuttings may be retained in discrete areas to provide invertebrate and small mammal refuge.

Prevention of Succession to Woodland

9.6.9 Without management, bramble scrub can develop into tall woody scrub or young woodland. In line with the BNG baseline condition and LEMP prescriptions, maintenance will involve:

- Removal of woody saplings (>2 m) emerging within bramble patches;
- Preventing establishment of tree seedlings that would alter the habitat type;
- Maintaining light levels by preventing canopy-forming species from dominating.

Invasive and Non-Native Species Control

9.6.10 All retained scrub will be kept free of invasive non-native species (e.g., cotoneaster, Japanese rose, knotweed hybrids), consistent with LEMP invasive species protocols. Any occurrences will be removed promptly using the most appropriate method, with follow-up monitoring.

Litter and Nutrient Input Prevention

9.6.11 To avoid nutrient enrichment—which could alter scrub composition and promote coarse grass or dock dominance—retained bramble scrub will be kept free of:

- Tipped garden waste or grass cuttings;
- Dog fouling hotspots;
- Litter accumulation;
- Soil disturbance associated with informal access paths.

9.6.12 This reflects the LEMP's operational best-practice approach to managing visitor impacts, waste and nutrient inputs.

Monitoring and Adaptive Management

9.6.13 Monitoring will take place at Years 1, 2, 5, and every five years thereafter for the duration of the HMMP. Key metrics assessed will include:

- Extent and density of bramble cover;
- Edge condition and patchiness;
- Presence of ground flora;
- Woody succession and sapling encroachment;
- Spread into adjacent habitats;
- Presence of invasive species;
- **General habitat health and structural quality.**

9.6.14 If monitoring indicates excessive densification, dominance, woodland succession or expansion beyond baseline boundaries, adaptive management measures (selective thinning, edge restoration, increased control) will be implemented.

9.7 Lowland Meadow Retained

9.7.1 Existing Lowland Meadow will be retained. Condition score to be at least GOOD. (retained habitat must be maintained so that it does not fall below its baseline condition). 0.0546Ha to be retained

Condition Criterion	Requirement	Pass Threshold	Assessment Method
1. Habitat representation	Grassland must be a clear, recognisable lowland meadow	Must meet criterion.	Visual assessment against UKHab & local meadow reference

Condition Criterion	Requirement	Pass Threshold	Assessment Method
	community with a mix of fine grasses and broadleaved herbs		
2. Sward height & structural variation	Sward must show mosaic structure: ≤20% short (<10 cm) AND ≤20% tall (>10-20 cm), with rest in mid-structure	Must meet criterion.	Transect-based height measurements
3. Meadow indicator species	At least 3 positive meadow indicator species (e.g., <i>Lotus corniculatus</i> , <i>Ranunculus acris</i> , <i>Trifolium pratense</i> , <i>Leucanthemum vulgare</i>) present across survey area	Should meet criterion.	Quadrat survey
4. Species richness	Minimum 15+ desirable species per representative 4 m ² quadrat	Must meet criterion.	Species count
5. Negative indicators (nutrient enrichment)	No significant dominance by species indicative of enrichment (e.g., coarse grasses, nettle, creeping buttercup)	Must meet criterion.	% cover assessment
6. Undesirable species	Combined cover of undesirable species (thistles, docks, ragwort spp., nettle, cow parsley) <5%	Must meet criterion.	Quadrat & walkover
7. Bare ground	<5% bare ground (excluding natural ant hills or minor poaching in small areas)	Must meet criterion.	% cover estimation
8. Scrub/bramble encroachment	Scrub, bramble, saplings <5% cover across retained compartment	Must meet criterion.	Mapping / visual
9. Litter / thatch / arisings	Litter, dumped arisings, or excessive thatch accumulation absent	Should meet criterion.	Visual check
10. Invasive non-native species	0% presence (including cotoneaster, Japanese rose, JKW)	Must meet criterion.	Walkover survey
11. Hydrology & soil condition	No artificial drainage changes, waterlogging or compaction reducing meado	Should meet criterion.	Walkover survey

Table 8- Lowland meadow retained condition Indicators

9.7.2 The areas of retained lowland meadow will be maintained to ensure that the habitat does not fall below its baseline condition as recorded in the BNG assessment and continues to contribute to the wider ecological network of grassland and scrub habitat across the site. These habitats form part of the wider semi-natural mosaic described within both the BNG Report and the LEMP, and their long-term maintenance is essential to retaining botanical diversity and preventing succession to scrub or nutrient-enriched sward.

9.7.3 Management will follow the principles set out in the LEMP for ongoing grassland management, including seasonal cutting, control of scrub and invasive species, removal of arisings, and prevention of nutrient inputs that could compromise condition

Grassland Cutting Regime

- 9.7.4 The retained lowland meadow will be maintained through a traditional hay-cut system, with cutting undertaken once annually, typically between late July and early September, once the majority of meadow species have flowered and set seed. This reflects the low-input, species-rich management required to maintain meadow structure and prevent dominance by vigorous grasses. All cut material will be removed from site to avoid nutrient enrichment, consistent with the LEMP's requirement to prevent accumulation of litter or fertilisation effects which would degrade grassland condition.
- 9.7.5 Where necessary, an additional **early spring cut** may be undertaken in years where growth is particularly vigorous, followed by removal of all arisings.

Scrub and Bramble Control

- 9.7.6 Scrub encroachment will be controlled annually to ensure the meadow does not transition to bramble-dominated or woody vegetation. As set out in the LEMP, scrub control will be undertaken sensitively and outside the breeding bird season, using hand tools where appropriate to minimise ground disturbance.
- 9.7.7 Bramble and sapling growth will be reduced to maintain an open meadow structure and uphold the required condition thresholds.

Undesirable Species Management

- 9.7.8 In line with the BNG condition criteria, undesirable species—including thistles, docks, ragwort species, nettle and cow parsley—will be maintained at **<5% combined cover** across the meadow parcel. These species will be controlled by selective removal, pulling, or spot-treatment where necessary, ensuring no broadscale herbicide application occurs that could damage meadow flora.

Invasive Species Prevention

- 9.7.9 Any **invasive non-native species** (e.g., cotoneaster, Japanese rose, knotweed hybrids) detected during routine site inspections will be removed immediately, following the invasive species protocols described in the LEMP.
- 9.7.10 Measures may include manual removal, root extraction, or targeted herbicide treatment by a suitably qualified operative.

Protection From Nutrient Enrichment

- 9.7.11 To maintain the low-nutrient conditions characteristic of species-rich meadow, the following measures will be implemented:

- All cuttings removed after every cut.
- No fertiliser, manure, compost or topsoil additions.
- Prevention of dog fouling and litter accumulation through the visitor management measures set out in the LEMP.
- Avoidance of grass cutting arisings being left on paths or blown into meadow margins.

Path, Visitor & Edge Management

9.7.12 Where meadow areas interface with footpaths or operational areas, edge management will be undertaken to avoid trampling and soil compaction. The LEMP identifies the need for visitor control, signage and appropriate path configuration to protect sensitive grassland and prevent degradation under increased footfall.

9.7.13 Edges will be lightly cut as necessary to maintain visibility and avoid incursion of coarse grasses from path verges into the meadow.

Monitoring & Adaptive Management

9.7.14 Condition monitoring will occur at Years 1, 2, 5, and then at 5-year intervals thereafter for the full 30-year period. Monitoring will assess:

- Species richness and indicator species presence;
 - Sward height variation;
 - Undesirable species cover;
 - Scrub/bramble encroachment;
 - Bare ground;
 - Litter and nutrient indicators.

9.7.15 If the meadow shows deterioration relative to baseline condition, enhancement actions—such as overseeding with meadow forbs, additional scrub removal, or adjusted cutting frequency—will be implemented.

Condition and Monitoring

9.7.16 The enhanced mixed scrub will be monitored against Statutory Biodiversity Metric scrub condition criteria, including:

- Structural diversity (presence of young, mature and transitional scrub);
- Maintenance of open glades and scalloped edges;

- <5% invasive species cover;
- Reduced bramble dominance, with no more than 20-30% bramble cover within enhanced compartments;
- Presence of herb-rich ground flora in opened areas.

9.7.17 Surveys at Years 1, 2, 5 and every five years thereafter will assess progress and inform adaptive management over the 30-year HMMP period.

9.8 Invasive Species Protocol

Cotoneaster spp.

- Remove entire root system manually where possible.
- Bag and remove from site – **no composting**.

Japanese Rose

- Dig out root mat; repeat checks quarterly for regrowth.
- Cut-and-paint glyphosate treatment permitted by BASIS operator.

Japanese Knotweed (if encountered)

- Herbicide stem injection by licensed contractor only.
- No disturbance of soil/rhizomes.
- Waste transported as **controlled waste**.

Variegated Yellow Archangel

- Pull by hand early season, before flowering.
- Bag securely; incinerate or dispose as controlled waste.

Inspection Frequency:

Quarterly, plus ad-hoc checks during all habitat works.

10. MONITORING

Role	Organisation/Individual	Responsibilities
Landowner	Cumberland Council	Day-to-day habitat management
Ecological Consultant	Envirotech NW Ltd	Technical advice, ecological surveys, monitoring reports
Contractor	Story Contracting	Habitat creation, planting, and maintenance works
Local Planning Authority (LPA)	Cumberland Council	Review and approval of monitoring reports, compliance enforcement

Table 9 - Monitoring

10.1.1 In order to ensure that the habitats created and retained within the site reach and maintain their maximum value to nature conservation, all habitats should be monitored every three years to check establishment. Results of this monitoring, together with ongoing checks during routine works should be used to inform changes to annual work prescriptions, with the management plan reviewed towards the end of the five-year rolling plan and work programme period. The prescriptions provided here are for overall guidance and should be flexible depending on success of management. Prescriptions should be altered if required.

10.1.2 Reports will be submitted to the Local Planning Authority (LPA) in years 1, 2, 5 and every five years thereafter, detailing the condition and progress of all created and retained habitats. These reports will include the results of ecological monitoring, confirmation of whether habitats meet target conditions, any management adjustments made, and evidence of any remedial actions undertaken. This ensures transparency and accountability throughout the 30-year management period.

10.1.3 Each monitoring report to the LPA will include:

1. Summary of management works undertaken since last report.
2. Results of ecological monitoring (tables + maps).
3. Assessment of whether habitats are meeting target conditions.
4. Photographic evidence (fixed-point monitoring locations).
5. Recommendations for adaptive management.
6. Statement of compliance with HMMP.

Monitoring Indicators by Habitat Type

Habitat Type	Monitoring Indicator(s)	Methodology	Success Threshold (Target Condition)
Other Neutral Grassland (Created)	Species richness; % undesirable species; sward height variation; % bramble/scrub encroachment	4 m ² quadrats (min. 10), transects, % cover estimates	≥8-12 desirable spp./4 m ² ; <5% undesirable spp.; sward structure meets condition criteria; 0% invasives

Habitat Type	Monitoring Indicator(s)	Methodology	Success Threshold (Target Condition)
Lowland Calcareous Grassland (Enhanced)	Indicator species frequency; forb richness; % coarse grass; % scrub/bramble encroachment	4 m ² quadrats; % cover mapping; botanical indicator survey	≥12-15 desirable spp./4 m ² ; indicator spp. in every quadrat; <5% scrub/saplings; 0% invasives
Mixed Scrub (Enhanced)	Structural diversity; % bramble; extent of open glades; % invasive spp.	Structural mapping; % cover mapping; glade/edge transects	Mixed age-structure; bramble ≤20-30%; ≥10-20% open glade structure; 0% invasives
Bramble Scrub (Enhanced → Mixed Scrub)	Reduction of dominance; development of open patches; sapling density	Transects, % cover surveys, species composition	Bramble reduced to ≤20-30%; mixed scrub established; woodland succession prevented (<5% saplings >2m)
Mixed Scrub (Retained)	Age-class diversity; % bramble; extent of encroachment; ground flora presence; litter/nutrient status	Boundary mapping; % cover survey; quadrats	Maintain MODERATE+ baseline; bramble ≤20-30%; <5% saplings beyond boundary; ground flora present; 0% invasives
Bramble Scrub (Retained)	Bramble dominance; structural heterogeneity; extent of spread; sapling recruitment; litter	Visual structural assessment; % cover mapping; edge mapping	Habitat must remain recognisable bramble scrub; >50% bramble without becoming 100% monoculture; no >5% spread into other habitats; <5% woodland succession
Lowland Meadow (Retained)	Species richness; indicator species; % undesirable spp.; % scrub/saplings	Quadrats (min. 10), % cover estimates, transects	≥15 spp./m ² ; ≥3 meadow indicators; <5% undesirable spp.; scrub/saplings <5%; 0% invasives

Table 10 - Monitoring Indicators by habitat type summary

Habitat Type	Action	Years	Frequency	Timing Window	Purpose / Notes
Neutral Grassland (Created)	Soil preparation & seeding	0-1	Once	Autumn/Spring	Establish species-rich sward
Neutral Grassland (Created)	Establishment cuts	1	2-3 times	Apr-Sept	Suppress weeds; promote tillering
Neutral Grassland (Created)	Weed control	1-3	As required	Growing season	Keep undesirable spp. <5%
Neutral Grassland (Created)	Annual hay cut	2-30	Annual	Jul-Sept	Maintain diversity; prevent enrichment
Neutral Grassland (Created)	Scrub/bramble control	1-30	Annual	Sept-Feb	Prevent scrub encroachment
Neutral Grassland (Created)	Invasive species checks	1-30	Quarterly	All year	Maintain 0% invasives
Neutral Grassland (Created)	Condition monitoring	1,2,5,10...30	Every 5 yrs	Apr-Sept	Check condition status
Calcareous Grassland (Enhanced)	Selective scrub reduction	1-3	Annual	Sept-Feb	Reduce shading
Calcareous Grassland (Enhanced)	Scarification	1-3	Annual	Autumn	Create niches for forbs
Calcareous Grassland (Enhanced)	Overseeding	1-3	As needed	Autumn/Spring	Enhance forb richness
Calcareous Grassland (Enhanced)	Annual cut	2-30	Annual	Aug-Sept	Maintain low fertility
Calcareous Grassland (Enhanced)	Coarse grass control	2-30	As required	Apr-Aug	Control cocksfoot/FOG
Calcareous Grassland (Enhanced)	Condition monitoring	1,2,5...30	Every 5 yrs	Apr-Sept	Check Good condition
Mixed Scrub (Enhanced)	Phased bramble reduction	1-10	Every 1-2 yrs	Sept-Feb	Reduce monoculture
Mixed Scrub (Enhanced)	Create scalloped edges & glades	1-10	Rotational	Sept-Feb	Maintain openness

Mixed Scrub (Enhanced)	Rotational cutting	3-30	Every 3-5 yrs	Sept-Feb	Maintain age diversity
Mixed Scrub (Enhanced)	Invasive species removal	1-30	Annual	All year	Maintain 0% invasives
Mixed Scrub (Enhanced)	Condition monitoring	1,2,5...30	Every 5 yrs	Apr-Sept	Check scrub structure
Retained Bramble Scrub	Maintain bramble structure	0-30	Annual	Sept-Feb	Keep structurally varied
Retained Bramble Scrub	Edge control	1-30	Annual	Sept-Feb	Prevent spread
Retained Bramble Scrub	Succession prevention	1-30	Annual	Sept-Feb	Remove saplings >2m
Retained Bramble Scrub	Monitoring	1,2,5...30	Every 5 yrs	Apr-Sept	Maintain baseline
Lowland Meadow (Retained)	Annual hay cut	0-30	Annual	Jul-Sept	Maintain meadow quality
Lowland Meadow (Retained)	Scrub seedling removal	1-30	Annual	Sept-Feb	Keep scrub <5%
Lowland Meadow (Retained)	Undesirable spp. control	1-30	As required	Apr-Aug	Keep <5% undesirable spp.
Lowland Meadow (Retained)	Monitoring	1,2,5...30	Every 5 yrs	Apr-Sept	Maintain baseline condition

Table 11 - Timetable of works

11. REMEDIATION AND REINSTATEMENT METHODOLOGY

11.1.1 In the event that any habitat or ecological feature specified within the Habitat Management and Management Plan (HMMP) fails to meet the required condition(s) at any time during the 30-year management period, the following remediation and reinstatement methodology will be implemented to ensure the habitat is restored to the target ecological value.

A. Habitat Management Risk Register

Risk	Likelihood	Impact	Description / Drivers	Mitigation / Control Measures	Monitoring / Trigger for Action
1. Failure of Grassland Establishment (Neutral & Calcareous)	Medium	High	Poor germination, drought, nutrient enrichment, or visitor trampling. Grassland must achieve Moderate/Good Condition to meet BNG uplift.	Pre-seed soil prep, removal of nutrient-rich spoil, appropriate seed mix, protective fencing/signage during establishment, early weed control.	Monthly checks Y1; Condition criteria (bare ground <10%, bracken <5%, undesirable species <5%).
2. Scrub Encroachment into Grassland (enhanced calcareous & neutral)	High	High	LEMP identifies scrub pressure and bramble dominance as a key site issue requiring ongoing management.	Annual cutting, selective removal of bramble, maintenance of scalloped edges and glades.	Annual scrub mapping; >5% scrub encroachment triggers intervention.
3. Re-dominance of Bramble in Scrub Enhancement Areas	High	Medium	Enhanced scrub must transition from bramble-dominant to mixed-scrub; risk of bramble regrowth is high. (BNG enhancement criteria)	Rotational cutting, root removal in glades, prevent mulch accumulation, maintain open structure.	Quarterly checks Y1-5; bramble >30% triggers cutting.
4. Invasive Non-Native Species Spread (cotoneaster, Japanese rose, knotweed, variegated)	High	High	LEMP notes several invasive species already present and a requirement for removal.	Identification & removal programme; herbicide or manual removal depending on species;	Quarterly walkovers; any detection triggers immediate removal.

Risk	Likelihood	Impact	Description / Drivers	Mitigation / Control Measures	Monitoring / Trigger for Action
yellow archangel)				biosecurity protocols.	
5. Nutrient Enrichment from Visitor Access (dogs, trampling, litter)	Medium	High	LEMP highlights risk of nutrient input and trampling along BOAT, paths and car parks.	Path surfacing, fencing, signage, dog-waste bins, grass arisings removal.	Monthly checks in summer; enrichment signs (nettles, docks, rank grasses).
6. Failure to Meet BNG Condition Criteria by Required Milestones	Low-Medium	High	Calcareous grassland must reach Good Condition within 10 years; scrub must reach Good ; neutral grassland must reach Moderate .	Strict adherence to cutting, overseeding, invasive control and scrub prevention; annual ecological audit.	Formal reviews at Y1, Y3, Y5, Y10; any Condition score drop triggers remediation.
7. Extreme Weather (drought, storms, salt spray events)	Medium	Medium	Exposure to coastal conditions; calcareous grassland and scrub edges sensitive to drought.	Drought contingency watering in Y1; erosion control; appropriate species mix.	Reactive monitoring post-weather events.
8. Damage to Habitats During Construction / Maintenance Work	Low	High	LEMP requires CEMP adherence and specific protection zones near sensitive habitats.	Protective fencing, toolbox talks, ECoW supervision, strict access routes.	ECoW weekly checks during active works.
9. Visitor Pressure / New Paths Causing Degradation	High	Medium	Enhanced paths risk drawing visitors into sensitive areas (LEMP reference).	Signage, fencing, vegetation buffers, seasonal restrictions if needed.	Visitor flow monitoring; erosion >10% triggers intervention.
10. Disturbance to SPA/SSSI Qualifying Species (birds, amphibians)	Medium	High	LEMP highlights proximity to sensitive receptors; risk of disturbance via trampling, noise.	Seasonal restrictions, signage, controlled access, no works in breeding season without supervision.	Annual breeding bird checks; evidence of disturbance triggers action.

Risk	Likelihood	Impact	Description / Drivers	Mitigation / Control Measures	Monitoring / Trigger for Action
11. Poor Soil Preparation or Retention of Rubble in Creation Areas	Medium	Medium	Neutral grassland is being created on ex-hardstanding surfaces (BNG).	Deep soil cultivation, rubble removal, low-nutrient soil import only if required.	Y1 establishment surveys; poor germination triggers re-prep and reseedling.
12. Public Safety Issues Linked to Scrub Clearance or Deadwood Retention	Low	Medium	LEMP requires retention of deadwood & scrub but only where safe.	Risk assessments; remove dangerous limbs; maintain safe sight-lines on paths.	Annual safety check.
13. Lack of Funding or Long-Term Management Resource	Low-Medium	High	HMMP requires 30-year management secured (BNG legal requirement).	Secure funding ring-fenced at HMMP approval; annual review of budgets.	Governance review annually; any shortfall triggers council notification.
14. Succession to Woodland in Calcareous Grassland	Medium	High	Without control, scrub and saplings will convert grassland, failing BNG uplift.	Annual sapling removal; maintain openness; selective thinning.	Encroachment >5% triggers immediate removal.
15. Failure to Remove Arisings After Cuts (nutrient loading)	Medium	High	BNG & LEMP emphasise low-nutrient systems; arisings cause enrichment.	Arisings removed from site; no mulching.	Spot checks after each cut.
16. Hibernacula / Reptile Habitat Damage	Low-Medium	High	LEMP includes reptile and amphibian mitigation requirements.	Mapping of features; no works in sensitive areas; ECoW supervision.	Annual habitat condition check.
17. Dog Off-Lead Disturbance / Faeces Nutrient Input	Medium	Medium	LEMP highlights visitor management as major ecological risk.	Encourage on-lead zones; increased bins; signage.	Regular visitor surveys.
18. Pollution or Run-off from Car Park / Paths	Low-Medium	High	Hard surfaces can cause run-off into sensitive grassland.	Permeable surfacing, swales, regular maintenance.	Quarterly inspections of drainage and swales.

Risk	Likelihood	Impact	Description / Drivers	Mitigation / Control Measures	Monitoring / Trigger for Action
19. Recreational Vehicles Using BOAT Damaging Edges	Medium	Medium-High	LEMP identifies BOAT disturbance risk.	Reinstatement, bollards, resurfacing, restricting access.	Annual BOAT condition check.
20. Failure of Scrub Retention Areas to Maintain Moderate Condition	Low-Medium	Medium	Retained scrub must not fall below baseline condition (BNG).	Rotational cutting, invasive control, protection from disturbance.	Annual condition assessment.

Table 12 - Risk Register

C. Seasonal and Timing Constraints

Activity	Timing Constraint	Reason
Grassland Creation & Seeding	Autumn (preferred) or Spring	Optimal germination, soil moisture
Scrub Reduction	Sept-Feb only	Avoid bird nesting season
Meadow Annual Cut	Jul-Sept	Allow seed set
Scarification/Overseeding (Calcareous Grassland)	Autumn or early Spring	Soil temperature and moisture optimum
Invasive Species Control	All year, except no spraying in drought or high wind	Herbicide efficacy & safety
Monitoring Surveys	Apr-Sept	Botanical condition assessment window
Tree/Shrub Planting	Nov-Mar	Dormant season
Bramble Control	Avoid Mar-Aug	Nesting season
Path/verge works	Avoid Apr-Aug	Prevent disturbance to fauna and flowering cycles

Table 13- Seasonal and Timing Constraints

D. Trigger for Remediation

11.1.2A failure to maintain the required condition will be identified through:

- Routine monitoring inspections.
- Reports submitted to the Local Planning Authority (LPA) every three years.
- Observations from site management personnel.

- Any unforeseen external factors that cause deterioration of habitat condition.

E. Notification Process

11.1.3 Upon identifying a failure or significant decline in habitat quality, the following steps will be undertaken:

- The Local Planning Authority (LPA) will be notified in writing within 10 working days of identifying the issue.
- A summary report will be submitted detailing the nature of the failure, affected habitat(s), and any immediate risks to biodiversity.

F Remediation Action Plan

11.1.4 A written Remediation Action Plan will be prepared and submitted to the LPA for approval. The plan will include:

- Description of the affected habitat(s).
- Baseline condition and target condition score.
- Cause of failure or degradation.
- Detailed remedial measures.
- Implementation schedule (within 3 months of LPA approval).
- Monitoring programme to assess the effectiveness of remediation.

G. Remedial Measures

11.1.5 Remedial measures will be tailored to the specific habitat type as follows:

H. Reinstatement Period

11.1.6 Following the completion of remedial works, a 12-month reinstatement period will be applied during which:

- Monthly inspections will be undertaken.
- Any failed planting will be replaced.
- Ongoing remedial measures will be applied as necessary.

I. Reporting and Approval

11.1.7 A Remediation Completion Report will be submitted to the LPA upon completion of remedial works. This report will include:

- Photographic evidence of reinstated habitats.

- Results of monitoring surveys.
- Confirmation that target condition(s) have been met.
- Details of any ongoing management requirements.

J. Ongoing Monitoring

11.1.8 Following reinstatement, the habitat will continue to be monitored in years 1, 2, 5 and every five years thereafter as part of the HMMP, with additional inspections carried out during the first 12 months post-reinstatement to confirm successful recovery.

11.1.9 This methodology ensures that all habitats are managed and maintained to their specified ecological value, contributing to the long-term biodiversity objectives of the HMMP.

12. MANAGEMENT DEVIATIONS, APPROVAL PATHWAY AND NOTIFICATION REQUIREMENTS

Purpose of This Section

12.1.1 This section sets out the procedure for approving any deviation from the habitat creation, enhancement, or management methods described in this Habitat Management and Monitoring Plan (HMMP).

12.1.2 It provides a clear decision-making pathway, documentation requirements, and notification triggers for the Local Planning Authority (LPA) and Natural England.

- These requirements ensure that any adaptation or change remains compliant with:
- the Habitats created or enhanced under the HMMP
- the Biodiversity Gain Site Register Regulations 2024
- the Statutory Biodiversity Metric
- associated planning conditions and/or conservation covenants

When a Deviation May Be Required

12.1.3 Deviations from approved habitat creation or enhancement methods may be necessary when:

- Establishment fails or is partial
- Unexpected ground conditions or contamination occur
- Weather or environmental factors prevent planned actions
- Invasive species issues escalate
- Materials, seed mixes or plants become unavailable
- Ecological succession progresses differently than anticipated
- Any deviation—however small—must follow the process below.

Approval Pathway for Deviations

Step 1 — Identification

- The contractor, site manager, or monitoring ecologist identifies that the approved method cannot be implemented as written.

Step 2 — Immediate Consultation with the Suitably Qualified Ecologist (SQE)

- The SQE assesses whether the deviation is:
- Minor - does not affect delivery of habitat condition / biodiversity units
- Material - may affect condition, timing, distinctiveness, or BNG outcomes

Step 3 — Deviation Report (Prepared by SQE)

- A written Deviation Report will be prepared, including:
- Description of the original method
- Justification for change
- Robust ecological rationale
- Any risks to biodiversity outcomes
- Confirmation of compliance with “must meet” criteria
- Updated prescriptions or work instructions
- Maps, photographs or GPS files where relevant

Step 4 — Governance Review and Approval

- The landowner or responsible governance lead must:
- Review the Deviation Report
- Confirm acceptance in writing
- Ensure funding and contractors are aligned
- No material deviation may proceed without written approval.

Step 5 — Record-Keeping

12.1.4 All deviations must be:

- Entered into the HMMP Change Control Register
- Retained for 30 years
- Appended to the next monitoring report submitted to the LPA

When the Local Planning Authority Must Be Notified

12.1.5 The LPA must be notified when a deviation:

- Affects the ability of a habitat to meet its target condition
- Alters a must-meet condition assessment criterion
- Changes the method by which a habitat is created or enhanced
- Risks delaying achievement of target condition within the modelled timeframe
- Affects the delivery of biodiversity units secured by planning condition or S106/Conservation Covenant
- Notification must occur within 28 days of the SQE determining that the deviation is material.

When Natural England Must Be Notified

12.1.6 Natural England must be notified if:

- The site is entered on the Biodiversity Gain Site Register, and
- The deviation may affect creation, enhancement, or maintenance of registered biodiversity units.
- Triggers include:
 - Failure or risk of failure to reach target condition
 - Requirement to substantially alter creation or enhancement methods
 - Habitat failure affecting >25% of any parcel
 - Need to revise the HMMP or work programme
 - Changes affecting distinctiveness, risk or delivery timescales
- NE is notified after the LPA unless the situation is an environmental emergency.

Timescales

- SQE assessment: within 7 days of issue identification
- Governance review: within 14 days
- LPA notification (if required): within 28 days
- NE notification: immediately upon LPA acceptance or no objection
- Emergency works may proceed immediately for health/safety reasons but must be reported retrospectively under this procedure.

Implementation Rules

- No material deviation can be implemented until approved in writing.
- Deviations must continue to deliver the same distinctiveness, condition, and biodiversity unit value as the original HMMP.
- All modifications become part of the HMMP and must be reflected in subsequent monitoring and reporting cycles.

13. RECORD-KEEPING PROTOCOL

13.1.1 To comply with NE expectations for long-term oversight:

- All management, monitoring and remedial actions will be recorded annually in an HMMP Log.
- Records will include:
 - Monitoring results
 - Works undertaken
 - Dates, contractors, weather
 - Photographs and fixed-point locations
 - Remedial actions
- Records will be held for 30 years by the landowner or responsible organisation.
- Records will be made available to the Local Planning Authority, Natural England, or other statutory bodies on request.
- A summary report will be prepared every 5 years and submitted to the LPA.

13.1.2 A Suitably Qualified Ecologist (SQE) must certify completion of:

- Habitat creation works,
- Enhancement works,
- Invasive species clearance,
- Pre-management establishment

14. FIXED-POINT MONITORING LOCATIONS

14.1.1 Each habitat parcel will have at least two fixed-point monitoring locations, recorded by:

- GPS coordinates (WGS84)
- Compass bearing
- Photographic record
- Reference code linked to the monitoring table

15. HABITAT-SPECIFIC REMEDIAL ACTIONS

Neutral Grassland (Created)

- Reseed bare or poorly establishing areas.
- Increase cutting frequency to suppress coarse species.
- Temporary fencing if trampling detected.
- Invasive species: immediate removal.

Calcareous Grassland (Enhanced)

- Repeat scarification and overseeding if forbs fail.
- Targeted removal of coarse grasses.
- Remove scrub/saplings restoring open structure.

Mixed Scrub (Enhanced)

- If bramble exceeds 30%, undertake rotational cutting.
- Reopen glades if shading increases.

Retained Bramble Scrub

- Reduce canopy density if >80%.
- Prevent further spread into grasslands.

Lowland Meadow

- Reseed areas lacking meadow species.
- Increase arisings removal, adjust cut timing.

16. GOVERNANCE FRAMEWORK

- Annual management works will be carried out by the landowner/appointed contractor.
- Ecologist will carry out monitoring surveys in reporting years.
- Reports will be submitted to the LPA in years 1, 2, 5 and every five years thereafter.
- Adaptive management decisions will be agreed between the landowner, consultant, and LPA.

17. GOVERNANCE & ESCALATION PROCEDURE

Responsible Organisations

- **Landowner / Site Manager:** Overall responsibility for implementing the HMMP.
- **Ecological Clerk of Works (ECoW):** Monitors condition, oversees contractors.
- **Contractors:** Deliver habitat works exactly as specified.

Escalation Chain

1. Contractor identifies issue → reports to Site Manager within 48 hours.
2. Site Manager consults the ECoW.
3. ECoW determines if condition failure is occurring.
4. If condition thresholds are breached → Remedial Action Plan activated.
5. If failure cannot be corrected within set timescales → LPA notified.
6. Continued failure → escalation to Natural England.

Decision-Making Authority

- The SQE (ecologist) has authority to direct habitat works to ensure compliance with the biodiversity metric and planning obligations.

18. FUNDING & SECURITY

Funding & Security Mechanism

- The habitat creation, enhancement, and 30-year management will be funded through either a Section 106 agreement and planning condition compliance budget.
- The landowner commits to ensuring funds are available annually to cover management costs.
- The agreement ensures long-term delivery of biodiversity net gain and compliance with the Environment Act (2021).

19. POST DEVELOPMENT HABITAT MAPS

IRON LINE

- Assessment Site
- Artificial unvegetated unsealed surface
- Bramble scrub
- Developed land; sealed surface
- Lowland calcareous grassland
- Lowland meadows
- Mixed scrub
- Other green roof
- Other neutral grassland

Title: Figure A2

Drawn by: LT
Date: 01/07/2025

Reviewed by: HB
Date: 01/07/2025

Project number: 553023
Sources: Google Satellite and OpenStreetMap



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