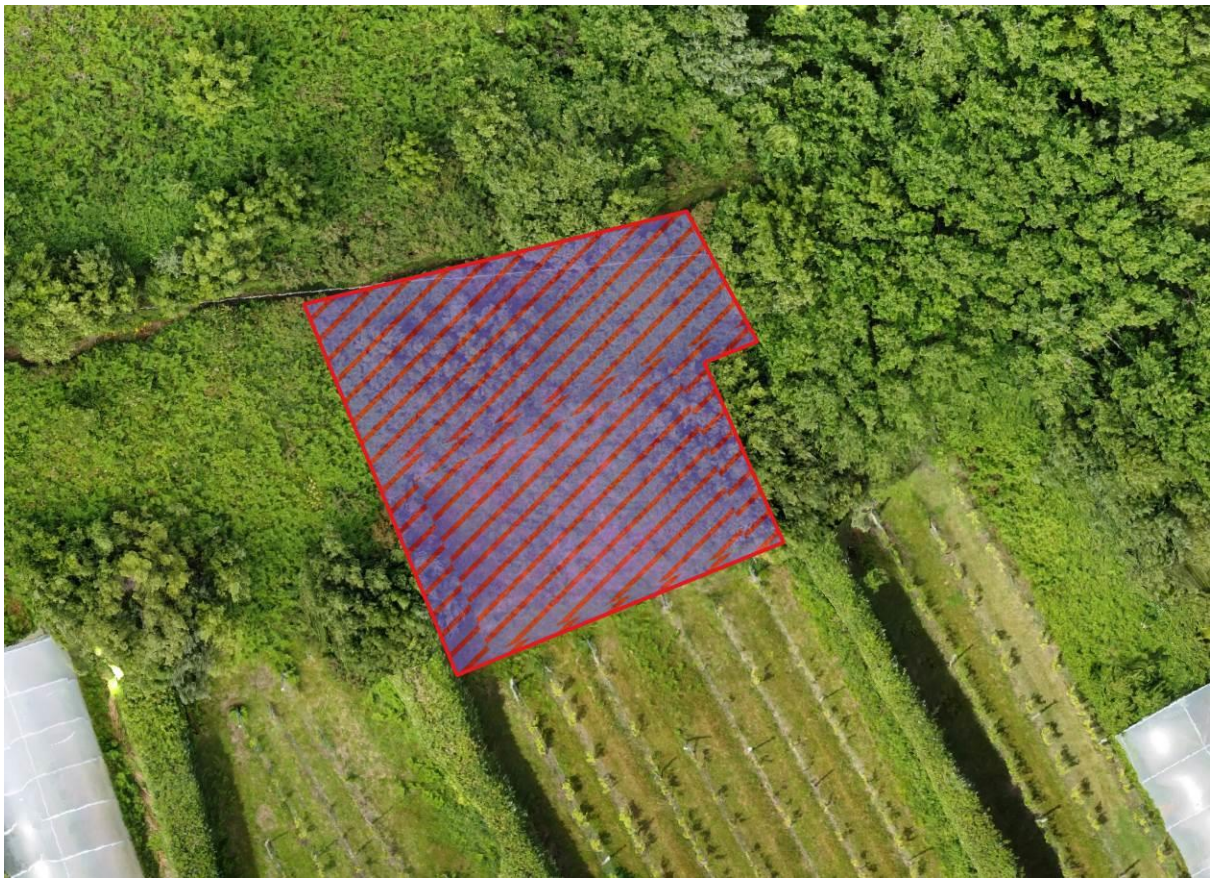


ECOLOGICAL ASSESSMENT, BIODIVERSITY NET GAIN ASSESSMENT and ENHANCEMENT STRATEGY

STAFF DWELLING, ST MARTIN'S VINEYARD, HIGHER TOWN



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1. Introduction

1.1. Overview

An ecological assessment of the proposed location of the staff dwelling at St Martin's Vineyard was conducted with regards to habitats and protected species. This assessment was used to inform a Biodiversity Net Gain (BNG) assessment using the Small Site Metric (SSM).

The purpose of this report is to characterise the baseline habitats present on site; identify opportunities for enhancement; and outline a Management Strategy to achieve the enhancements targeted.

1.2. Site Description

The site is approximately 0.0454 hectares (ha) in size and is identified in Map 01 below. The central grid reference of the site is SV 93351 15527.



Map 01 – Showing the redline boundary of the survey site. The area to be developed is an area of bramble scrub at the apex of the redline shown. ‘Other Neutral Grassland’ associated with the existing track and field margin occupies the access arm of the site to the south of the main development location.

2. Methods

2.1. Vegetation and Habitat Assessment

An assessment was made of all areas of vegetation within the site and those habitats immediately bounding the site where this was pertinent to the development of appropriate enhancement opportunities.

This involved a walkover survey to identify broad vegetation types, which were then classified against the UKHabs¹ classification.

A list of characteristic plant species for each vegetation type was compiled and any invasive species encountered were noted.

2.2. Approach to BNG

The assessment has been undertaken in accordance with the BNG principles outlined in The Statutory Biodiversity Metric User Guide (November 2023)².

The metric used in the assessment is the Small Sites Metric Release Date: February 2024.

The UK Habitat Classification Version 2³ was used to aid in the classification of habitats within the site.

2.3. Technical Competence and Experience

The surveys which support this assessment, as well as the BNG assessment itself, were undertaken by James Faulconbridge MRes MCIEEM trading as IOS Ecology.

James is a full member of the Chartered Institute of Ecology and Environmental Management (CIEEM); he is a Licensed Bat Worker (Class Licence Level 2) and has over 14 years' experience undertaking a range of ecological surveys and assessing the factors that affect ecology in relation to construction and the built environment.

2.4. Limitations

No limitations pertinent to the assessment of existing habitats or enhancement opportunities were noted.

¹ UKHab Ltd (2023). UK Habitat Classification Version 2.0

²

https://assets.publishing.service.gov.uk/media/65673fee750074000d1dee31/The_Statutory_Biodiversity_Metric_-_Draft_User_Guide.pdf

³ UKHab Ltd (2023). UK Habitat Classification Version 2.0

3. Designated Sites and Priority Habitats

3.1. Designated Sites

The following Designated Sites are identified within 500m of the proposed development:

- **Isles of Scilly SAC Complex** – Encompassing the coastline around St Martin’s and situated 220m to the south at its closest point, the SAC is designated for its nationally important numbers of Grey Seal and the nationally rare Shore Duck. Annex 1 habitats that are the primary reason for site selection include mudflats; inter-tidal sandflats; reefs and sub-tidal sandbanks.
- **Isles of Scilly SPA Complex** – Encompassing the coastline around St Martin’s and situated 220m to the south at its closest point, the SPA is designated for its internationally important seabird assemblage of 13 species including internationally important numbers of lesser black-backed gull and nationally important numbers of European storm petrel and European shag.
- **Chapel Down SSSI** – situated 440m to the north-east, Chapel Down is an exposed headland. The underlying Hercynian granite forms steep cliffs to the north and east with a 30–35 metre high plateau inland, covered in thin podzolic soils. The exposure to severe winds and salt spray has led to the development of distinctive ‘waved’ maritime heathland.

The proximity of these sites to the application site flag a ‘consider using main metric tool’ warning; however no direct or indirect impacts arising from the proposed development are identified and therefore the SSM is considered appropriate.

3.2. Priority Habitats

The following Priority Habitats are identified within 500m of the proposed development:

- **Lowland Heath Priority Habitat** – this is located particularly to the northern and eastern edges of St Martin’s as well as a spurious designation along the foreshore of Par Beach which is best interpreted as a mapping error following reliance on aerial of LIDAR photography.

These habitats would not be directly or indirectly impacted by the proposals due to geographic; functional and ecological separation from the application site itself.

4. Protected Species

4.1. Bats

The site itself does not offer any suitable features for use by roosting bats – there are no trees, buildings or areas of exposed rock which would be directly or indirectly impacted.

The vineyard is used by foraging Common Pipistrelle on a regular basis with occasional records of Leisler and Nathusius' Pipistrelle bats at frequencies consistent with their transient presence as identified by the Isles of Scilly Big Bat Survey.

The change in land use is considered de minimis in terms of impacts on potential foraging habitat and the potential for enhanced habitats post-development would offset any impacts.

4.2. Nesting Birds

The bramble scrub provides nesting habitat for a range of small bird species.

All clearance works involved with the development itself and for enhancement of the scrub habitat would be undertaken outside of the nesting period to secure avoidance of impacts to ensure legislative compliance. This avoidance is built into the timings outlined in Table 01 and Table 02 to undertake clearance and enhancement works on the site.

4.3. Other Protected Species

St Martin's does not support many of the terrestrial protected species found in mainland UK including great crested newts; badgers; reptiles; dormouse; otter or watervole. These species do not therefore require further consideration.

4.4. Other Species

There is the potential for the habitat to support small mammals including the white toothed shrew.

Initial scrub clearance works would be undertaken manually to remove woody vegetation to ground level. This would cause disturbance which would encourage any small mammals to leave the area; and the timing of works would avoid key breeding periods when there may be dependent young in burrows.

More intrusive ground works to dig footings would be undertaken after the exposed location has been left for a period of at least 48 hours and it can be considered likely that small mammals would have left the area. Such works would subsequently be carried out with care and vigilance to the potential presence of small mammals and works paused or adapted to allow their safe evacuation prior to proceeding.

5. Existing Habitats

5.1. Overview

The site proposed for development is dominated by bramble scrub as described in 5.2 below.

The proposed access track to the south is included in order to comply with Planning Requirements – this area contains Other Neutral Grassland and is described in 5.3 below.

5.2. Bramble Scrub - Habitat Description

The site has developed following the cessation of historical bulb farming on the hillside over 25 years ago. This is evidenced by linear plantings of bulbs which appear in areas where land on the hillside is cleared of scrub, for example for paths, where light penetration through the bramble allows the otherwise dormant bulbs to appear. It is also confirmed through conversations with the previous owners of the vineyard whose family have managed the site for over a century.

The habitat description applies to the majority of the hillside on which the site is situated; throughout the wider extend there are varying degrees of gorse (*Ulex europaeus*) which would in places make a Gorse Scrub identification more accurate; however the constant dominance of bramble (*Rubus fruticosus*) throughout the survey site would indicate the selected designation in this location.

Bramble dominates the survey site; with areas of gorse as well as individual non-native karo (*Pittosporum crassifolium*) which has generated as self-set shrubs from seed sources associated with the evergreen hedgerows which are a characteristic of the local agricultural landscape.

Other climbing species including honeysuckle (*Lonicera periclymenum*) and dogrose (*Rosa canina*) are also present.

Bracken (*Pteridium aquilifolium*) is a co-dominant species within the scrub.

Towards the peripheries of the scrub, species such as foxglove (*Digitalis purpurea*), red campion (*Silene dioica*) and common nettle (*Urtica dioica*) occur along with cleavers (*Galium aparine*).

The habitat is unmanaged at present and reaches a typical height of approximately 2m.

The area of the immediate building footprint itself was cut to ground level using hand tools in winter 2023/4 in order to access the site and assess potential feasibility to undertake the construction works in this location. The ecological assessment of the area was undertaken prior to this action, and no works

affecting the ground have been completed ensuring that the habitat would revert in the absence of further action. The assessment presented in this report refers to the state of the entire habitat prior to the recent above-ground clearance in order to accurately represent the proposed impacts of the proposals.

5.3. Modified Grassland - Habitat Description

The access track within the redline boundary comprises two distinct areas.

The lower portion of the track is the existing track and short-mown grassland which is used to access the vineyard and fields at present. The upper portion is existing permanent pasture beneath a line of vines which would be removed as part of the proposals whilst retaining the grassland. Both of these distinct land uses are categorised as Other Neutral Grassland as the permanent pasture beneath the vines represents the more ecologically valuable feature rather than characterising this via the “Non-cereal crops c1d” classification.

The grassland sward comprises a range of typical grassland species including sweet vernal grass (*Anthoxanthum odoratum*), perennial rye grass (*Lolium perenne*), fescue (*Festuca sp.*) derived from historic seeding with an agricultural cultivar; common bent (*Agrostis capillaris*), Yorkshire fog (*Holcus lanatus*) and cock’s foot (*Dactylis glomerata*) with herbaceous species including abundant ribwort plantain (*Plantago lanceolata*), dove’s foot cranesbill (*Geranium molle*), sticky mouse-ear (*Cerastium glomerata*), white clover (*Trifolium repens*) and cat’s ear (*Hypochaeris radicata*).

6. Impact Assessment & Enhancement Opportunities

6.1. Development Impacts

The project involves the siting of the staff dwelling with an associated deck to the front of the building. This would necessitate conversion of the footprint to Developed Land: Sealed Surface.

The area immediately surrounding the building would be maintained as grassland in order to avoid encroachment of scrub; and to provide necessary access for repairs and maintenance of the building. This is identified in the SSM as an enhancement over the existing bramble scrub but is included as a development impact due to its primarily functional purpose.

No change to the habitats associated with the access track route is proposed, aside from the removal of an existing line of vines which are an agricultural crop. The land would be retained as grassland - much of the area is already used for access to the vineyard or individual fields and the sandy, free-draining soils coupled with the nature of the vehicle means that access year-round is unrestricted on grass. For the avoidance of doubt, no hardstanding or sealed surface is proposed over these areas. The staff vehicle – an electric golf cart – will continue to be situated in the existing barn just inside the vineyard gate. Use of the access track will be restricted to routine pedestrian access; occasional deliveries (with the low-impact golf cart) and emergency access. For this reason, retention of the Other Neutral Grassland is indicated in the BNG calculations and no further consideration is given to this habitat.

6.2. Enhancement Proposals

An additional area of bramble scrub is included in the redline in order to provide an area for additional enhancement and secure a biodiversity net gain.

The limitations of the BNG system do not permit condition enhancement for Bramble Scrub (as no condition assessment is developed); therefore the selected enhancement is conversion to a scrub habitat of higher distinctiveness – in this case 'Mixed Scrub'.

6.3. Confidence and Risks

The identified enhancements can be undertaken with a high degree of confidence provided management is maintained.

6.3.1. Creation of Modified Grassland

The grassland habitats to be created around the building would be managed in accordance with similar areas of wildflower or other grassland on the vineyard which are not subject to viticultural constraints. This habitat would not be fertilized or otherwise agriculturally improved and experience from other areas of the site where bramble scrub has been cut back to create paths or access

demonstrate the spontaneous development of a diverse sward from the residual seed bank.

Control of bracken and scrub encroachment could be managed through scything or strimming where required and the alignment with functional requirements for access would ensure this is maintained with confidence.

The existing diversity of species on the grasslands within the vineyard would ensure that a suitably diverse sward would develop under appropriate management and this could be supplemented through over-sowing if required.

Establishment and maintenance of the habitat in a Moderate or Good condition could therefore be targeted with confidence.

6.3.2. Conversion from Bramble Scrub to Mixed Scrub

Trials of several native shrub species have been undertaken in similar habitats on the vineyard in 2021 and 2022 in order to understand the performance and establishment of these species in a coastal location which is subject to winter storms and exposure to the elements. These have proved successful establishment of a number of suitable species which provide confidence that they can be similarly established on the site under consideration.

The applicant undertakes a wide range of management on the site at present, much of it targeted towards ecological enhancement and maintenance of higher value habitats including secondary woodland, grassland and scrub. There is minimal cost involved with the prescribed management following planting of whips as this can be incorporated into the wider vineyard management programme.

The BNG is predicated on a change in distinctiveness rather than condition; therefore the enhancement is reliant upon successful establishment and maintenance of a more diverse scrub community rather than relying on more nuanced and site-specific ecological interactions and responses which might affect confidence in a condition-based enhancement.

6.4. BNG Credits

The proposed development and ecological enhancement works undertaken together would represent **+0.0256 BNG Area Credits**. This represents a **10.5% Biodiversity Net Gain** arising from the project.

No linear or watercourse habitats are present within the site under consideration.

7. Enhancement Strategy

7.1. Modified Grassland

7.1.1. Initial Intervention

The works to construct the dwelling would necessitate the clearance of existing bramble scrub within the footprint of the dwelling itself as well as around the immediate perimeter to provide construction space. This is the area which will subsequently become the Modified Grassland habitat following the completion of construction.

All removal of bramble scrub will take place outside of the bird nesting season in order to ensure legislative compliance with regards to these species.

7.1.2. Establishment

The vineyard has recorded 132 species of wild plant at the time of writing including a large number of species which thrive in grassland – the vineyard itself is dominated by permanent pasture beneath the vines which is managed by mechanical mowing only without the use of chemicals such as herbicides.

Previous clearance works within the bramble scrub have determined that a grassland sward can generate from the remnant seed bed or from surrounding swards with a high degree of confidence. No over-sowing or import of offsite seed sources are therefore proposed in order to ensure that the arising sward is of native and locally specific species.

7.1.3. Management Prescription

The successful establishment of the habitat would be contingent on appropriate management to permit the sward to develop into a modified grassland habitat; to prevent the return of scrub habitat; and to avoid the domination of ruderal species which would outcompete a more diverse sward.

The management prescription outlined in Table 01 below would ensure initial establishment and subsequent maintenance of conditions to encourage and ensure the development of the sward.

Table 01: Grassland Management Activities

OPERATION	YEARS	J	F	M	A	M	J	J	A	S	O	N	D	COMMENT
General Review of Grassland Areas	2 to 30									X				The establishment of the grassland would be monitored against the Habitat Description and Condition Assessment (Moderate) within the BNG framework.
Removal of Scrub											X	X	X	Undertaken within the footprint of the dwelling/decking and the areas required for construction which will become grassland following the completion of the project
Weed Control	2 to 30				X	X		X	X					Hand-weeding as appropriate to manage injurious and undesirable weeds.
Initial Grass Cuts	1					X				X				Rake off & remove clippings to compost.
Routine Grass Cuts	2 to 30			X						X				Rake off & remove clippings to compost. Sept cut to be undertaken after flowering.

7.1.4. Monitoring

The establishment of the grassland would be monitored annually against the Habitat Description and Condition Assessment (Moderate) within the BNG framework in order to identify current status and any management actions or modifications required to ensure the sward is developing correctly.

7.2. Other Scrub

7.2.1. Initial Intervention

The works to increase the distinctiveness of the scrub habitat would be based upon planting a number of additional shrub species within the existing bramble scrub.

The initial intervention would involve strimming paths through the vegetation to create pockets where the new shrubs would be planted, leaving bramble scrub in the interim spaces. This technique has been successfully trialed elsewhere on the vineyard and has secured an excellent establishment success using the existing species-poor scrub as protection from the winter/spring storms to allow the new whips to develop and establish. This has the added benefit of retaining the baseline habitat whilst allowing its transition to a more diverse sward.

The necessity for planting whips, rather than allowing a natural regeneration, is based on the relative paucity of suitable scrub seed sources on the island – the

species selected are present on the island already and therefore do not represent a novel introduction; but their abundance is low.

Approximately 15 whips would be planted of the following species:

- 5x Hawthorn (*Crataegus monogyna*)
- 5x Elder (*Sambucus nigra*)
- 5x Hazel (*Corylus avellana*)

All shrubs would be sourced from an appropriate UK supplier grown from native stock and be bare root plants between 60-80cm tall.

All removal of existing bramble scrub will take place outside of the bird nesting season in order to ensure legislative compliance with regards to this species.

7.2.2. Establishment

Following planting during the dormant period, the whips would be monitored during the first year and provided with supplemental watering where required depending on environmental conditions.

Any encroaching scrub would be managed with a brushcutter or similar during the first three winters to ensure that the growing space for the new shrubs is clear of woody vegetation. This would be completed outside of the bird nesting season.

Hand-management of surrounding vegetation, especially bracken, would be undertaken through the summer season for the first 3 years as required to prevent over-shading by fast-growing species and promote establishment. This would be undertaken with due care and attention, using non-powered hand tools, to ensure that no nesting birds are affected by the works.

7.2.3. Management Prescription

The successful establishment of the habitat would be contingent on allowing the new shrubs to establish to a size where they can flourish without further intervention. A target time of 3x years is identified but this would be modified and extended if required based on the annual monitoring programme.

The management prescription outlined in Table 02 below would ensure initial establishment and subsequent maintenance of conditions to encourage and ensure the development of the diverse scrub habitat.

Table 01: Scrub Management Activities

OPERATION	YEARS	J	F	M	A	M	J	J	A	S	O	N	D	COMMENT
General Review of Scrub Areas	1 to 30									X				The establishment of the more diverse Mixed Scrub habitat would be monitored against the Habitat Description a within the BNG framework.
Initial Clearance of Paths and Glades	1										X	X	X	In order to provide initial space for planting of new whips
Planting of New Whips	1	X												
Watering	2-3				X	X	X	X	X					As required
Replacement of Dead Whips	2 - 5	X												As required if individual whips die or fail to establish
Scrub Management	2 to 4	X												Removal of encroaching woody vegetation using brushcutter or similar to maintain growing space
Over-shading Control	2 to 4				X	X	X	X	X					Monitoring and removal of overshadowing vegetation including bracken using hand tools during the summer season

7.2.4. Monitoring

The establishment of the scrub would be monitored annually against the Habitat Description within the BNG framework in order to identify current status and any management actions or modifications required to ensure the sward is developing correctly.

Figure 01 – Existing Habitats



Figure 02 – Proposed Habitats

