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Biodiversity Impact Calculation

Site Name

Danefold Farm

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Client

Danefold farm

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02	Joshua Harwood BSc (Hons), ACIEEM	N/A	28.10.25	N/A	Updated planting plan, schedule and specification.

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About the Author

This report has been prepared by Joshua Harwood, a Project Ecologist at The Ecology Co-op, with 8 years experience. As a member of the Chartered Institute for Ecology and Environmental Management (CIEEM), he is bound by their code of professional conduct.

About the Reviewer

This report has been reviewed by Emma Baker, who is a Senior ecologist with eight years experience. She holds Level 1 great crested newt and hazel dormouse survey licenses. As a Full member of the Chartered Institute for Ecology and Environmental Management (CIEEM), she is bound by their code of professional conduct.



Report Summary

Purpose	The Ecology Co-operation was commissioned by Danefold farms to undertake a Biodiversity Impact Calculation of a proposal to create a slurry lagoon with associated bunkers for land at Danefold farm, using the Statutory Biodiversity Metric, to quantify net change in biodiversity.
Summary of Losses and Gains	The proposed development scheme at this site will result in the loss of: On-site - Modified grassland, poor condition (0.94ha). The proposed development scheme at this site will enhance: On-site - Modified Grassland (0.782ha) poor condition to other neutral grassland moderate condition: Post intervention the following habitats will be created: On-site - Developed land sealed surface (0.90ha) - condition N/A other - Mixed scrub (0.316ha) – poor condition - Other neutral grassland (0.079ha) – moderate condition
Final Metric Results	The Statutory Biodiversity Metric calculation has demonstrated that the proposed scheme will results in a likely net gain of 2.35 habitat units (+45.18%) The current scheme does satisfy the trading rules within the Statutory Biodiversity Metric and achieves over a 10% net gain.



CONTENTS PAGE

1 INTRODUCTION.....	1
1.1 Purpose of the Report	1
1.2 Background	1
1.3 Summary of Previous Survey Work	4
1.4 Policy and Legislation	4
1.5 Methodology	5
1.6 Data Sources.....	6
1.7 Results.....	6
1.7.1 Existing Habitats Assessment	6
1.7.2 Habitat Losses and Gains	7
1.8 Conclusions.....	8
APPENDIX 1 – Habitat Condition Assessment Sheets	10



1 INTRODUCTION

1.1 Purpose of the Report

Since the 12th February 2024, there has been a mandatory requirement for all new developments to demonstrate 'net gains' in biodiversity following the release of updated National Planning Policy Framework¹ by the Department of Housing, Communities and Local Government and the Environment Act 2021². A mandatory value of 10% net gain in biodiversity value for all developments (that do not meet exemption criteria) is required under the Environment Act 2021.

This document includes a baseline 'Biodiversity Impact Calculation' (BIC) for the proposed development at Danefold Farm. The calculation utilises the Statutory Biodiversity Metric and assigns 'biodiversity units' to the pre-existing habitats contained within a proposed development site and those that are predicted to be lost, restored and/or created once the development has been constructed. This allows an objective comparison to be made between the existing biodiversity value of a given site and the predicted biodiversity value post development, with the net change in biodiversity value subsequently quantified.

The purpose of this document is to present the findings of the BIC based on the most up-to date existing habitat survey information and the most current outline plans for the proposed development of the site. Biodiversity Impact Calculations provide an evidence base for discussions between the ecological consultant, developer and the local planning authority regarding on-site avoidance, on-site mitigation and off-site compensation requirements.

This report will be used in relation to a proposal for the creation of a slurry lagoon with associated bunker features. Given the likelihood of proposed changes in the design scheme, some of the recommendations will potentially be subject to change. The results of the BIC are deemed accurate for the most recent layout plan.

This report was commissioned and produced at the request of Danefold farms.

1.2 Background

The site measures 2.43ha in area and comprises parcels of modified grassland.

The site was subject to a Preliminary Ecological Assessment (PEA) by the Ecology Co-op³ in April 2025.

Habitats (UKHAB) within the site and along the site boundaries are shown in Figure 1.

¹ HM Government (2024). National Planning Policy Framework. Department for Housing, Communities and Local Government. Available online at: https://assets.publishing.service.gov.uk/media/65a11af7e8f5ec000f1f8c46/NPPF_December_2024.pdf

² HM Government (2021). Environment Act 2021 Available online at: <https://www.legislation.gov.uk/ukpga/2021/30/contents/enacted>

³ The Ecology Co-op (2025). P10278- Danefold Farm Preliminary Ecological Appraisal.



Figure 1. UKHAB map showing existing habitats within the site. The site boundary is indicated with a red line. Produced using QGIS software, 3.36.3-Maidenhead.





Figure 3. UKHAB map showing proposed habitats within the site. Produced using QGIS software, 3.40.5-Bratislava.

1.3 Summary of Previous Survey Work

A Preliminary Ecological Appraisal, completed by The Ecology Co-op in June 2025 identified the presence of Great crested *newts* *Triturus cristatus* in ponds within 250m of the site.

1.4 Policy and Legislation

NPPF (2024)

The NPPF sets out the Government's view on how planners should balance nature conservation with development and helps ensure that Government meets its biodiversity commitments with regards to the operation of the planning system.

Paragraph 187d, states that planning policies and decisions should contribute to and enhance the local environment by:

- “*minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures.*”

Paragraph 192b, states that to protect and enhance biodiversity and geodiversity, plans should;

- “*promote the conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species; and identify and pursue opportunities for securing measurable net gains for biodiversity.*”



Paragraph 193d, states that when determining planning applications, authorities should apply the following principle:

- *“development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to improve biodiversity in and around developments should be integrated as part of their design, especially where this can secure measurable net gains for biodiversity or enhance public access to nature where this is appropriate.”*

Environment Act (2021)

The Environment Act sets a target of halting the decline in species through the inclusion of a legally binding 2030 species abundance target. Aiming to restore natural habitats and enhance biodiversity, the Act requires new developments to improve or create habitats for nature (through mechanisms such as mandatory Biodiversity Net Gain), and tackle deforestation. Going forwards, UK businesses will need to look closely at their supply chains as amongst other measures they will be prohibited from using commodities associated with wide-scale deforestation. Woodland protection measures are also strengthened through the Act.

Local Policy

Policy 25 (Strategic Policy: The Natural Environment and Landscape Character) of the current District Planning Policy Framework from Horsham District Council⁴ notes that it will support development proposals which:

“Maintains and enhances the existing network of geological sites and biodiversity, including safeguarding existing designated sites and species, and ensures no net loss of wider biodiversity and provides net gains in biodiversity where possible”.

1.5 Methodology

This Biodiversity Impact Calculation uses the Statutory Biodiversity Metric calculation tool published by Natural England⁵. This is used to calculate ‘habitat units’ and ‘hedgerow units’ by multiplying the area (ha) or lengths (km), ‘distinctiveness’ (habitat type), ‘condition’ (quality), and strategic significance (location in relation to the authority’s local strategy) of each habitat parcel.

The calculation provides a negative value to the biodiversity units where habitat is being directly lost to development. Where habitats are enhanced or created on-site, or off-site, the calculation gives a positive value but adds risk factors that account for uncertainty - difficulty in creating new habitats and time delays while they establish; habitats that are more difficult to restore or that will take a long time to reach a set target condition will score lower and therefore make a smaller positive contribution.

Where on-site gains are equal to or larger than the losses, the project is deemed to have neutral biodiversity impact or biodiversity ‘net gain’ respectively.

Where on-site gains do not outweigh on-site losses and a biodiversity ‘net loss’ is calculated, this becomes an ‘offset requirement’. Offsets can be provided by further habitat creation or enhancement in-situ or elsewhere and are assessed using the same metric to balance the predicted gains against the losses to ensure no net loss will

⁴ Horsham District Council (2015) Horsham District Planning Framework (excluding South Downs National Park). Available online at: https://www.horsham.gov.uk/data/assets/pdf_file/0016/60190/Horsham-District-Planning-Framework-November-2015.pdf

⁵ Natural England (2023) *The Statutory Biodiversity Metric – Calculation Tool*. Available online at: <https://www.gov.uk/government/publications/statutory-biodiversity-metric-tools-and-guides>



be achieved. It follows that a biodiversity net gain can still be achieved by providing higher biodiversity gains through the offset than the net loss resulting from the development.

Note that the metric does not allow for ‘trading down’; one of the key principles in measuring biodiversity net losses or gains is that habitats of high ecological importance cannot be offset by the creation of larger areas of habitats with lower value. The Statutory Biodiversity Metric calculation tool includes a ‘trading down correction’ that deducts the number of biodiversity units that are not accounted for through the creation of equivalent high distinctive habitats than that lost. For example, the loss of a small area of lowland meadow priority habitat (high distinctiveness) will not be offset by a larger area of modified grassland (medium distinctiveness) and will only be offset by an equivalent area of habitat of the same distinctiveness or higher.

1.6 Data Sources

This calculation uses the most up to date survey information, using botanical data gathered during the site visit on the 8th April 2025 and specific condition assessments which were undertaken on the same date. The areas of each habitat category were measured using GIS mapping tools (QGIS). Condition assessments were made in accordance with the Statutory Biodiversity Metric condition assessments document⁶ and the Statutory Biodiversity Metric: draft user guide⁷. Applying the precautionary principle, a presumption for the higher condition was used where there was any uncertainty in the condition of existing habitats.

To predict habitat/hedgerow units supported after by the site after completion of the development, the aerial imagery was overlaid by the proposed scheme layout (see Figure 2). This allowed direct losses of habitats to be measured where the built environment overlaps with pre-existing habitat, with gardens and amenity areas treated separately. The habitats that are ‘created’ after development are assumed to achieve the highest level of condition as appropriate; a separate landscape and enhancement plan should be produced to ensure this condition is achieved.

The Statutory Biodiversity Metric calculation tool uses a separate calculator spreadsheet for linear features. This works under the same principles as above but replaces areas of habitat with linear length of a feature. It should be noted that because linear features often have higher ecological importance, linear habitats are assigned higher distinctiveness and must be offset with other linear features. The hedgerow units generated for linear features are not equivalent or interchangeable with biodiversity calculations for areas of habitat.

1.7 Results

1.7.1 Existing Habitats Assessment

A summary of habitats and condition assessments is provided in Table 1. Full results of condition assessments for habitats which require it (using the Statutory Biodiversity Metric condition assessment document) are provided in Appendix 1.

Overall, the on-site calculated baseline is 5.20 habitat units.

⁶ Natural England (2023) *Statutory Biodiversity Metric Condition Assessments* Available online at: <https://www.gov.uk/government/publications/statutory-biodiversity-metric-tools-and-guides>

⁷ Natural England (2023). *Statutory Biodiversity Metric draft user guide*. Available online at: <https://www.gov.uk/government/publications/statutory-biodiversity-metric-tools-and-guides>

**Table 1.** Existing habitat conditions for Danefold Farm.

Habitats		Condition Assessments
UK Habitat (UKHAB) Classification System	Location/Reference (habitat parcels split if multiple areas with different condition assessments)	Condition
Modified Grassland	Grassland parcel in west of the site protected by small wire mesh fence	Good
Modified Grassland	Remainder of grassland parcel on the proposed development site and continuing into the adjacent off-site parcel	Poor

1.7.2 Habitat Losses and Gains

The proposed development scheme at this site will result in the loss of:

On-site

- Modified grassland, poor condition (0.94ha).

The proposed development scheme at this site will enhance:

On-site

- Modified Grassland (0.782ha) poor condition to other neutral grassland moderate condition through the planting of an appropriate wildflower seed mix and addition of several non-agricultural grassland species (as specified within the proposed planting plan):

Post intervention the following habitats will be created:

On-site

- Developed land sealed surface (0.90ha) - condition N/A other
- Mixed scrub (0.316ha) – poor condition
- Other neutral grassland (0.079ha) – moderate condition

The overall results of the calculations are presented in Table 2 and Table 3 Please refer to the Statutory Biodiversity Metric calculation tool supplied with this document (submitted separately) for full details of the calculation.

**Table 2.** Headline results of the Biodiversity Impact Calculation for the proposed development at Danefold Farm.

Danefold Farm - Slurry Lagoon		Return to results menu	
Headline Results		Scroll down for final results	
On-site baseline		Habitat units	5.20
		Hedgerow units	0.00
		Watercourse units	0.00
On-site post-intervention (including habitat retention, creation & enhancement)		Habitat units	7.21
		Hedgerow units	0.00
		Watercourse units	0.00
On-site net change (units & percentage)		Habitat units	2.01 38.66%
		Hedgerow units	0.00 0.00%
		Watercourse units	0.00 0.00%
Off-site baseline		Habitat units	0.33
		Hedgerow units	0.00
		Watercourse units	0.00
Off-site post-intervention (including habitat retention, creation & enhancement)		Habitat units	0.69
		Hedgerow units	0.00
		Watercourse units	0.00
Off-site net change (units & percentage)		Habitat units	0.34 95.83%
		Hedgerow units	0.00 0.00%
		Watercourse units	0.00 0.00%
Combined net unit change (including all on-site & off-site habitat retention, creation & enhancement)		Habitat units	2.35
		Hedgerow units	0.00
		Watercourse units	0.00
Spatial risk multiplier (SRM) deductions		Habitat units	0.00
		Hedgerow units	0.00
		Watercourse units	0.00
FINAL RESULTS			
Total net unit change (including all on-site & off-site habitat retention, creation & enhancement)		Habitat units	2.35
		Hedgerow units	0.00
		Watercourse units	0.00
Total net % change (including all on-site & off-site habitat retention, creation & enhancement)		Habitat units	45.18%
		Hedgerow units	0.00%
		Watercourse units	0.00%
Trading rules satisfied?		Yes ✓	
Unit Type	Target	Baseline Units	Units Required
Habitat units	10.00%	5.20	5.22
Hedgerow units	10.00%	0.00	0.00
Watercourse units	10.00%	0.00	0.00
		Unit Deficit	
		Habitat units	0.00
		Hedgerow units	0.00
		Watercourse units	0.00
		No additional area habitat units required to meet target ✓	
		No additional hedgerow units required to meet target ✓	
		No additional watercourse units required to meet target ✓	

Table 3. Trading summary results of the Biodiversity Impact Calculation for the proposed development at Danefold Farm.

Trading Summary		
Distinctiveness Group	Trading Rule	Trading Satisfied?
Very High	Same habitat required – bespoke compensation option	Yes ✓
High	Same habitat required =	Yes ✓
Medium	Same broad habitat or a higher distinctiveness habitat required (2)	Yes ✓
Low	Same distinctiveness or better habitat required	Yes ✓

1.8 Conclusions

The Statutory Biodiversity Metric calculation has demonstrated that the proposed scheme will results in a likely net gain of **2.35 habitat units (+45.18%)**.

The current scheme does satisfy the trading rules within the Statutory Biodiversity Metric and achieves over a 10% net gain.



Should you need any further advice on the information provided above, please do not hesitate to contact The Ecology Co-op.



APPENDIX 1 – Habitat Condition Assessment Sheets

Baseline – Modified Grassland western parcel

Score: **3**

Result: **Good**

Condition Criteria Assessment for Grasslandlow

A. There are 6-8 vascular plant species per m2 present, including at least 2 forbs (this may include those listed in Footnote 1).

TRUE

B. Sward height is varied (at least 20% of the sward is less than 7 cm and at least 20 per cent is more than 7 cm) creating microclimates which provide opportunities for vertebrates and invertebrates to live and breed.

TRUE

C. Scrub accounts for less than 20% of total grassland area.

TRUE

D. Physical damage evident in less than 5% of total grassland area,

TRUE

E. Cover of bare ground between 1% and 10%, including localised areas (for example, a concentration of rabbit warrens).

FALSE

F. Cover of bracken is <20%.

TRUE

G. There is an absence of invasive non-native species (as listed on Schedule 9 of WCA, 1981)

TRUE



Baseline – Modified Grassland eastern parcel

Score: 1

Result: **Poor**

Condition Criteria Assessment for Grasslandlow

A. There are 6-8 vascular plant species per m2 present, including at least 2 forbs (this may include those listed in Footnote 1).

FALSE

B. Sward height is varied (at least 20% of the sward is less than 7 cm and at least 20 per cent is more than 7 cm) creating microclimates which provide opportunities for vertebrates and invertebrates to live and breed.

FALSE

C. Scrub accounts for less than 20% of total grassland area.

TRUE

D. Physical damage evident in less than 5% of total grassland area,

Notes

Exceeds 5%

FALSE

E. Cover of bare ground between 1% and 10%, including localised areas (for example, a concentration of rabbit warrens).

TRUE

F. Cover of bracken is <20%.

TRUE

G. There is an absence of invasive non-native species (as listed on Schedule 9 of WCA, 1981)

TRUE



Proposed other neutral grassland

2

Condition Assessment Results

Moderate

Condition Criteria Assessment for Grasslandhigh

A. The grassland is a good representation of the habitat type it has been identified as, based on its UKHab description - the appearance and composition of the vegetation closely matches the characteristics of the specific grassland habitat type. Indicator species listed by UKHab for the specific grassland habitat type are consistently present.

TRUE

B. Sward height is varied (at least 20% of the sward is less than 7 cm and at least 20 per cent is more than 7 cm) creating microclimates which provide opportunities for insects, birds and small mammals to live and breed.

TRUE

C. Cover of bare ground between 1% and 5%, including localised areas, for example, rabbit warrens.

FALSE

D. Cover of bracken *Pteridium aquilinum* less than 20% and cover of scrub (including bramble *Rubus fruticosus* agg) less than 5%.

TRUE

E. Combined cover of species indicative of sub-optimal condition and physical damage (such as excessive poaching, damage from machinery use or storage, damaging levels of access, or any other damaging management activities) accounts for less than 5% of total area.

FALSE

F. There are 10 or more vascular plant species per m2 present, including forbs that are characteristic of the habitat type (species referenced in criterion 5 above cannot contribute towards this count).

TRUE



Proposed Mixed Scrub

2

Condition Assessment Results

Moderate

Condition Criteria Assessment for Scrub

A. The scrub is a good representation of the habitat type it has been identified as, based on its UKHab description (where in its natural range). The appearance and composition of the vegetation closely matches the characteristics of the specific scrub type. At least 80% of scrub is native, and there are at least three native woody species, with no single species comprising more than 75% of the cover (except hazel *Corylus avellana*, common juniper *Juniperus communis*, sea buckthorn *Hippophae rhamnoides* or box *Buxus sempervirens*, which can be up to 100% cover).

TRUE

B. Seedlings, saplings, young shrubs and mature (or ancient or veteran) shrubs are all present.

FALSE

C. There is an absence of invasive non-native plant species (as listed on Schedule 9 of WCA) and species indicative of sub-optimal condition make up less than 5% of ground cover.

TRUE

D. The scrub has a well-developed edge with scattered scrub and tall grassland and/or herbs present between the scrub and adjacent habitat(s).

TRUE

E. There are clearings, glades or rides present within the scrub, providing sheltered edges.

FALSE