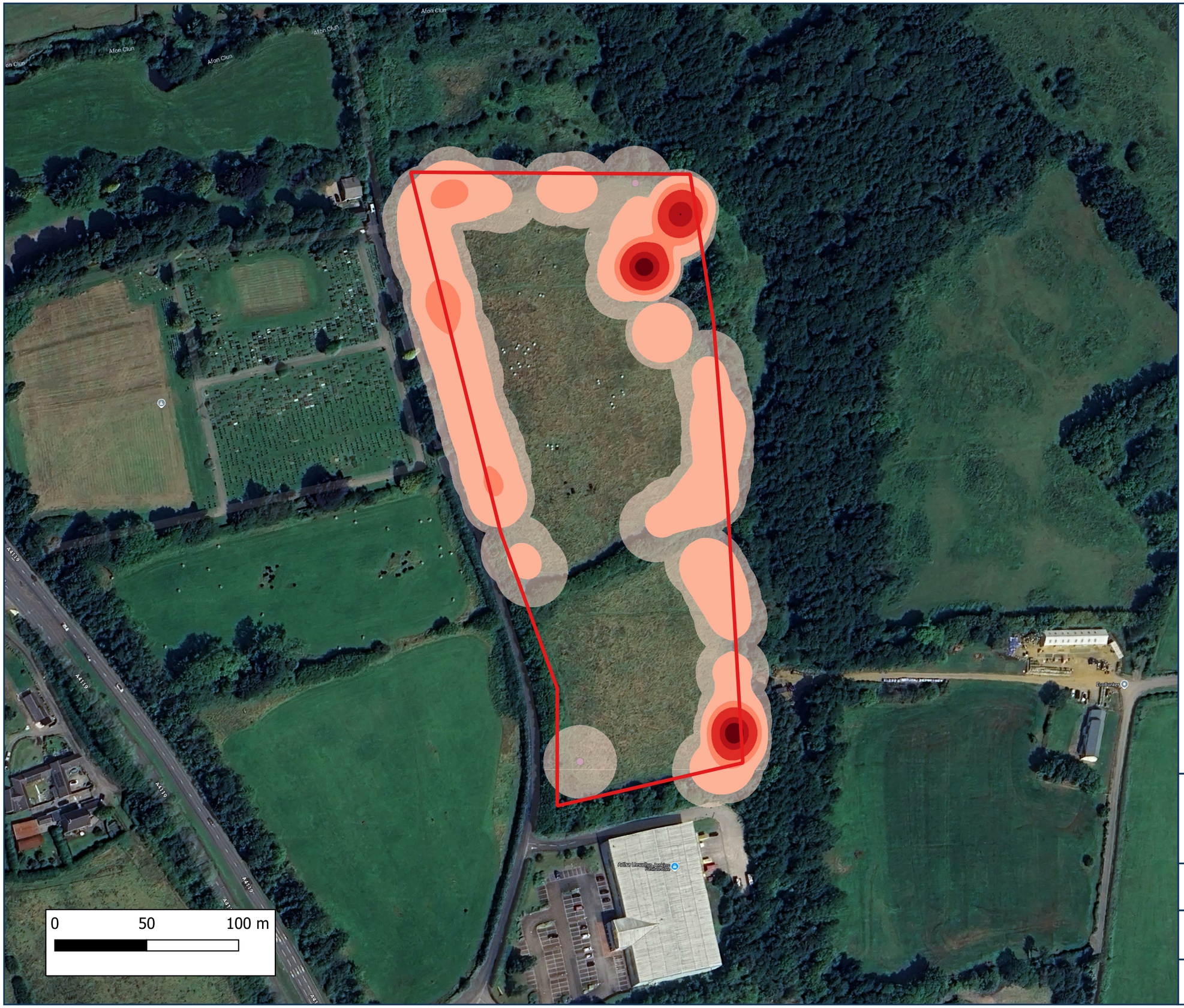


KEY:

- Application Site Boundary
- NBW Bat Registrations
- 0 - 1
- 1 - 10
- 10 - 20
- 20 - 20
- 20 - 40
- 40 - 50
- > 50

N

ECOLOGY SOLUTIONS
LANDSCAPE, MITIGATION & BIODIVERSITY
A PHENNA GROUP COMPANY

Farncombe House, Farncombe Estate, Broadway,
Worcestershire, WR12 7LJ
info@ecologysolutions.co.uk | ecologysolutions.co.uk

12481: Mwyndy

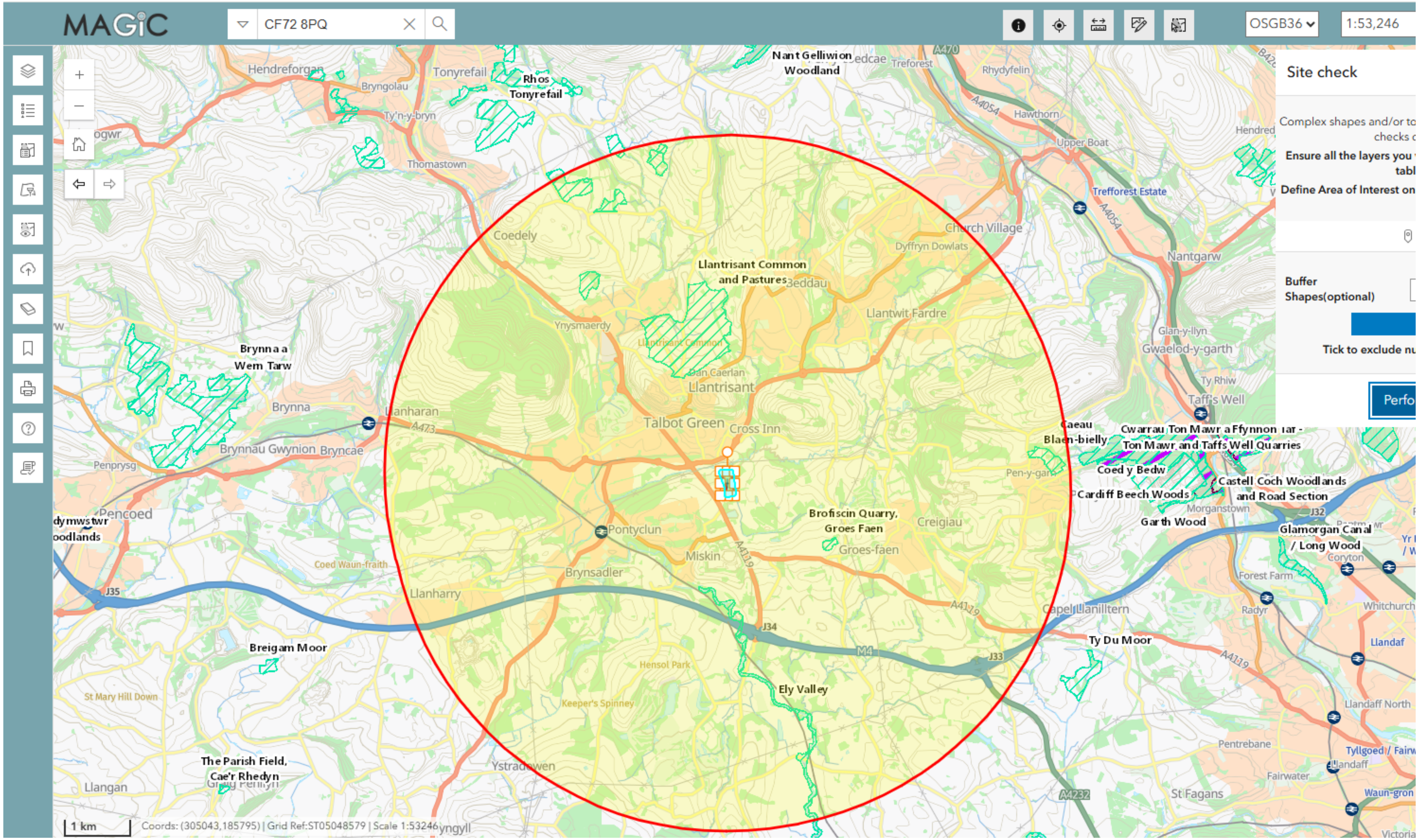
PLAN ECO5: Bat activity

Rev: A
Nov 2025

APPENDICES

APPENDIX 1

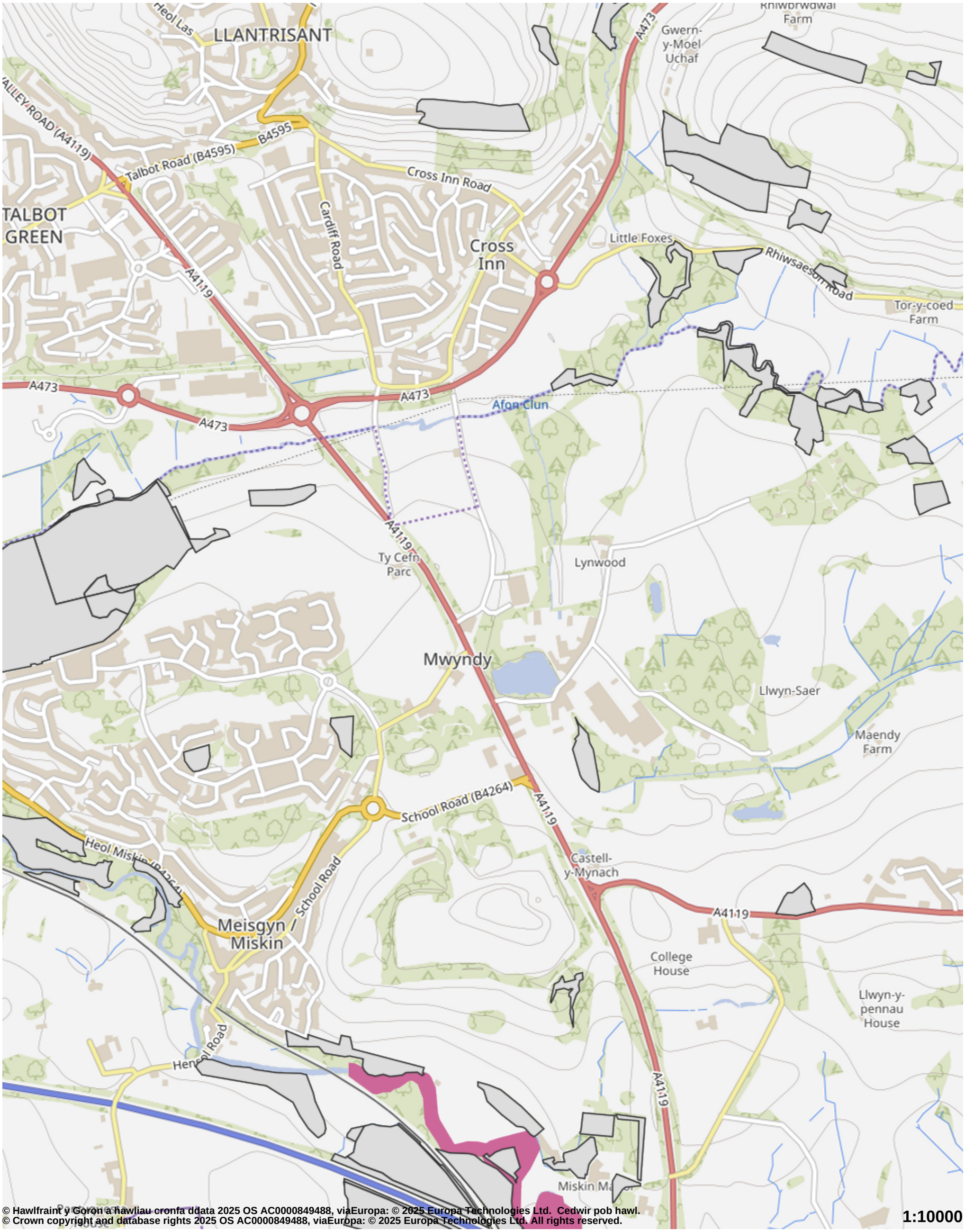
Information downloaded from Multi-Agency Geographic Information for the Countryside (MAGIC)


MAGiC
CF72 8PQ
OSGB36
1:53,246
Site check
Complex shapes and/or to
checks c
Ensure all the layers you
tabl
Define Area of Interest on
Buffer
Shapes(optional)
Tick to exclude nu
Perfo
Llantrisant Common
and Pastures
Llantrisant
Talbot Green
Cross Inn
Pontyclun
Miskin
Brynsadler
Llanharry
Llanharan
Ynysmaerdy
Beddau
Llantwit Fardre
Church Village
Dyffryn Dowlais
Coedely
Brofiscin Quarry,
Groes Faen
Groes-faen
Creigiau
Pen-y-garn
Hensol Park
Keeper's Spinney
Ely Valley
Ystradowen
Nant Gelliwion
Woodland
Rhos
Tonyrefail
Tonyrefail
Hendreforgan
Bryngolau
Ty'n-y-bryn
Thomastown
Brynna a
Wern Tarw
Brynna
Brynnau Gwynion
Bryncae
Penprysg
Pencoed
Coed Waun-fraith
Breigam Moor
St Mary Hill Down
The Parish Field,
Cae'r Rhedyn
Llangan
Cwarrau Ton Mawr a Ffynnon Taf -
Ton Mawr and Taffs Well Quarries
Coed y Bedw
Cardiff Beech Woods
Castell Coch Woodlands
and Road Section
Garth Wood
Glamorgan Canal
/ Long Wood
Ty Du Moor
Capel Llanilltern
Nantgarw
Gwaelod-y-garth
Taff's Well
Trefforest Estate
Hawthorn
Upper Boat
Rhydyfelin
Treforest
Morganstown
Radyr
Forest Farm
Whitchurch
Llandaf
Llandaff North
Pentrebane
Fairwater
St Fagans
Victoria
M4
J34
J33
J35
J32
A4119
A473
A4054
A470
A4232
1 km
Coords: (305043,185795) | Grid Ref:ST05048579 | Scale 1:53246

APPENDIX 2

Information downloaded from DataMapWales

Mwyndy



1:10000

07/07/2025

Sites of Special Scientific Interest (SSSI)

Local Nature Reserves (LNR)

Ramsar Wetlands of international importance

Special Protection Areas (SPA)

Ancient Woodland Inventory 2021

Special Areas of Conservation (SAC)

National Nature Reserves (NNR)

APPENDIX 3

NVC Survey (Cheshire Ecology, August 2025, Ref: CE394)

LAND AT MWYNDY CROSS
PONTYCLUN, MID GLAMORGAN
NVC SURVEY

Stapeley House
London Road
Stapeley
Nantwich
Cheshire
CW5 7JW

www.cheshireecology.com
01270 611125

EXECUTIVE SUMMARY

Ecology Solutions Ltd., has been commissioned to carry out a National Vegetation Classification (NVC) survey of a plot of land Mwyndy Cross, Pontyclun, Mid Glamorgan, Wales CF72 8PY.

The site is bounded to the west by a disused road, to the north by the Afon Clun, to the east by a disused railway line and to the south by the Arthur Llewellyn Furniture Warehouse. A large cemetery is located on the western side of the road. This will henceforth be referred to as 'the site'. There are two fields. Field 'A' is centred on Ordnance Survey grid reference ST 05466 82072 and Field 'B' is centred on grid reference ST 05421 82242.

The highest point in Field A is located at a height of 60m, falling to approximately 50m near the Afon Clun. Both fields appear to be well drained, although the survey was carried out after a drought. Both of the fields have a gradual slope towards the disused railway line, which is located to the east. The northern end of Field B drops away more steeply towards the Afon Clun.

This vegetation is not MG5 Centaureo-Cynosuretum, but parts are MG1 *Arrhenatherum* grassland. Most of the vegetation in Field A and the southern part of Field B is acid grassland. The best fit in TABLEFIT was for the U4b *Holcus lanatus-Trifolium repens* sub-community of *Festuca ovina-Agrostis capillaris-Galium saxatile* grassland. Even this is a relatively poor fit for the plant community with a mean value of 64.8 in the six relevés where it was recorded. This is not a Priority Habitat.

The best match for the areas with false-oat grass in Field B is g3c5 *Arrhenatherum elatius* neutral grassland. This does not appear to be a Priority Habitat.

1 INTRODUCTION 5
2 METHODS 7
3 RESULTS 9
4 CONCLUSIONS 11
5 RECOMMENDATIONS 13
6 REFERENCES 14

APPENDICES

APPENDIX A: PHOTOGRAPHS 15
APPENDIX B: GLOSSARY OF TERMS 18
APPENDIX C: RELEVÉ DATA 20

PHOTOGRAPHS

Photograph 1: Field A is covered with tussocky grassland. Cock's-foot is the dominant grass. 15
Photograph 2: Relevé 2 has been flattened by recreational pressure in places. 15
Photograph 3: The margins of Field A have large amounts of Himalayan balsam growing in them. 16
Photograph 4: A hay crop was cut in Field B a few years ago. 16
Photograph 5: False-oat grass is abundant in northern part of Field B. 17
Photograph 6: Knapweed *Centaurea nigra* and meadowsweet *Filipendula ulmaria* occur occasionally in both fields. 17

FIGURES AND PLANS

Figure 1: Site location.

1 INTRODUCTION

1.1.1 Ecology Solutions Ltd., has been commissioned to carry out a National Vegetation Classification (NVC) survey of a plot of land Mwyndy Cross, Pontyclun, Mid Glamorgan, Wales CF72 8PY.

1.1.2 The site is bounded to the west by a disused road, to the north by the Afon Clun, to the east by a disused railway line and to the south by the Arthur Llewellyn Furniture Warehouse. A large cemetery is located on the western side of the road. This will henceforth be referred to as 'the site'. There are two fields. Field 'A' is centred on Ordnance Survey grid reference ST 05466 82072 and Field 'B' is centred on grid reference ST 05421 82242.

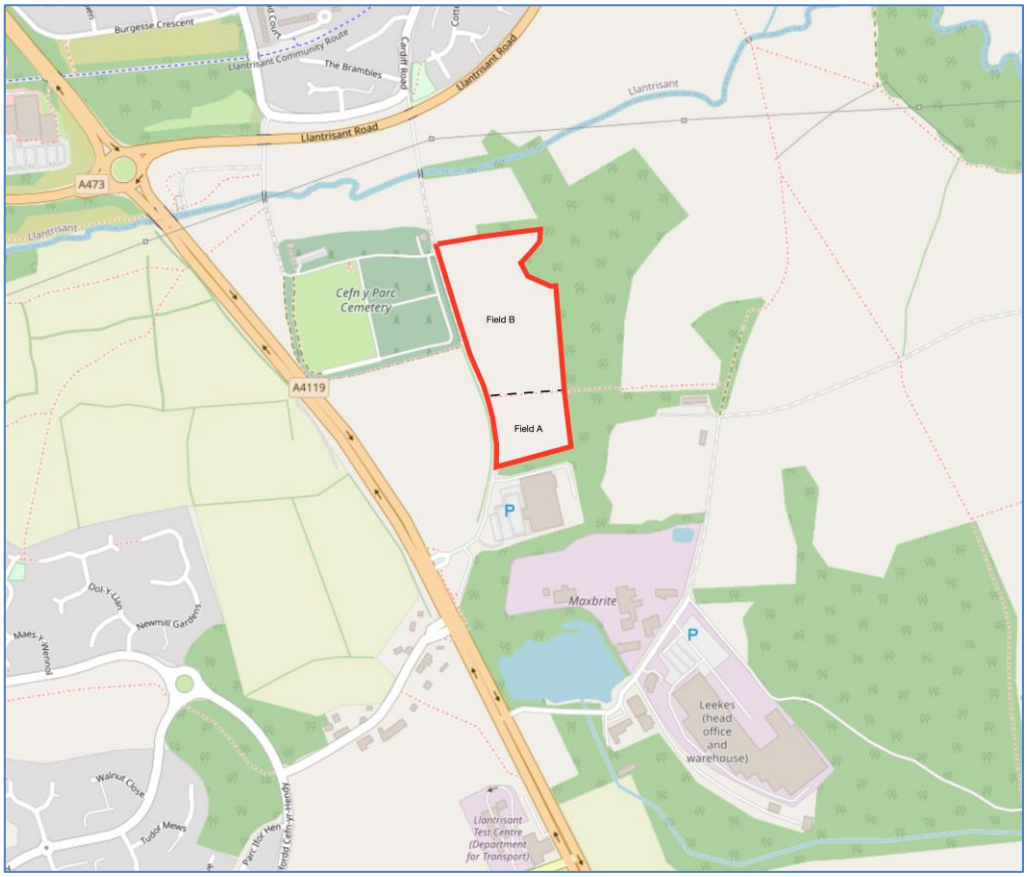


Fig 1: Site location

1.2 Context

1.2.1 19th century maps would suggest that the fields have always been used for agriculture. The Mwyndy Iron Works was located to the south and there were a number of quarries to the west of what is now the A4119. The former road to the west of the site is now a cul-de-sac, but it originally connected Mwyndy Cross to the railway station at Cross Inn.

1.2.2 The highest point in Field A is located at a height of 60m, falling to approximately 50m near the Afon Clun. Both fields appear to be well drained, although the survey was carried out after a drought. Both of the fields have a gradual slope towards the disused railway line, which is located to the east. The northern end of Field B drops away more steeply towards the Afon Clun.

1.2.3 The British Geological Survey's Geology Viewer suggests that the ground rock is a conglomerate, belonging to the Triassic Mercia Mudstone Group.

1.2.4 Both of the fields were dry when they were surveyed, but the presence of meadowsweet *Filipendula ulmaria*, greater bird's-foot trefoil *Lotus uliginosus* and marsh foxtail *Alopecurus geniculatus* in Field B, suggests that there may be a small spring in the middle of that field.

2 METHODS

2.1.1 A National Vegetation Classification (NVC) Survey was carried out using the methodology outlined in Rodwell (2006). The survey was carried out by Dr Martin Page MCIEEM.

2.1.2 Martin studied the plant ecology of mesotrophic grasslands for his PhD and contributed data to the NVC. He was responsible for analysing the NVC's data from mesotrophic grasslands in 1980. Martin was a botanist with the 2007 Countryside Survey and has worked as a consultant ecologist for the last eighteen years.

2.1.3 The location of each relevé[1] was recorded using a Garmin GPSMAP 64SX. A ten figure Ordnance Survey grid reference was recorded for each relevé.

2.1.4 Locations were chosen to provide an overview of the vegetation at the site, with additional samples taken in areas with distinct vegetation. All samples were randomly selected within stands of vegetation. This is important because it avoids any bias in the selection of the samples. One of the guiding principles of phytosociology is that the vegetation in the relevé must be homogeneous. Heterogeneous samples are normally discarded.

2.1.5 The data was analysed using a combination of experience, the keys in Rodwell (1991a, 1991b, 1992, 1995 and 2000) and confirmed using the computer program TABLEFIT (Hill, 2015). TABLEFIT is a useful tool, but it must be used with caution. The software is a rather a blunt instrument and can allocate relevés to the incorrect plant community.

2.1.6 The total cover of each species was recorded using the Domin scale (Dahle and Hadac, 1941) and tabulated in a Microsoft Excel spreadsheet (see Appendix C). Species that were absent from within the relevé but present within the same stand of vegetation were recorded with a +. This information is not used in analysis but can be useful for allocating species-poor or heterogeneous samples.

2.1.7 Plant communities are normally defined by the fidelity of different species to each plant community (see below). Constancy classes can only be calculated where there are five or more relevés of the same plant community available. Where there are less than five relevés the constancy of species is shown as Arabic numerals, rather than Latin.

Constancy class	Fidelity to plant community
V	1-20%
IV	21-40%
III	41-60%
II	61-80%
I	81-100%

[1] The NVC uses the term relevé, rather than quadrat. The term is taken from the European School of Phytosociology. It provides a lot information than a quadrat.

2.1.8 The names of higher plants follow the Fourth Edition of the *New Flora of the British Isles* (Stace, 2019). The names of the NVC plant communities follow Rodwell (1991a, 1991b, 1992, 1995 and 2000). Bryophyte names follow Smith (2003) and Paton (1999).

2.2 Limitations

2.2.1 The site was surveyed at the beginning of August 2025. This is quite late in the year to be surveying mesotrophic grasslands, but all of the plants could be identified with certainty.

3 RESULTS

3.1.1 This is quite difficult vegetation to classify. It has obviously been managed for a hay crop, because there are old bales of hay distributed around field B, but it can never have been very productive.

3.1.2 At first sight the presence of knapweed *Centaurea nigra* and bird's foot trefoil *Lotus corniculatus* suggest that the fields used to be old meadows, but there are few species characteristic of MG5 *Centaurea nigra-Cynosurus* grassland present at the site.

3.1.3 Very small amounts of meadowsweet are present in both fields, but most of the plants that are characteristic of mesotrophic grassland, such a white clover *Trifolium repens* and crested dog's tail *Cynosurus cristatus* are absent.

3.2 Field A

3.2.1 Field A is dominated by cock's-foot *Dactylis glomerata*. There are occasional plants of meadowsweet and knapweed, but it is clear that it hasn't been mown for several years. The margins of the field have been colonised by Himalayan balsam *Impatiens glandulifera*.

3.2.2 Most of the vegetation in Field A and the southern part of Field B is acid grassland. The best fit in TABLEFIT was for the U4b *Holcus lanatus-Trifolium repens* sub-community of *Festuca ovina-Agrostis capillaris-Galium saxatile* grassland. Even this is a relatively poor fit for the plant community with a mean value of 64.8 in the six relevés where it was recorded.

3.2.3 The U4b *Holcus lanatus-Trifolium repens* sub-community of *Festuca ovina-Agrostis capillaris-Galium saxatile* grassland has the following constant species in Rodwell (1992); *Agrostis capillaris* (V), *Anthoxanthum odoratum* (V) and *Holcus lanatus* (V). The Class IV constants are *Achillea millefolium*, *Trifolium repens* and *Cerastium fontanum* subsp. *holosteoides* (only the latter species is present in any quantity at the site).

3.3 Field B

3.3.1 The southern part of Field B is also dominated by cock's-foot. The northern part, by contrast, has been colonised by false-oat grass. The field has not been mown for several years and there are large number of round hay bales remaining in the field.

3.3.2 The vegetation with the best match was the false-oat grass dominated grassland at the northern end of Field B. Relevé 10 had a goodness-of-fit coefficient of 78 and 12 had a value of 72. This was clearly MG1 *Arrhenatherum elatius* grassland, similar to that found on roadside verges. This is a plant community that is normally found on mown, rather than grazed habitats.

3.3.3 Two of the relevés in Field A (releves 1 and 2) had a reasonable match for MC9 *Festuca rubra-Holcus lanatus* maritime grassland. This reveals one of the weaknesses in the NVC. Some of the plant communities that were recorded from sea cliffs in the 1970s are far more widespread than Volume 3 of *British Plant Communities* suggests. It is common in abandoned, unmanaged fields. The constant species for this plant community are red fescue *Festuca rubra*, Yorkshire fog and ribwort plantain *Plantago lanceolata* (Rodwell, 2000), which are all widespread in the British Isles. The fourth species, which is absent, was thrift *Armeria maritima*. Thrift is a maritime species and would not be expected in an inland location.

3.3.4 Crested dog's tail (a character species for MG5 *Centaurea nigra-Cynosurus* grassland) appears to be absent, although it is possible that it occurs elsewhere at the site. Anecdotal evidence suggests that neither of the fields have been grazed in recent years and this probably explains the absence of the grass.

4 CONCLUSIONS

4.1.1 Most of this site appears to be the U4b *Holcus lanatus-Trifolium repens* sub-community of *Festuca ovina-Agrostis capillaris-Galium saxatile* acid grassland. Character species for the Molinio-Arrhenatheretea are rare in the field. White clover *Trifolium repens* wasn't recorded at all in the relevés and red clover *T. pratense* was only recorded once. Crested dog's tail and perennial ryegrass were surprising absent and even creeping thistle *Cirsium arvense*, which is the bane of most farmer's lives, was missing.

4.1.2 Crested dog's tail can tolerate heavy grazing and trampling, but it does not survive in ungrazed fields. This explains the absence of many species at the site.

4.1.3 The site has a very low species diversity, even for these widespread plant communities. Anecdotal evidence suggests that neither of the fields have been treated with artificial fertiliser or selective herbicides in recent years, but this doesn't explain the absence of creeping thistle. There is no evidence of ploughing although broad-leaved dock *Rumex obtusifolius* is common at the southern end of Field B.

4.1.4 Neither of the fields qualify as *g1a Lowland Acid Grassland* in the UK Habitats Classification[2] because there are less than 12 species per square metre (UK Hab Ltd. (2023). There is less than 30% cover of broadleaved herbs and sedges and less than 10% cover of perennial ryegrass and white clover. The acid grassland parts of the site are consequently not a Priority Habitat.

4.1.5 It is likely that the fields would have been far more productive if they had been grazed by animals. Sheep and cattle deposit manure on fields and this provides nitrogen and phosphate, which are essential nutrients for plant growth. The fields are relatively isolated from other agricultural land, and it may have been impractical to introduce stock to the fields.

4.1.6 The absence of white clover is surprising because this plant is almost ubiquitous in the British Isles. It is usually taken as an indicator of agricultural improvement.

4.1.7 The best match for relevé 8 was MG10a *Juncus effusus-Holcus lanatus* rush pasture. This is erroneous. There are no rushes at the site, but the software made match because Yorkshire fog was so abundant in the sample.

4.1.8 This vegetation at the site is not MG5 Centaureo-Cynosuretum, but parts of the Field B are MG1 *Arrhenatherum* grassland.

4.1.9 The best match for the areas with false-oat grass in Field B is g3c5 *Arrhenatherum elatius* neutral grassland. This does not appear to be a Priority Habitat.

[2] Page 14.

Relevé No.	Location	Proposed plant community
1	ST05456 82021	MC9
2	ST05487 82036	MC9
3	ST05493 82056	OV23d
4	ST05481 82091	U4b
5	ST05459 82099	U4b
6	ST05407 82145	U4b
7	ST05399 82210	U4b
8	ST05385 82276	U4b
9	ST05385 82276	U4b
10	ST05458 82318	MG1a
11	ST05481 82245	U4b
12	ST05379 82321	MG1
13	ST05491 82191	U4b

Table 1: Locations of releves recorded at Mwyndy Cross

5 RECOMMENDATIONS

5.1.1 If the site is developed the northern part could be enhanced by applying manure and lime. Artificial fertiliser should not be used.

6 REFERENCES

Averis, A., Averis, B., Birks, J., Horsfield, D., Thompson, D. & Yeo, M. (2004). *An Illustrated Guide to British Upland Vegetation.* Peterborough, Joint Nature Conservation Committee (JNCC).

Dahl, E. and Hadac, E. (1941) Strandgesellschaften der Insel Ostoy in Oslofjord. Eine pflanzensoziologische Studie. *Nytt Magasin for Naturvidenskapene B*, 82, 251-312.

Department for Communities and Local Government, (2012). *The National Planning Policy Framework.*

Hill, M.O. (2015). TABLEFIT. Version 1.2.

Paton, J. A. (1999). *The Liverwort Flora of the British Isles*. Harley Books.

Poore, M. E. D. (1955). The Use of Phytosociological Methods in Ecological Investigations: I. The Braun-Blanquet System. *The Journal of Ecology*, Vol. 43, 1, pp. 226-244.

Rackham, O. (1986). *The History of the Countryside*. Weidenfeld and Nicolson.

Rodwell, J. S. (1991a). *British Plant Communities. Volume 1: Woodlands and scrub.* Cambridge University Press.

Rodwell, J. S. (1991b). *British Plant Communities. Volume 2: Mires and heaths.* Cambridge University Press.

Rodwell, J. S. (1992). *British Plant Communities. Volume 3: Grasslands and Montane Communities.* Cambridge University Press.

Rodwell, J. S. (1995). *British Plant Communities. Volume 4: Aquatic communities, swamps and tall-herb fens.* Cambridge University Press.

Rodwell, J. S. (2006). *British Plant Communities. Volume 5: Maritime communities and vegetation of open habitats* . Cambridge University Press.

Rodwell, J. S. (2006). *National Vegetation Classification: User's Handbook*. JNCC, Cambridge.

Smith, A. J. E. (2003). *The Moss Flora of Britain and Ireland*. Second Edition. Cambridge University Press.

Stace, C. (2019). *New Flora of the British Isles*. Fourth Edition. C&M Floristics.

UK Hab Ltd. (2023). *UK Habitat Classification Version 2.0.*

APPENDIX A: PHOTOGRAPHS

Photograph 1: Field A is covered with tussocky grassland. Cock's-foot is the dominant grass.

Photograph 2: Relevé 2 has been flattened by recreational pressure in places.

Photograph 3: The margins of Field A have large amounts of Himalayan balsam growing in them.

Photograph 4: A hay crop was cut in Field B a few years ago.

Photograph 5: False-oat grass is abundant in northern part of Field B.

Photograph 6: Knapweed *Centaurea nigra* and meadowsweet *Filipendula ulmaria* occur occasionally in both fields.

APPENDIX B: GLOSSARY OF TERMS

Character species	Species that show fidelity to a particular association.
Constancy Class	This is an indication of frequency of a species with the community. The Roman numeral I = 1-20%, II = 21-40%, III = 41-60%, IV = 61-80% and V = 81-100%.
Differential species	Species that can be used to differentiate between different associations.
Eutrophication	This is the enrichment of soil by agricultural chemicals or by the seepage of organic manure. Nettles (*Urtica dioica*) are a good indicator of eutrophication.
Flood-plain mire	An area of vegetation beside a stream or river. The ground is often flooded and may or may not have a peat layer. The vegetation can be very species-rich.
Grassland	A grass-dominated plant community that is maintained by grazing, cutting or burning.
Marshy grassland	This covers a very wide range of plant communities. The ground is usually permanently water and can be dominated by rushes. Some sites can be very species rich and support orchids and rare plants.
Mesotrophic	Of intermediate nutrient status.
Neutral Grassland	Neutral grasslands are defined as "Agricultural grasslands (and related mown or grazed communities) developed on mesotrophic to eutrophic soils where neither nutrient deficiency, nor soil toxicity problems occur. The management that they receive and the water regime throughout the year determine these plant communities."
NVC	The Nature Conservancy Council established the National Vegetation Classification project in August 1975. Its remit was to undertake a phytosociological classification of natural, semi-natural and artificial habitats in Great Britain (but excluding Northern Ireland). NVC surveys are sometimes referred to as 'Phase Two Surveys'.
Pasture	Pasture is 'neutral grassland' that is permanently used for grazing animals. The name pasture is derived from the Latin word *pastura.* In medieval times the majority of pasture was on higher ground, while the meadows were in the valleys.
Quadrat	A defined plot of vegetation usually marked out with a square or rectangular grid.

Relevé	A picture of the vegetation; usually composed of a species list from a quadrat of defined area and a description of the physical features of the stand of vegetation.
Ruderal	These are plants of waste ground. The word is derived from the Latin *rudera,* the plural of *rudus*, meaning 'rubble'.
Stand	An area of homogeneous vegetation.
Sedge swamp	A sedge-dominated area that is often covered with water for parts of the year. Sedge swamp is often very species-poor.

APPENDIX C: RELEVÉ DATA

APPENDIX 4

DRAFT Landscape Strategy, Dated 23/10/25 -
(61334_MwyndyLandscapeGA_DataCentre_P1_S3)