Tirlun Mynydd Dinas Landscape Project

MYNYDD DINAS
VEGETATION SURVEY REPORT

VERSION 1.1

15th September 2022

Celtic Wildflowers
Supporting British Wildlife
www.celticwildflowers.co.uk

DOCUMENT HISTORY

Version	Date	Issue Notes
1	15th September 2022	Draft for Client review

CONTENTS

1 INTRODUCTION

1.1 TERMS OF REFERENCE

Celtic Wildflowers Ltd was commissioned by YMCA Port Talbot to undertake a baseline biodiversity survey at Mynydd Dinas, principally following the National Vegetation Classification (NVC) methodology. The 'Site' extends to 164 ha and covers that part of the hill top and upper slopes of the hill owned by Natural Resources Wales (NRW). The Site boundary is detailed in Figure 1.

This study supports a National Lottery Heritage Project for Tirlun Mynydd Dinas Landscape, led by YMCA Port Talbot, in partnership with Rich History, a community heritage group, and the West Glamorgan Archives. In addition to this study and report, the project has funded a baseline survey and report on the archaeology of Mynydd Dinas.

1.2 OBJECTIVES OF STUDY

This document provides the following:

- A baseline assessment of the biological diversity and range of habitats and plant communities represented at the Site. This was done by undertaking a National Vegetation Classification survey, identifying habitats to community level and producing a detailed annotated vegetation map using the Phase 1 classification to identify and map the habitats. This is supported by NVC data for communities present within each Phase 1 habitat polygon, habitat descriptions and target notes.

- An evaluation of the community conservation value is provided.

- The presence of invasive non-native species was also evaluated.

- The reports identifies where further research might be needed, and for what reasons.

- Recommendations are provided on requirements for protection, monitoring, conservation, enhancement, interpretation, along with broad suggestions for future work required, together with community/educational involvement, controlled access and interpretation.

1.3 SITE DESCRIPTION

The Site is located on the landward side of the M4 corridor, which is parallel with Dinas-Baglan Road and its associated linear residential zone, running along the full south-western boundary. The Site is a dome-shaped hill that reaches a maximum altitude of 258m asl at Ordnance Survey Grid Point SS76079154. The topography is rather flat on top, with the hill's shoulders providing commanding views over the urban areas of Baglan to the north, Cwmafan to the east, Port Talbot to the south, with Sandfields and the whole of Swansea Bay visible to the west.

The Site includes four hay/silage fields on the top plateau. These may be grazed at times, but no animals were seen in these fields during the survey visits. Much of the western, northern and eastern slopes of the hill are forested with conifers, large areas of which have been clear-felled, at least some in response to 'Japanese Larch Disease'

caused by highly pathogenic water mould *Phytophthora ramorum*. There are also areas of semi-natural deciduous woodland and various phases of broad-leaved woodland regeneration. The southern aspect of the hill is largely clothed in Bracken *Pteridium aquilinum*, with scattered scrub and areas of heath/acid grassland mosaic vegetation. Heathland/acid grassland mosaics are also represented elsewhere at the Site with some of the best examples along the south-west facing shoulder of the hill.

Management at the Site during 2022 appeared to be restricted to hay/silage cutting in the top fields and some footpath maintenance around the southern slopes. The network of forest tracks and footpaths appeared to receive regular light public use during the survey period.

Around the Site boundary, the margins of a few units of *Ancient Semi Natural Woodland* (ASNW) encroach onto the site. Otherwise, there are no formal ecological designations that the Site is part of. The nearest *Sites of Importance for Nature Conservation* (SINC) lie 437m to the west (Baglan Moors – brownfield site) and 1,093m to the east (Hawthorn Close – riparian woodland), neither of which share important ecological connectivity with the Site. Parts of the southern and western aspects are included as NRW Open Country (Crow access land). This and the context of other ecologically related designations are shown on figure 1.

2 METHODOLOGY

Semi-natural habitats across the site were mapped using the National Vegetation Classification (NVC) (Rodwell, 1991a; b, 1992, 1995, 2000), and the Phase I Habitat Classification (Joint Nature Conservation Committee 2010). Habitat polygons were delineated based on the composition of NVC communities and sub-communities. Where areas were considered to comprise mosaics or complexes of different habitat communities, the proportion of each was estimated in percentage terms. Where communities do not constitute a community as described in the NVC, dominant species codes have been attributed as per Phase I Habitat Classification, to indicate the makeup of the vegetation community.

Polygons were latterly assigned to a dominant NVC type or where no appropriate NVC fitted an extended Phase I Habitat code was used.

More widely, 67 target notes (TN) were also collected to provide an overview of the habitat types present, or features of interest. These mainly took the form of species lists together with descriptions of the features each represented. Photographs were taken to record most TN locations and the vegetation structure each supported. Annotated examples of the images taken are reproduced at appendix 1.

Nomenclature for vascular plants follows Stace (2010), bryophytes and liverworts follow Atherton et al (2010) and for lichens Dobson (2011). Additional reference material in relation to species identification and habitat composition was also used (Averis et al. 2004; Cheffings et al. 2005; Hodgetts 2011; Prescott 2016). Vegetation maps were digitised using Quantum GIS 3.22.5-Białowieża.

Fieldwork was carried out on five dates between the 18th January and 4th August 2022 by Barry Stewart an experienced habitat surveyor, familiar with the habitats of the Site.

All data (1,779 records in total) have been digitised and have been submitted electronically, both to the client and to the South East Wales Biological Records Centre

(SEWBReC). They will also be integrated within the national data sets for each respective recording group including the Botanical Society of Britain and Ireland (BSBI) and the British Bryological Society (BBS).

2.1 LIMITATIONS

The site is extensive, very steep in places and some areas were not accessible due to the rank growths of Bracken *Pteridium aquilinum* and Bramble *Rubus fruticosus* agg. Binoculars and a drone (dji mini 2) were used to view difficult terrain from suitable vantage points, which when combined with the use of detailed aerial imaging it was possible to confidently assigned an appropriate community or habitat code to most areas.

Given the scale and access limitations of some areas there is a low risk that small pockets of significant habitats might have been misrepresented or notable species missed, though coverage was considered to be generally overall. Note that no access was permitted onto the hilltop hay/silage fields, though some recording was possible along the margins.

3 RESULTS

Habitat types and NVC communities identified within the survey area have been mapped and are presented in Figures 2.1-2.4: Vegetation Survey results and table 1 lists the areas of each community unit.

3.1 COMMUNITY DESCRIPTIONS

3.1.1 WOODLANDS AND SCRUB

The Site supports a wide range of woodland and scrub types, ranging from small fragments of semi-natural deciduous woodland, through mature conifer plantations to areas of dense and sparse mixed scrub comprised of natives and non-natives, some listed as invasive.

Woodland

W4a *Betula pubescens - Molinia caerulea* woodland, *Dryopteris dilatata - Rubus fruticosus* sub-community was the best, but rather poor fit for the main type of pioneer scrubby woodland. It occupied 3.9 ha in locations scattered across the site. Grey Willow *Salix cinerea* ssp. *oleifolia,* Downy Birch *Betula pubescens* and Silver Birch *B. pendula* were the most frequently noted species, typically along with a high frequency of Bracken and Bramble in the field layer. Other associates included the non-native Himalayan Honeysuckle *Leycesteria formosa* which was particularly invasive in some areas, e.g., at TN06 and TN39.

W10a *Quercus robur - Pteridium aquilinum - Rubus fruticosus* woodland, typical sub-community extended to 5.4 ha, with the main distribution focussed on the more sheltered lower slopes e.g., TN01, TN13 and TN27. Sycamore *Acer pseudoplatanus* was generally the most abundant species in these areas, but with a wide range of other woody associates including Beech *Fagus sylvatica,* both birches, Goat Willow *Salix caprea*, Grey Willow, Hazel *Corylus avellana*, Holly *Ilex aquifolium*, Pedunculate Oak *Quercus robur* and Sweet Chestnut *Castanea sativa*. The field layer in edge areas was invariably dominated by Bracken and Bramble, with Atlantic Ivy *Hedera hibernica* and

ferns locally prominent under more shaded canopies. The woodland field layer was generally poorly developed with a limited range and abundance of woodland species such as Broad Buckler-fern *Dryopteris dilatata*, Honeysuckle *Lonicera periclymenum* and Male-fern *D. filix-mas*, Red Campion *Silene dioica.*

W10e *Quercus robur - Pteridium aquilinum - Rubus fruticosus* woodland, *Acer pseudoplatanus - Oxalis acetosella* sub-community covers 8.1 ha, though the core area in the north was not visited. The sections sampled at TN19 and TN33 were dominated by mature Pedunculate Oak and Hybrid Oak *Quercus x rosacea*, with locally frequent birches and occasional Hazel and Rowan *Sorbus aucuparia*. The field layer incorporated a much higher proportion of woodland species than the areas of W10a, with additional species noted including Bluebell *Hyacinthoides non-scripta*, Enchanter's-nightshade *Circaea lutetiana*, Hard-fern *Blechnum spicant*, Herb-Robert *Geranium robertianum*, with smaller quantities of Bilberry *Vaccinium myrtillus* and Wood-sorrel *Oxalis acetosella*.

W17b *Quercus petraea - Betula pubescens - Dicranum majus* woodland, typical sub-community. 20.5 ha of this woodland type were mapped, all from the cooler, more humid, north-east facing slopes of the Site. The assemblage from the representative species lists taken at TN21, TN44 and TN55 revealed communities associated with acid soils. Birches and oaks, including locally frequent Sessile Oak *Quercus petraea*, dominated the canopy with scattered Hazel and Rowan throughout. Bilberry was locally abundant in the field layer with a suite of characteristic mosses that included Bank Haircap *Polytrichum formosum*, Glittering Woodmoss *Hylocomium splendens*, Heath Plait-moss *Hypnum jutlandicum*, Little Shaggy-moss *Rhytidiadelphus loreus,* Red-stemmed Feathermoss *Pleurozium schreberi* and Waved Silkmoss *Plagiothecium undulatum*.

Plantation

Four phases of coniferous plantation were mapped; young growth with abundant scrub (7.7 ha), mature plantation (12.0 ha), clearfell (25.8 ha) and a little bit of natural regeneration on spoil at the quarry site TN31 (0.1 ha).

A large area of young growth Sitka Spruce *Picea sitchensis* plantation approximately 10 years old is located on the top of the hill. The spaces between the trees were dominated by dense growths of impenetrable vegetation comprising a limited suite of species, which included Bracken, Bramble, Downy Birch and Rusty Willow.

Smaller stands of mature coniferous trees predominantly Lodgepole Pine *Pinus contorta and* Sitka Spruce were noted on the top TN28 and southwestern slope TN34. Species diversity under mature Sitka was limited to a few species tolerant of deep shade, with the brighter conditions under the pines allowing stands of Bracken and Bramble to dominate, with local regeneration of deciduous woodland and scrub that included birches, Gorse *Ulex europaeus,* Japanese Larch / Hybrid Larch *Larix kaempferi / L. x marschlinsii,* Rowan and Sycamore. Some heathland elements such as Bilberry, Heather and Western Gorse *Ulex gallii* were noted in some areas.

Regeneration on clear-fell areas, most of which previously held larch stands, was poorly defined, but highly diverse, especially along track verges. The most abundant species recorded at TN26, TN32, TN34 on the steep south-east facing slope of the hill was Bracken, beneath which were locally frequent Bramble, Common Bent *Agrostis capillaris* and Yorkshire-fog *Holcus lanatus*. Other species were generally no more than occasional, but with plenty of local interest, such as Bird’s-foot *Ornithopus*

perpusillus (not recorded in NPT for many years), Bristle Club-rush *Isolepis setacea*, Brown Bent *Agrostis vinealis*, Corn Spurrey *Spergula arvensis*, Early Hair-grass *Aira praecox*, Goldenrod *Solidago virgaurea*, Heath Groundsel *Senecio sylvaticus*, Leafy Rush *Juncus foliosus*, Sheep's-bit *Jasione montana*, Sand Spurrey *Spergularia rubra*, Sheep's Sorrel *Rumex acetosella*, Slender Club-rush *Isolepis cernua*, and Yellow Pimpernel *Lysimachia nemorum*.

Regeneration on the northern and eastern slopes included additional species, with elements more associated with damper ground conditions. Locally abundant / frequent species noted at TN20, TN48 and TN53 included Bracken, Bramble, Common Bent, Downy Birch, Hemp-agrimony *Eupatorium cannabinum*, Indian Balsam *Impatiens glandulifera,* Ribwort Plantain *Plantago lanceolata*, Rosebay Willowherb *Chamerion angustifolium*, Rusty Willow and Yorkshire-fog. Less frequent species of general interest noted included a mix of grassland and heath components plus ruderals such as Chalk Knapweed *Centaurea debeauxii,* Purple Moor-grass *Molinia caerulea,* Smooth Tare *Vicia tetrasperma* and Trailing St John's-wort *Hypericum humifusum,* also both Common Figwort *Scrophularia nodosa* and Water Figwort *S. auriculata* and Western Gorse.

Scrub

Stands of **W23** *Ulex europaeus - Rubus fruticosus* scrub, often over-topped or in a sea of Bracken were scattered throughout the site and extending to 5.8 ha, plus there was an additional 1.2 ha stand dominated almost solely by Gorse *Ulex europaeus* within the mosaic of scrub habitats on the south-east facing slope, shown on figure 2. These extensive habitats were generally on steep inaccessible slopes surrounded by tall Bracken and encroaching Bramble.

Significant encroachment of Bramble into stands of Bracken approximates to the early development of **W25** scrub. The lack of management on site has enabled such stands to develop, particularly in and around pioneer scrub in the north western and southern parts of the Site resulting in 2.7 ha being mapped. Such stands were again difficult to access, but species noted where tracks cut through such vegetation typically included Cleavers *Galium aparine*, Cock's-foot *Dactylis glomerata*, False Oat-grass *Arrhenatherum elatius*, Himalayan Honeysuckle, and Red Campion.

The most extensive scrub type was that of a very poorly defined (in NVC terms) Bracken / deciduous woody species mix, which comprised a wide variety of young trees and shrubs such as birches, Blackthorn *Prunus spinosa,* Hawthorn *Crataegus monogyna,* Hazel, Himalayan Honeysuckle, Holly oaks, Rowan and Sycamore. The field layer beneath largely reflected the adjacent habitats into which scrub was encroaching, invariably Bracken with variable quantities of Bramble. These habitats extended to a total 18.8ha.

There has been significant regeneration of conifers on quarry spoil at TN31 with locally abundant self-seeded Lodgepole Pine.

Table 1: Total areas of habitats and NVC communities present within the Site.

Habitat	**NVC Communities**	**NVC fit**	**Area (m^2)**	**Area (ha)**
Scrub (mainly birch and willow)	**W4a** *Betula pubescens - Molinia caerulea* woodland, *Dryopteris dilatata - Rubus fruticosus* sub-community	Poor	38,927	3.9
Deciduous trees & scrub	**W10a** *Quercus robur - Pteridium aquilinum - Rubus fruticosus* woodland, typical sub-community	Poor	53,564	5.4
Lowland oak woodland	**W10e** *Quercus robur - Pteridium aquilinum - Rubus fruticosus* woodland, *Acer pseudoplatanus - Oxalis acetosella* sub-community	Moderate	80,769	8.1
Conifer plantation (young with abundant scrub)		None	76,568	7.7
Conifer plantation (mature)		None	43,133	4.3
Conifer clearfell (mainly larch)		None	258,150	25.8
Conifer regeneration on spoil		None	1,299	0.1
Upland oak woodland	**W17b** *Quercus petraea - Betula pubescens - Dicranum majus* woodland, typical sub-community	Moderate	205,106	20.5
Gorse scrub	**W23** *Ulex europaeus - Rubus fruticosus* scrub	Good	11,796	1.2
Dense Bracken & Bramble	**W25** *Pteridium aquilinum - Rubus fruticosus* underscrub	Moderate	26,608	2.7

Coarse neutral grassland	**MG1a** *Arrhenatherum elatius* grassland, *Festuca rubra* sub-community	Poor	2,107	0.2
Improved grassland	**MG7b** *Lolium perenne* leys and related grasslands, *Lolium perenne - Poa trivialis* leys	Moderate	84,215	8.4
Poor semi-improved grassland	**MG6b** *Lolium perenne - Cynosurus cristatus* grassland, *Anthoxanthum odoratum* sub-community	Poor	129,816	13.0
Acid grassland	**U4a** *Festuca ovina - Agrostis capillaris - Galium saxatile grassland*, typical sub-community	Moderate	4,551	0.5
Acid-neutral grassland	**U4b** *Festuca ovina - Agrostis capillaris - Galium saxatile* grassland, *Holcus lanatus - Trifolium repens* sub-community	Moderate	16,642	1.7
Dry dwarf-shrub heath/acid grassland mosaic	**H8b** *Calluna vulgaris - Ulex gallii* heath, *Danthonia decumbens* sub-community	Good	18,681	1.9
Dry dwarf-shrub heath (Heather)	**H9a** *Calluna vulgaris - Deschampsia flexuosa* heath, *Hypnum cupressiforme* sub-community	Good	40,888	4.1
Dry dwarf-shrub heath (Heather & Bell Heather)	**H10a** *Calluna vulgaris - Erica cinerea* heath, typical sub-community	Moderate	22,158	2.2
Dry dwarf-shrub heath (Heather & Bilberry)	**H12a** *Calluna vulgaris - Vaccinium myrtillus* heath, *Calluna vulgaris* sub-community	Good	14,961	1.5
Bracken with DSH/AG field layer	**U20a** *Pteridium aquilinum-Galium saxatile* community, *Anthoxanthum odoratum* sub-community	Good	138,647	13.9

Dense Bracken	**U20c** *Pteridium aquilinum - Galium saxatile* community, species-poor sub-community	Moderate	55,522	5.6
Bracken-Gorse scrub mosaic		None	58,128	5.8
Bracken-deciduous scrub mosaic		None	188,411	18.8
Grassy tracks	**OV23** *Lolium perenne - Dactylis glomerata* community	Poor	2,499	0.2
Rock Exposure		None	1,490	0.1
Remains of stone walls		None	2,926	0.3
Disturbed ground		None	44,661	4.5
Total Area Mapped with Site =			**1,622,223**	**162.2**
Remains of stone walls (length - m)		None	1,859 m	

3.1.2 HEATHS

Dry heath communities were mostly represented on the thin acidic soils around the shoulders of the hill. The NVC communities identified were **H8b** (1.9 ha), **H9a** (4.1 ha), **H10a** (2.2 ha) and **H12a** (1.5 ha). These communities often graded into one another and were defined by relative abundance of species that are mostly common to all. Representative species lists were taken at TN08, TN09, TN39, TN40, TN50 and TN52.

The vegetation was largely typical for an unmanaged site, in that it was long and leggy, though the former burnt area at TN08 produced a short wind-cropped sward. In most cases throughout the survey area Bell Heather *Erica cinerea*, Bilberry and Heather *Calluna vulgaris* were constant with Western Gorse often co-dominant or abundant. Grasses including Brown Bent *Agrostis vinealis*, Common Bent, Heath-grass *Danthonia decumbens*, Purple Moor-grass, Sheep's-fescue *Festuca ovina*, Sweet Vernal-grass and Wavy Hair-grass *Deschampsia flexuosa* were commonly present. Bryophytes were well represented with locally abundant Bank Haircap, Heath Plait-moss and Red-stemmed Feather-moss. Herb species typically included Heath Bedstraw *Galium saxatile* and Tormentil *Potentilla erecta*, with less frequent coverage of Cat's-ear *Hypochaeris radicata,* Goldenrod, Heath Milkwort *Polygala serpyllifolia* and Wood Sage *Teucrium scorodonia*. Species of local interest in these communities included Eared Willow *Salix aurita,* Pill Sedge *Carex pilulifera*, Potato Bryum *Bryum bornholmense*, Sharp-leaved Threadmoss *Pohlia elongata* var. *elongata.* Broom was locally frequent on the formerly burned area at TN08 along with a young crop of self-seeded pines.

3.1.3 CONTINUOUS BRACKEN

Bracken was represented in almost all habitats across the Site, however, it is on the south-eastern slopes where it truly dominates the landscape. Here it forms dense monospecific stands over large areas. Species-poor stands (5.6 ha) were separated from stands where there was evidence of remnant heathland vegetation beneath (13.9 ha). Variable amounts of scattered scrub were evident in most stands, even those with a very impoverished field layer dominated by Bracken leaf litter. Stands on thinner soils were generally more open with evidence of acid grassland and heath components, typically Common Bent and Heather or Bell Heather, but occasionally with a more diverse heathland assemblage. Better management, e.g. grazing or rolling, would help bring these quite extensive areas back into better condition.

3.1.4 GRASSLAND

MG1a grassland is only represented by the coarse grassy sward along the southern boundary track, which provides a narrow 0.2 ha corridor of rather species-poor vegetation. False oat-grass is overwhelmingly dominant for much of the tracks length with few other species being no more than locally frequent, such as Cock's-foot and Yorkshire-fog. This community was cut during the latter part of the survey period.

Semi-improved acid grassland **U4a** (0.5 ha) and **U4b** (1.7 ha) was present on the slopes adjacent to the hilltop fields shown by TN09, TN10 and TN11 on figure 2. Yorkshire-fog was dominant at TN10 but giving way to co-dominant Common Bent and Neat Feathermoss *Pseudoscleropodium purum* at TN11, the latter area with associates such as Bell Heather, Heath Bedstraw, Heather and Sheep's Sorrel

.

MG6b and **MG7b:** These two communities are the result of agricultural improvement of grassland communities on the hilltop, and their differences are reflected by the relative abundance of grasses and herbs such as, Sweet Vernal-grass and Perennial Rye-grass *Lolium perenne,* which many will have been introduced during re-seeding. In the 'plateau fields' these grasslands comprised silage crops. In the field at TN38, the assemblage resembled semi-improved grasslands with abundant Sweet Vernal-grass and Yorkshire-fog, with frequent Common Mouse-ear *Cerastium fontanum,* Common Sorrel *Rumex acetosa,* Creeping Buttercup *Ranunculus repens*, Red Clover *Trifolium pratense* and Ribwort Plantain. The field at TN58, also private land was not accessed but appeared botanically similar to TN38, so was mapped accordingly. The two adjacent fields at TN36 and TN56 were significantly more improved and less diverse. Yorkshire-fog was dominant in both grasslands with locally abundant Rough Meadow-grass *Poa trivialis,* with frequent Cock's-foot and Creeping Buttercup. As above TN56 was not accessed due to no permissions, but appeared identical to TN36 and was mapped accordingly.

The track that leads up from the southern corner of the Site supports a grassland community very loosely affiliated to **OV23**. Towards the top of the track the vegetation gradually grades into more a more acid grassland type and is notable only by way of the local frequency of Bird's-foot along a section of steps.

3.1.5 OTHER COMMUNITIES

A number of communities recorded do not fit with those described in NVC. These communities include rocky outcrops and track verges, typically which occur within an intricate mix of poorly defined vegetation types. In all cases the dominant vegetation type or species code has been annotated within survey data, summarised at Appendix 2.

The disused quarry at TN14 is largely shaded by trees and shrubs such as Silver Birch and Sycamore, though rock faces are still open higher up. The exposed quarry cliff and scree was found to support a range of acid heath species including Bell Heather, Heather, Red-stemmed Feathermoss, Sheep's-bit and Woolly Fringemoss *Racomitrium lanuginosum*. Other smaller rock exposures were noted along the south-west facing shoulder at TN40, but were either inaccessible or too small to map.

The verges around the extensive network of forest tracks supported a good level of diversity, due to the wide range of aspects and niches created by disturbance from cuttings into bedrock and subsoils, exposure of drainage channels and soakways, wet hollows, plus the importation of limestone for road surfacing, albeit limited at the site.

The verges include elements from most of the habitats described above, most notably the dry acid heath components, with some attractive linear heathland features established along some track banks. Bell Heather, Bilberry, Heather and Western Gorse appeared to benefit by verge management which reduces the dominance of Bracken. Species noted along key track verges, such as at TN23a-d, TN24, TN45, TN47, TN51 included a number that are of local importance / interest, including Bird's-foot, bog-mosses (*Sphagnum,* four species) Fairy Flax *Linum catharticum*, Goldenrod (with larvae of the Nationally Scarce Star-wort moth *Cucullia asteris*), Heath Groundsel, Marsh Forklet-moss *Dichodontium palustre*, Sand Spurrey, Sheep's-bit, Slender Club-rush, Small Cudweed and Umbellate Hawkweed *Hieracium umbellatum*.

A large population of Small Cudweed is located in the quarry at TN31.

4 CONSERVATION EVALUATION

Habitats that qualify for SINC status within NPT, based on guidance notes provided by the Wales Biodiversity Partnership (2008) are as follows:

- **Native Woodlands**: All mapped areas of W10e and W17b
- **Scrub**: All mapped areas of W4 and W23
- **Lowland Dry Acid Grassland:** All mapped areas of U4a and H8b
- **Lowland Heathland:** All mapped areas of H8b, H9a, H10a and H12a
- **Bracken Communities:** All mapped areas of U20a

No individual flowering or lower plant species of conservation concern were recorded i.e., rare, threatened, or nationally scarce conservation status. The site does however support several species that are of local conservation value, namely:

- **Aspen** *Populus tremula*: Recorded at TN39, TN41
- **Bird's-foot**[CS] *Ornithopus perpusillus*: Recorded at TN06/07, TN08, TN24, TN32
- **Corn Spurrey** *Spergula arvensis*: Recorded at TN32
- **Heath Groundsel** *Ornithopus perpusillus*: Recorded at TN32, TN37, TN47
- **Leafy Rush** *Juncus foliosus*: Recorded at TN23, TN24, TN32, TN47, TN53
- **Sand Spurrey** *Spergularia rubra*: Recorded at TN32
- **Sheep's-bit** *Jasione montana*: Recorded at TN12, TN14, TN15, TN32
- **Slender Club-rush**[CS] *Isolepis cernua*: Recorded at TN24, TN32
- **Small Cudweed**[CS] *Filago minima*: Recorded at TN29, TN31, TN45, TN47, TN51

([CS] = Contributary Species for SUNC selection within NPT)

4.1 NON-NATIVE AND INVASIVE SPECIES

NON-NATIVES

Non-natives can be classified by the length of time they have been present within the British Isles, with the terms 'archaeophyte' and 'neophyte' being used to define two phases of colonisation.

Archaeophytes are defined by the Botanical Society of Britain and Ireland (BSBI) as 'non-native (alien) taxa that were introduced by humans, either intentionally or unintentionally, and became naturalised in Britain and Ireland between the start of the Neolithic period and AD1500. Most were introduced by early farmers mainly in the Late Bronze Age, Iron Age, Roman or Medieval periods. Many originated as contaminants of crops or as escapes from gardens where they were grown for culinary or medicinal

uses. The rediscovery of the New World around AD1500 brought about radical changes in human demography, agriculture, trade and industry. It therefore marks an appropriate date to differentiate between ancient and modern introductions; those introduced before AD1500 were usually associated with food production whereas those that came after (neophytes) are mainly garden ornamentals and trees used for forestry.' (BSBI[1], accessed 2022)

The totals presented in table A at appendix 2 shows a total of 27 non-native species were recorded within the Site, with a further 22 noted on the lower part of the hill, just outside the study area boundary (hereon referred to as 'the wider hillside').

Three archaeophytes were recorded within the Site, Barren Brome *Anisantha sterilis* and Corn Spurrey *Spergula arvensis* both being ruderal species with highly localised distributions. The third, Common Vetch *Vicia sativa* subsp. *Segetalis* was found sparingly along some of the track verges where grasslands were more neutral. A few Sweet Chestnut *Castanea sativa* trees were recorded in mixed woodland on the western slopes, which appeared naturalised, which might have been planted.

Additional archaeophytes on the wider hillside were again mostly localised ruderals namely Equal-leaved Knotgrass *Polygonum arenastrum*, Feverfew *Tanacetum parthenium*, Scentless Mayweed *Tripleurospermum inodorum*, Shepherd's-purse *Capsella bursa-pastoris*, Wall Barley *Hordeum murinum* and Weld *Reseda luteola*.

Of the 27 non-native species recorded 23 were neophytes, this representing 11% of the total vascular plant diversity within the Site. Some of the most frequent Neophytes recorded were trees and shrubs, with some extensive areas of self-seeded stands of Japanese & Hybrid Larch, Lodgepole Pine, Rhododendron, Sitka Spruce and Sycamore. Indian (Himalayan) Balsam was locally abundant in areas of clearfell, particularly on the damper soils in the eastern and northern sections of the site. A further 15 neophytes were recorded on the wider hillside producing a total of 38 species, this equating to 14% of the total hillside flora.

INVASIVES

Four species were recorded within the Site that are listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended):

Himalayan Balsam *Impatiens glandulifera* TN12, TN23, TN47 & TN65

Himalayan Cotoneaster *Cotoneaster simonsii* TN32

Rhododendron *Rhododendron ponticum* TN12, TN21 & TN23

Wall Cotoneaster *Cotoneaster horizontalis* TN08

An additional species, Japanese Knotweed *Fallopia japonica* was recorded on the wider hillside at Blaen-Baglan, both at TN22 & TN60.

It an offence to release or spread any plant or animal that is identified as a potential threat to native biodiversity. Species listed on Schedule 9 may not be released or introduced without a license, allowed to escape into the wild, or caused to be spread in the wild.

Whilst none of these species are dominant in any given area, Himalayan Balsam and Rhododendron are widespread and often locally across the Site, perhaps making

eradication an unrealistic target. Consideration should therefore be given to developing a management strategy that aims to control the spread of the species listed above.

4.2 Native Species Diversity

The BSBI define native vascular plants as 'either as plants that arrived naturally in Britain and Ireland since the end of the last glaciation (i.e. without the assistance of humans) or those that were already present (i.e. it persisted during the last Ice Age).' (BSBI[2], 2022).

The totals presented in table A at appendix 2 show that 181 native vascular plant species were recorded within the study area boundary, with natives representing 87% of the total plant species recorded. An additional 37 native species were recorded in habitats of the wider hillside, the higher proportion of non-natives in these areas reducing the overall proportion of native taxa to 81%.

4.3 DISCUSSION AND RECOMMENDATIONS

Management within areas of SINC quality habitats, listed at section 4 above, appears to have been generally limited in recent years. The amount of Bracken and Bramble that has encroached onto areas of lowland heathland (i.e. those areas mapped as H8b, H9a, H10a and H12a), has most likely significantly diminished the ecological value of these scarce communities. It is suspected that significant areas of the U20a Bracken communities formerly supported more diverse dry heathland vegetation.

Restoration of lowland heathland would deliver significant ecological benefits and should be a key objective at the site. However, without the reintroduction of suitable grazing animals is likely to be resource hungry. It is recommended that areas are identified for implementing feasibility trials to identify the best management solution. The steep slopes make traditional cutting or Bracken rolling a challenge and specialist advice should be sought.

The general lack of management within areas of native woodlands (primarily W10e and W17b) and scrub (areas of W4 and W23) has had less of an impact and most units of this vegetation type were in reasonably good condition.

The small area of lowland dry acid grassland (U4a) at TN11 is within the enclosed land adjacent to the improved hay/silage fields on hilltop and periodic cutting has helped maintain this feature. The acid grassland components of heath mosaic (H8b) at TN35 are less well managed and it is likely that periodic burning has helped keep the vegetation from becoming too rank.

The non-native invasives on site also present challenges and it is considered an unrealistic proposition to target species such as Indian (Himalayan) Balsam, which is well established in areas of disturbed ground across the site. However, Rhododendron and Himalayan Honeysuckle are two locally prominent species which should be considered for localised eradication, especially where these are encroaching onto valuable lowland heath, such as at TN08 and TN35. where efforts would be

The periodic fires that occur at the site are most likely the result of deliberate acts of vandalism and are unlikely to be preventable. It is recommended that management of existing path and track edges can be improved to provide better fire breaks with the additional benefit of better managing verge habitats. Again there are cost implications

and trials should be conducted before deciding on a Site-wide strategy. Interestingly the regeneration of heathland on the previous burned hillside at TN08 has been excellent and small scale, managed burns could be considered as a way of initiating heathland restoration. The appearance of a large number of self-seeded pine saplings in this same area needs to addressed and it is recommended that these are pulled or cut off as soon as possible, while they are still small.

5 REFERENCES

Atherton, I., Bosanquet, S. & Lawley, M. (2010) Mosses and Liverworts of Britain and Ireland a Field Guide. British Bryological Society.

Averis, A., Averis, B., Birks, J., Horsefield, D., Thompson, D. & Yeo, M. (2004) An Illustrated Guide to British Upland Vegetation. Joint Nature Conservation Committee., Peterborough. BSBI[1] (Accessed September 2022)

BSBI[1] (Accessed September 2022) https://bsbi.org/archaeophytes

BSBI[2] (Accessed September 2022) https://bsbi.org/definitions-wild-native-or-alien

Cheffings, C.M., Farrell, L. (Eds), Dines, T.D., Jones, R.A., Leach, S.J., McKean, D.R., Pearman, D.A., Preston, C.D., Rumsey, F.J. & Taylor, I. (2005) The Vascular Plant Red Data List for Great Britain. Species Status. Species Status, 7, 1–116.

Dobson, F.S. (2011) Lichens: An Illustrated Guide to the British and Irish Species. Richmond Publishing.

Hodgetts, N.G. (2011) A revised Red List of bryophytes in Britain. Field Bryology, 103. Joint Nature Conservation Committee. (2010) Handbook for Phase I Habitat Survey - a Technique for Environmental Audit. JNCC.

Prescott, O. (2016) Revised lists of nationally rare and scare bryophytes for Britain. Field Bryology, 115, 22–30.

Rodwell, J.S. National Vegetation Classification: User's Handbook. JNCC, Peterborough. Rodwell, J.S. (1991a) British Plant Communities. Volume 1: Woodlands and Scrub. Cambridge University Press., Cambridge.

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

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

Rodwell, J.S. (1995) British Plant Communities Volume 4: Aquatic Communities, Swamps and Tall-Herb Fens. Cambridge University Press., Cambridge.

Rodwell, J.S. (2000) British Plant Communities Volume 5: Maritime Communities and Vegetation of Open Habitats. Cambridge University Press., Cambridge.

Stace, C.A. (2010) New Flora of the British Isles. Cambridge University Press.

Wales Biodiversity Partnership (2008) Guidelines for the Selection of Local Sites in Wales, 4th Edition, Online.

APPENDIX 1: TARGET NOTES (TN)

NB. TNs in parentheses lie outside the study area boundary but are included for context.

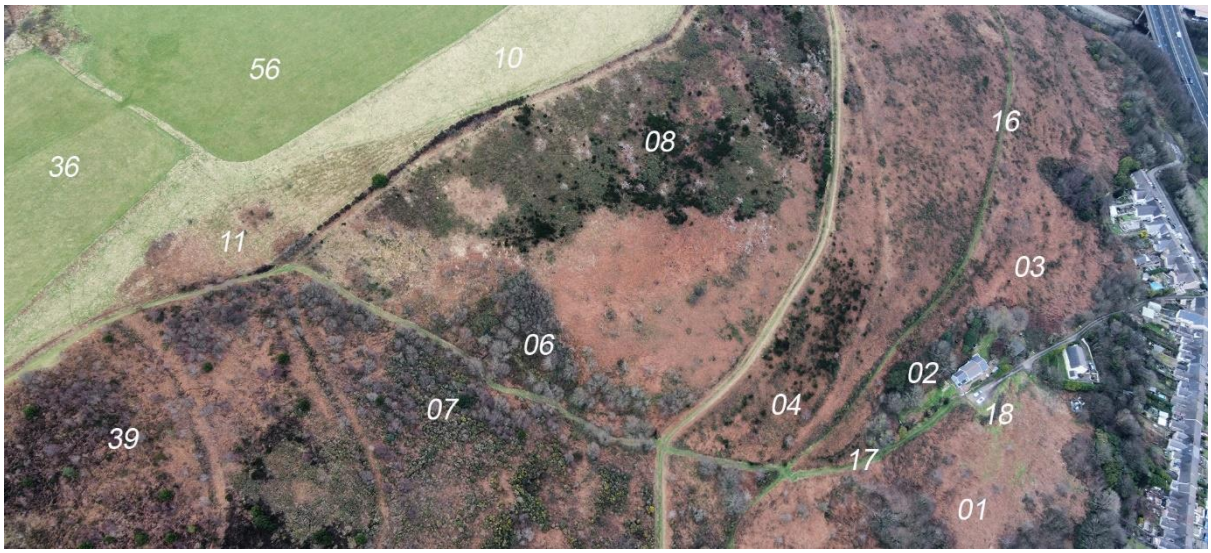
Target Note (01): OSGR SS76279065

Link to full size image https://photos.app.goo.gl/LeFxtmu8ss8Lv8rXA

Link to full size image https://photos.app.goo.gl/5RJSNPR6TQNNvS1z5

Whilst the lower southern slopes lie outside of the study area, these habitats form an important part of the habitat mosaic on Mynydd Dinas and help link adjacent habitats. The lower slopes are cloaked in dense stands of Bracken (U20 and W25), that over time are steadily being succeeded with stands of largely deciduous trees and scattered scrub. Other than Bramble, associates are rather limited amongst the rank stands of Bracken. Sycamore is the most prominent tree species, though most trees are relatively young, probably less than 30 years old.

Target Note 2: OSGR SS76399062



Link to full size image https://photos.app.goo.gl/jhvnuDmG6ajnce3i9

A garden copse just outside of the Site with a mix of native and non-native trees and shrubs. Some grassland management evident during the survey.

Target Note 3: OSGR SS76479054 (see aerial above)

Dense stands of Bracken with scattered scrub on the lower slopes, just outside of the Site.

Target Note 4: OSGR SS76389068 (see aerial above)

Link to full size image https://photos.app.goo.gl/BLfGNnjb79vUem7r6

Dense stands of Bracken with encroachment of Bramble and scattered scrub, Broom being a conspicuous and valuable component for supporting invertebrates.

Target Note 5: OSGR SS76259077 (see aerial above)

Link to full size image https://photos.app.goo.gl/H89jYeVmMeZxgVAV8

Small stand of Sitka Spruce, somewhat exposed following the removal of the main stand of Larch.

Target Note 6: OSGR SS76399080

Link to full size image https://photos.app.goo.gl/d4DuTDJVbBaRv9yT6

Stepped pathway up southern slope of the hill, which transitions from a rather species-poor coarse grassy sward (OV23) in the lower parts, to a more diverse acid grassland type with locally frequent Bird's-foot, Heather and Heath Bedstraw towards the top section.

Bird's-foot *Ornithopus perpusillus* on steep steps between TN06 and TN07

Target Note 7: OSGR SS76359084

Link to full size image https://photos.app.goo.gl/LqzLF5g4CmKzTSJv5

An inaccessible mosaic area of mixed scrub, Bracken and Bramble.

Target Note 8: OSGR SS76509073

Link to full size image https://photos.app.goo.gl/HnXsJSbmN3HyUaDP6

Link to full size image https://photos.app.goo.gl/GrQozMBZ91ipbRNd9

Link to full size image https://photos.app.goo.gl/ugifsMgBZXvBReWs8

This section of hill at TN08 was burned within the last five years. There has been an excellent recovery of all the primary heathland components, plus a good mix of species that are of local interest, such as Bird's-foot, Broom, Cladonia spp. and Goldenrod. Lodgepole Pine has self-seeded and the young trees should be easily to remove at this stage.

Target Note 9: OSGR SS76489084

Link to full size image https://photos.app.goo.gl/neq22Nxc2vuyAGra6

A sunny bank dominated by mature Heather and patches of Broom.

Target Note 10: OSGR SS76569075

Link to full size image https://photos.app.goo.gl/vn35KMBwjw5cLVWcA

Species-poor grassland dominated by Yorkshire-fog, but with some acid-grassland species

Target Note 11: OSGR SS76449091

Link to full size image https://photos.app.goo.gl/eTdRM4B2xFeCYkkQ6

Semi-improved acid grassland dominated by Common Bent and Neat Feathermoss, with frequent/occasional Heath Bedstraw, Heather, etc.

Target Note (12): OSGR SS77139133

Link to full size image https://photos.app.goo.gl/1vUwnGJFUfKBshECA

Bracken covered hillside just outside Site with areas of heathland remnants beneath. Mixed tree and shrub cover includes several non-natives such as this Cider Gum *Eucalyptus gunnii.*

Target Note 13: OSGR SS76949109

Link to full size image https://photos.app.goo.gl/inv2o4PX59mJXiHQ9

Small woodland copse on the hillside just outside the Site, the main canopy species being Sycamore.

Target Note 14: OSGR SS76899086

Link to full size image https://photos.app.goo.gl/bktJN7gXqB7gtJLW9

This disused quarry has largely been colonised by trees and shrubs, but a good selection of dry heath species can be seen on the higher cliff face and on open areas of scree lower down.

Target Note 15: OSGR SS76819073

Link to full size image https://photos.app.goo.gl/Fc8A9wH9gXaErwvt5

Bracken forms dense, monospecific stands over large areas of the southern slopes.

Target Note 16: OSGR SS76699053

Link to full size image https://photos.app.goo.gl/36AZwMw5SvdyDdWA9

The managed track that cuts through the Bracken is mostly a rank sward dominated by False Oat-grass and Yorkshire-fog, with few herbs. The cut does however allow light to penetrate under the barken on the up-slope where a good selection of heathland species were noted including Sheep's-bit and Western Gorse.

Target Note (17): OSGR SS76349066

Outside of the Site: A sheltered grassy track above the cottage, with a low diversity of neutral/mildly acidic grassland species.

Target Note (18): OSGR SS76379058

Outside of the Site: A small area of short ruderals around the cottage parking area.

Target Note 19: OSGR SS76099203

Link to full size image https://photos.app.goo.gl/yrFCNMjZfeyJxsW39

A north-facing, semi-natural deciduous woodland corridor in the north of the Site, dominated by mature Pedunculate Oak and Hybrid Oak, with frequent birches and Rowan.

Target Note 20: OSGR SS76179206

Link to full size image https://photos.app.goo.gl/Hi3y9qiXRCeKkfEfA

Regeneration on an area of clearfell in the north of the site. Such sites can support a surprising level of botanical diversity in the highly disturbed field layer.

Target Note 21: OSGR SS76399198 & **21a** OSGR SS76319215

Link to full size image https://photos.app.goo.gl/ovJ5atKqNd4FzFZk6

Link to full size image https://photos.app.goo.gl/bnKpPejKUEU1yLSN6

North-facing, semi-natural deciduous woodland corridor in the north of the Site, dominated by mature Pedunculate Oak and Hybrid Oak, with frequent birches and Rowan. Around the lower margins the vegetation was mostly intermediate between lowland oak woodland (W10e) and more upland oak woodland (W17b).

Target Note (22): OSGR SS76949109

Link to full size image https://photos.app.goo.gl/ZjZuua6nDho6XSuv5

The farm tip is just off the Site and numerous species were recorded here that were absent from the site. Ruderals and sand dune species were reasonably well represented in the assemblage.

Target Note 23a: OSGR SS76129202, **23b:** OSGR SS75819186, **23c:** OSGR SS76379193 & **23d:** OSGR SS76979163

23a Link to full size image https://photos.app.goo.gl/cGLJ7ePDboLWV12C8

Tracks and verges contributed significantly to the botanical diversity of the Site. Management helps to maintain open, sunlit habitats and creates soil disturbances that encourages competition. In addition to the many beneficial species, non-natives were also evident, such as the Rhododendron in the last image for this TN. Additional photographs below.

23a Link to full size image https://photos.app.goo.gl/aqEb7U7CQZ5RtArq9

23b Link to full size image https://photos.app.goo.gl/fYbju8gMfwfJkyPa8

23c Link to full size image https://photos.app.goo.gl/JD45piwzNPfDhUnU6

23c Link to full size image https://photos.app.goo.gl/KxWp49PS6mMmqzxk9

Marsh Forklet-moss *Dichodontium palustre* growing in damp hollow along verge

Target Note 24: OSGR SS75789156

Link to full size image https://photos.app.goo.gl/YK2mFUkvtyA4vXhk8

Track management seems to favour the maintenance of short dry heath vegetation and heathy banks dominated by dwartf shrubs such as Bilberry, Bell Heather, Heather and Western Gorse were well established on more exposed sections of the hill.

Target Note 25: OSGR SS75849148

Link to full size image https://photos.app.goo.gl/MRXvVtApGgi4A3ak6

Track management also provides good habitat for invertebrates, such as this south-westerly facing dry bank surrounded by dwarf shrubs and Bracken.

Target Note 26: OSGR SS75789136 & **26a** OSGR SS75729113

Link to full size image https://photos.app.goo.gl/7daRnDGLYFvirGV87

Link to full size image https://photos.app.goo.gl/8e2M2Hfuz1bGwoH4A

Link to full size image https://photos.app.goo.gl/7oWtQXNY6FTAVFmr5

Yellow Pimpernel *Lysimachia nemorum*

Bird's-foot *Ornithopus perpusillus*

Hmalayan Honeysuckle *Leycesteria Formosa* and Foxglove *Digitalis purpurea*, two species that respond quickly when soils are disturbed.

Sheep's-bit *Jasione montana*

Sycamore *Acer pseudoplatanus* varieties

As illustrated in this section, plant and invertebrate diversity was found to be good along established tracks, within areas of clearfell in south-facing parts of the Site, even following the long summer drought.

Target Note 27: OSGR SS75739148

Link to full size image https://photos.app.goo.gl/GHEt6u8QcmGJw9YQ6

Regeneration of a wide range of deciduous trees and shrubs has occurred in this section adjacent to an area cleared of larch. Bracken, Bramble and Gorse are the dominant species between the developing canopy.

Target Note 28: OSGR SS75889164

Link to full size image https://photos.app.goo.gl/u7MwFPDqmSBrVbEJA

A sheltered track on the west side of the hill, with plenty of dry heath vegetation and heathy banks dominated by dwarf shrubs.

Target Note 29: OSGR SS75949178

Link to full size image https://photos.app.goo.gl/7twFRJ4ZLPKfe6Wi7

A north-facing track bank, with pioneer heath vegetation in the early phases of colonisation. The lower plant community is well developed in such sections of verge, with numerous mosses, liverworts and lichens represented.

Target Note 30: OSGR SS76009178

Link to full size image https://photos.app.goo.gl/SowGyr9wWKdeZ8Vt8

A north-facing humid curve in the bank adjacent to the main track where the lower plant community is well developed and includes western bryophytes such as Little Shaggy-moss and bog-mosses *Sphagnum* spp.

Target Note 31: OSGR SS76089181

Link to full size image https://photos.app.goo.gl/mWppoCCSJtaiPJhx8

Self-seeding of Lodgepole Pine *Pinus contorta* around quarry banks

Small Cudweed *Filago minima* was locally abundant on the quarry floor

Recently quarried area with much bare rock. Amongst the assemblage of pioneer species Small Cudweed and Lodgepole Pines have developed significant populations

Target Note 32: OSGR SS75879104

Link to full size image https://photos.app.goo.gl/BGYub68NsaGCwKPB6

The most extensive dry heath occurs along the south-western shoulder of the hill. The dark brown on the aerial is mostly Heather which occurs in both pure patches (TN40) and as a mosaic with the straw-coloured acid grassland (TN39). Below is a section of Gorse scrub and beneath that recent larch clearfell.

Target Note 33: OSGR SS76029207

Target Note 34: OSGR SS76249079

Target Note 35: OSGR SS76349101

Target Note 36: OSGR SS76389105

Link to full size image https://photos.app.goo.gl/vn35KMBwjw5cLVWcA

Not accessed. This grassland area is on private land and was imaged using a drone, with some sampling of species visible from the footpath that runs along the its margin. The land comprises poor semi-improved neutral grassland MG6b/7b.

Target Note 37: OSGR SS76339114

Remnants of a Pennant Sandstone wall with scattered acid grassland species including Heath Groundsel and Heather.

Target Note 38: OSGR SS76219122

Link to full size image https://photos.app.goo.gl/jP58QYjyaEy7MYLD8

Not accessed. This grassland area is on private land and was imaged using a drone, with some sampling of species visible from the footpath that runs along the its margin. The land comprises poor semi-improved neutral grassland MG6b.

Target Note 39: OSGR SS76239103

Link to full size image https://photos.app.goo.gl/BGYub68NsaGCwKPB6

Target Note 40: OSGR SS76139104

Link to full size image https://photos.app.goo.gl/BGYub68NsaGCwKPB6

Target Note 41: OSGR SS76139119

Target Note 42: OSGR SS75959142

Target Note 43: OSGR SS75959132

Target Note 44: OSGR SS76699169

Link to full size image https://photos.app.goo.gl/KxWp49PS6mMmqzxk9

Deciduous woodland **W17b** with Bilberry locally abundant in the field layer. This vegetation is best developed on the cooler, more humid, north-east facing slopes of the Site. Wider managed verges provided a good range of habitats for plants and invertebrates.

Target Note 45: OSGR SS76919150

Link to full size image https://photos.app.goo.gl/nuy4LA6vyYMjEyhB8

Target Note 46: OSGR SS76989157

Link to full size image https://photos.app.goo.gl/QGTMA1VWJ7Hb87WU9

Target Note 47: OSGR SS76679150

Link to full size image https://photos.app.goo.gl/GT8csox1LADYneDJA

Track verges on the top of the hill supported a excellent mix of heathland and acid grassland species including good populations of several key species, such as Bell Heather, Heath Groundsel, Heather and Small Cudweed

Dry heath species such as Bell Heather *Erica cinerea* were frequent along the track edges

The localised species **Small Cudweed** was frequent along the track edges

The nationally scarce moth **Star-wort** *Cucullia asteris* feeding on Goldenrod along the track edges

Target Note 48: OSGR SS76569145

Link to full size image https://photos.app.goo.gl/BsEpRtDvBWUCrxEd7

Target Note 49: OSGR SS76559164

Target Note 50: OSGR SS76379162

Link to full size image https://photos.app.goo.gl/k9nABpAgfybHwMHc8

Heather *Calluna vulgaris* was primary component of dry heath in this area

Target Note 51: OSGR SS76279173

Target Note 52: OSGR SS76029162

Dry heath with abundant Bell Heather and Heather (Ling) along track

Key species of dry heath are Bell Heather, Heather and Western Gorse, all of which flower in late summer

Target Note 53: OSGR SS75849196

Regeneration within an area of clearfell in the north of the site. The highly disturbed field layer supports a significant level of botanical diversity, with species from a range of habitats.

Target Note 54: OSGR SS76859168

Link to full size image https://photos.app.goo.gl/477zWYx5ibytPjs76

Regeneration within an area of clearfell in the east of the site. The highly disturbed field layer hast become dominated by a small number of tall herb species including Hemp-agrimony, Rosebay Willowherb and the non-native invasive Indian (Himalayan) Balsam, shown in the lower photograph.

Link to full size image https://photos.app.goo.gl/V6TEiQMFsujd48nJ6

Target Note 55: OSGR SS75869189

Link to full size image https://photos.app.goo.gl/pP5kMwx3h5iprUgc6

Deciduous woodland **W17b** with Bilberry locally abundant in the field layer. This vegetation is best developed on the cooler, more humid, north-east facing slopes of the Site.

Target Note 56: OSGR SS76619090 SS76509110

Link to full size image https://photos.app.goo.gl/vn35KMBwjw5cLVWcA

Not accessed. This grassland area is on private land and was imaged using a drone, with some sampling of species visible from the margins. The land comprises improved grassland MG7b.

Target Note 57: OSGR SS76499110

Link to full size image https://photos.app.goo.gl/ZrYe94wbGiWRntNg9

Not accessed. This feature is on private land and was imaged using a drone. The aerial images revealed the land comprises a mosaic of vegetation types which includes improved grassland (green area), Bracken (rufus areas), rank semi-improved grassland (straw-coloured areas) and scrub (dark patches).

Target Note 58: OSGR SS76409130

Not accessed. This feature is on private land and was imaged using a drone, as shown at TN57. The land appeared to be a unit of improved grassland of similar quality to TN36.

Target Note 59: OSGR SS76379135

Not accessed. This feature is on private land and was imaged using a drone, as shown at TN57. The land appears to be a pond or wet hollow within a unit of improved grassland.

Target Note (60): OSGR SS76229225 & **(60a)** OSGR SS76159229

Link to full size image https://photos.app.goo.gl/aPAQgKbnaxnQiLGg6

Target Note (62): OSGR SS76179223

Link to full size image https://photos.app.goo.gl/youvX3BjuuYcHifd6

Habitats along the access route from Blaen-Baglan include mixed scrub, dense stands of Bracken and drainage ditches.

Link to full size image https://photos.app.goo.gl/JBjZRjJgpQxbJ5TL7

Target Note (64): OSGR SS76139217

Link to full size image https://photos.app.goo.gl/zGEBfzabiEUNmNUC8

The fields immediately adjacent to the access route from Blaen-Baglan appeared mostly to be improved and/or poor semi-improved pasture.

APPENDIX 2: SPECIES LISTS

NB species listed in grey and marked with an asterisk were not recorded within the red line study area boundary, but were recorded from adjacent habitats on the lower parts of Mynydd Dinas; these have been included to provide a more complete account of the total assemblage on the hill.

Table A: Species counts for those taxonomic groups recorded.

Group	Study Area	Lower parts of hill	**Totals**
Vascular Plants	208	61	**269**
➢ Natives	181 (87%)	37	**218** (81%)
➢ Archaeophytes	4 (2%)	8	**11** (4%)
➢ Neophytes	23 (11%)	15	**38** (14%)
Bryophytes	75	7	**82**
Lichens	18	-	**18**
Fungi	1	-	**1**
Mammals	2	1	**3**
Birds	25	-	**25**
Invertebrates	32	4	**36**
Totals (all taxa)	361	73	**434**

	Taxon	Vernacular	CS	Axiophyte	National Status
Vascular Plants					
	Acer pseudoplatanus	Sycamore			Neophyte
*	*Achillea millefolium*	Yarrow			Native
	Agrostis capillaris	Common Bent			Native
	Agrostis stolonifera	Creeping Bent			Native
	Agrostis vinealis	Brown Bent		✓	Native
	Aira praecox	Early Hair-grass		✓	Native
	Alopecurus geniculatus	Marsh Foxtail		✓	Native
	Anagallis arvensis	Scarlet Pimpernel		✓	Native
	Angelica sylvestris	Wild Angelica		✓	Native
	Anisantha sterilis	Barren Brome		✓	Archaeophyte
	Anthoxanthum odoratum	Sweet Vernal-grass			Native
*	*Anthyllis vulneraria*	Kidney Vetch		✓	Native
*	*Antirrhinum majus*	Snapdragon			Neophyte
*	*Apium nodiflorum*	Fool's-water-cress		✓	Native
*	*Arabidopsis thaliana*	Thale Cress		✓	Native
	Arctium minus	Lesser Burdock			Native
	Arrhenatherum elatius	False Oat-Grass			Native
*	*Asplenium scolopendrium*	Hart's-tongue			Native
	Athyrium filix-femina	Lady-fern		✓	Native
	Bellis perennis	Daisy			Native
	Berberis darwinii	Darwin's Barberry			Neophyte
	Betula pendula	Silver Birch			Native

	Betula pubescens	Downy Birch	✓	Native
	Blechnum spicant	Hard-fern	✓	Native
	Brachypodium sylvaticum	False-brome	✓	Native
	Bromus hordeaceus	Soft-brome	✓	Native
	Buddleja davidii	Butterfly-bush		Neophyte
	Calluna vulgaris	Heather	✓	Native
	Calystegia sepium	Hedge Bindweed		Native
*	*Calystegia silvatica*	Large Bindweed		Neophyte
*	*Capsella bursa-pastoris*	Shepherd's-purse		Archaeophyte
*	*Cardamine hirsuta*	Hairy Bitter-cress		Native
	Carex binervis	Green-ribbed Sedge	✓	Native
	Carex demissa	Common Yellow-sedge	✓	Native
	Carex hirta	Hairy Sedge	✓	Native
	Carex leporina	Oval Sedge	✓	Native
*	*Carex pendula*	Pendulous Sedge	✓	Native
	Carex pilulifera	Pill Sedge	✓	Native
*	*Carex remota*	Remote Sedge	✓	Native
*	*Castanea sativa*	Sweet Chestnut		Archaeophyte
	Catapodium rigidum	Fern-grass	✓	Native
	Centaurea debeauxii	Chalk Knapweed	✓	Native
	Centaurea nigra	Common Knapweed	✓	Native
	Centaurium erythraea	Common Centaury	✓	Native
	Cerastium fontanum	Common Mouse-ear		Native
	Cerastium glomeratum	Sticky Mouse-ear		Native
	Chamerion angustifolium	Rosebay Willowherb		Native
	Chrysosplenium oppositifolium	Opposite-leaved Golden-saxifrage	✓	Native
	Circaea lutetiana	Enchanter's-nightshade	✓	Native
	Cirsium arvense	Creeping Thistle		Native
	Cirsium palustre	Marsh Thistle		Native
	Cirsium vulgare	Spear Thistle		Native
	Conyza floribunda	Bilbao's Fleabane		Neophyte
	Corylus avellana	Hazel	✓	Native
	Cotoneaster horizontalis	Wall Cotoneaster		Neophyte
	Cotoneaster simonsii	Himalayan Cotoneaster		Neophyte
	Crataegus monogyna	Hawthorn		Native
	Crepis capillaris	Smooth Hawk's-beard	✓	Native
	Crepis vesicaria	Beaked Hawk's-beard		Neophyte
	Crocosmia x crocosmiiflora	Montbretia (C. aurea x pottsii)		Neophyte
*	*Cymbalaria muralis*	Ivy-leaved Toadflax		Neophyte
	Cynosurus cristatus	Crested Dog's-tail		Native
	Cytisus scoparius	Broom	✓	Native
	Dactylis glomerata	Cock's-foot		Native
	Dactylorhiza praetermissa	Southern Marsh-orchid	✓	Native
	Danthonia decumbens	Heath-grass	✓	Native
	Daucus carota subsp. carota	Wild Carrot	✓	Native
	Deschampsia cespitosa	Tufted Hair-grass	✓	Native
	Deschampsia flexuosa	Wavy Hair-grass	✓	Native
	Digitalis purpurea	Foxglove	✓	Native
*	*Dryopteris affinis*	Scaly Male-fern	✓	Native
	Dryopteris borreri	Scaly Male-fern	✓	Native
	Dryopteris dilatata	Broad Buckler-fern	✓	Native
	Dryopteris filix-mas	Male-fern		Native
	Elytrigia repens	Common Couch		Native
	Epilobium ciliatum	American Willowherb		Neophyte

	Epilobium hirsutum	Great Willowherb		✓	Native
	Epilobium montanum	Broad-leaved Willowherb			Native
	Epilobium parviflorum	Hoary Willowherb		✓	Native
	Equisetum arvense	Field Horsetail			Native
	Erica cinerea	Bell Heather		✓	Native
*	*Eucalyptus gunnii*	Cider Gum			Neophyte
	Eupatorium cannabinum	Hemp-agrimony		✓	Native
	Euphrasia nemorosa			✓	Native
	Fagus sylvatica	Beech			Native
*	*Fallopia japonica*	Japanese Knotweed			Neophyte
	Festuca ovina	Sheep's-fescue		✓	Native
	Festuca rubra	Red Fescue		✓	Native
	Filago minima	Small Cudweed	✓	✓	Native
	Fragaria vesca	Wild Strawberry		✓	Native
	Fraxinus excelsior	Ash			Native
	Galium aparine	Cleavers			Native
	Galium palustre	Marsh-bedstraw		✓	Native
	Galium saxatile	Heath Bedstraw		✓	Native
*	*Geranium dissectum*	Cut-leaved Crane's-bill		✓	Archaeophyte
*	*Geranium pyrenaicum*	Hedgerow Crane's-bill			Neophyte
	Geranium robertianum	Herb-Robert		✓	Native
*	*Geum urbanum*	Wood Avens		✓	Native
*	*Glyceria fluitans*	Floating Sweet-grass		✓	Native
	Gnaphalium uliginosum	Marsh Cudweed			Native
	Hedera hibernica	Atlantic Ivy			Native
	Heracleum sphondylium	Hogweed		✓	Native
*	*Hieracium sp.*	a hawkweed		✓	Native
	Hieracium umbellatum	Umbellate Hawkweed			Native
*	*Hirschfeldia incana*	Hoary Mustard			Neophyte
	Holcus lanatus	Yorkshire-fog			Native
	Holcus mollis	Creeping Soft-grass		✓	Native
*	*Hordeum murinum*	Wall Barley			Archaeophyte
*	*Hyacinthoides hispanica*	Spanish Bluebell			Neophyte
	Hyacinthoides non-scripta	Bluebell		✓	Native
	Hypericum androsaemum	Tutsan		✓	Native
	Hypericum humifusum	Trailing St John's-wort		✓	Native
*	*Hypericum perforatum*	Perforate St John's-wort		✓	Native
	Hypericum tetrapterum	Square-stalked St John's-wort		✓	Native
	Hypochaeris radicata	Cat's-ear		✓	Native
	Ilex aquifolium	Holly		✓	Native
	Impatiens glandulifera	Indian Balsam			Neophyte
	Isolepis cernua	Slender Club-rush	✓	✓	Native
	Isolepis setacea	Bristle Club-rush		✓	Native
	Jasione montana	Sheep's-bit		✓	Native
*	*Juncus acutiflorus*	Sharp-flowered Rush		✓	Native
	Juncus articulatus	Jointed Rush		✓	Native
	Juncus bulbosus	Bulbous Rush		✓	Native
	Juncus conglomeratus	Compact Rush			Native
	Juncus effusus	Soft-rush			Native
	Juncus foliosus	Leafy Rush		✓	Native
	Juncus inflexus	Hard Rush		✓	Native
	Juncus tenuis	Slender Rush			Neophyte
	Lapsana communis	Nipplewort		✓	Native
	Larix kaempferi	Japanese Larch			Neophyte

	Larix x marschlinsii	Hybrid Larch (L. decidua x kaempferi)			Neophyte
*	*Lathyrus pratensis*	Meadow Vetchling		✓	Native
*	*Lemna minor*	Common Duckweed		✓	Native
*	*Lemna minuta*	Least Duckweed			Neophyte
*	*Lepidium didymum*	Lesser Swine-cress			Neophyte
	Leucanthemum vulgare	Oxeye Daisy		✓	Native
	Leycesteria formosa	Himalayan Honeysuckle			Neophyte
*	*Ligustrum ovalifolium*	Garden Privet			Neophyte
*	*Linaria vulgaris*	Common Toadflax			Native
	Linum catharticum	Fairy Flax		✓	Native
	Lolium perenne	Perennial Rye-grass			Native
	Lonicera periclymenum	Honeysuckle		✓	Native
	Lotus corniculatus	Common Bird's-foot-trefoil		✓	Native
	Lotus corniculatus var. sativus				Neophyte
	Lotus pedunculatus	Greater Bird's-foot-trefoil		✓	Native
	Luzula campestris	Field Wood-rush		✓	Native
	Luzula multiflora	Heath Wood-rush		✓	Native
	Lysimachia nemorum	Yellow Pimpernel		✓	Native
	Matricaria discoidea	Pineappleweed			Neophyte
	Medicago lupulina	Black Medick		✓	Native
	Molinia caerulea	Purple Moor-grass		✓	Native
*	*Montia fontana*	Blinks		✓	Native
	Myosotis laxa	Tufted Forget-me-not		✓	Native
*	*Myosotis sylvatica*	Wood Forget-me-not		✓	Native
	Nardus stricta	Mat-grass		✓	Native
	Odontites vernus	Red Bartsia		✓	Native
	Oenanthe crocata	Hemlock Water-dropwort		✓	Native
*	*Oenothera cambrica*	Small-flowered Evening-primrose			Neophyte
*	*Oenothera x fallax*	O. glazioviana x biennis			Neophyte
*	*Ononis repens*	Common Restharrow		✓	Native
	Ornithopus perpusillus	Bird's-foot	✓	✓	Native
*	*Pastinaca sativa subsp. sylvestris*	Wild Parsnip		✓	Native
	Persicaria maculosa	Redshank			Native
	Phleum bertolonii	Smaller Cat's-tail		✓	Native
	Phleum pratense	Timothy			Native
*	*Phragmites australis*	Common Reed		✓	Native
	Picea sitchensis	Sitka Spruce			Neophyte
	Pilosella officinarum	Mouse-ear-hawkweed		✓	Native
	Pinus contorta	Lodgepole Pine			Neophyte
	Pinus nigra	Austrian Pine / Corsican Pine			Neophyte
	Plantago lanceolata	Ribwort Plantain			Native
	Plantago major	Greater Plantain		✓	Native
	Poa annua	Annual Meadow-grass		✓	Native
	Poa humilis	Spreading Meadow-grass		✓	Native
	Poa trivialis	Rough Meadow-grass		✓	Native
	Polygala serpyllifolia	Heath Milkwort		✓	Native
*	*Polygonum arenastrum*	Equal-leaved Knotgrass			Archaeophyte
*	*Polypodium interjectum*	Intermediate Polypody		✓	Native
*	*Polypogon viridis*	Water Bent			Native
	Polystichum setiferum	Soft Shield-fern		✓	Native
	Populus tremula	Aspen		✓	Native
	Potentilla anglica	Trailing Tormentil		✓	Native
*	*Potentilla anserina*	Silverweed			Native
	Potentilla erecta	Tormentil		✓	Native

	Potentilla reptans	Creeping Cinquefoil		Native
	Potentilla sterilis	Barren Strawberry	✓	Native
	Potentilla x mixta sens. lat.	*P. anglica* or *erecta x reptans*		Native
	Primula vulgaris	Primrose	✓	Native
	Prunella vulgaris	Selfheal		Native
	Prunus laurocerasus	Cherry Laurel		Neophyte
	Prunus lusitanica	Portugal Laurel		Neophyte
	Prunus spinosa	Blackthorn	✓	Native
	Pteridium aquilinum	Bracken		Native
	Pulicaria dysenterica	Common Fleabane	✓	Native
	Quercus petraea	Sessile Oak	✓	Native
	Quercus robur	Pedunculate Oak		Native
	Quercus x rosacea	*Q. petraea x robur*		Native
	Ranunculus acris	Meadow Buttercup	✓	Native
*	*Ranunculus bulbosus*	Bulbous Buttercup	✓	Native
	Ranunculus flammula	Lesser Spearwort	✓	Native
	Ranunculus repens	Creeping Buttercup		Native
*	*Reseda luteola*	Weld		Archaeophyte
	Rhinanthus minor	Yellow-rattle	✓	Native
	Rhododendron ponticum	Rhododendron		Neophyte
*	*Ribes sanguineum*	Flowering Currant		Neophyte
	Robinia pseudoacacia	False-acacia		Neophyte
	Rosa arvensis	Field-rose		Native
	Rosa canina agg.	Dog-rose		Native
	Rubus fruticosus agg.	Bramble		Native
	Rumex acetosa	Common Sorrel		Native
	Rumex acetosella	Sheep's Sorrel	✓	Native
	Rumex crispus	Curled Dock	✓	Native
	Rumex obtusifolius	Broad-leaved Dock		Native
	Rumex sanguineus	Wood Dock	✓	Native
	Sagina apetala subsp. filicaulis	Upright Pearlwort	1	Native
	Sagina procumbens	Procumbent Pearlwort		Native
	Salix aurita	Eared Willow	✓	Native
	Salix caprea	Goat Willow	✓	Native
	Salix cinerea subsp. oleifolia	Rusty Willow		Native
	Salix x reichardtii	S. caprea x cinerea		Native
	Sambucus nigra	Elder		Native
	Scorzoneroides autumnalis	Autumn Hawkbit	✓	Native
	Scrophularia auriculata	Water Figwort	✓	Native
	Scrophularia nodosa	Common Figwort	✓	Native
	Senecio aquaticus	Marsh Ragwort	✓	Native
	Senecio jacobaea	Common Ragwort		Native
	Senecio sylvaticus	Heath Groundsel	✓	Native
*	*Senecio vulgaris*	Groundsel		Native
	Silene dioica	Red Campion	✓	Native
	Silene flos-cuculi	Ragged-Robin	✓	Native
	Solanum dulcamara	Bittersweet	✓	Native
	Solidago virgaurea	Goldenrod	✓	Native
	Sonchus asper	Prickly Sow-thistle		Native
	Sorbus aucuparia	Rowan	✓	Native
	Spergula arvensis	Corn Spurrey	✓	Archaeophyte
	Spergularia rubra	Sand Spurrey	✓	Native
*	*Stachys sylvatica*	Hedge Woundwort		Native
	Stellaria media	Common Chickweed		Native

*	*Tanacetum parthenium*	Feverfew		Archaeophyte
	Taraxacum agg.	Dandelion		Native
	Taxus baccata	Yew	✓	Native
	Teucrium scorodonia	Wood Sage	✓	Native
	Torilis japonica	Upright Hedge-parsley	✓	Native
	Trifolium dubium	Lesser Trefoil		Native
*	*Trifolium medium*	Zigzag Clover	✓	Native
	Trifolium pratense	Red Clover	✓	Native
	Trifolium repens	White Clover		Native
*	*Tripleurospermum inodorum*	Scentless Mayweed		Archaeophyte
	Tussilago farfara	Colt's-foot		Native
	Ulex europaeus	Gorse	✓	Native
	Ulex gallii	Western Gorse	✓	Native
*	*Ulmus glabra*	Wych Elm		Native
*	*Umbilicus rupestris*	Navelwort	✓	Native
	Urtica dioica	Common Nettle		Native
	Vaccinium myrtillus	Bilberry	✓	Native
*	*Valerianella carinata*	Keeled-fruited Cornsalad		Archaeophyte
*	*Verbascum thapsus*	Great Mullein	✓	Native
*	*Veronica arvensis*	Wall Speedwell	✓	Native
*	*Veronica chamaedrys*	Germander Speedwell		Native
	Veronica officinalis	Heath Speedwell	✓	Native
*	*Veronica persica*	Common Field-speedwell		Neophyte
	Veronica serpyllifolia	Thyme-leaved Speedwell	✓	Native
*	*Vicia cracca*	Tufted Vetch	✓	Native
	Vicia sativa subsp. segetalis	Common Vetch		Archaeophyte
*	*Vicia sepium*	Bush Vetch	✓	Native
	Vicia tetrasperma	Smooth Tare	✓	Native
	Viola riviniana	Common Dog-violet	✓	Native
	Vulpia bromoides	Squirreltail Fescue	✓	Native

Mammals (incidental observations)

	Dama dama	Fallow Deer	Naturalised
	Meles meles	Badger	None
*	*Talpa europaea*	Northern Mole	None

Lichens

Baeomyces rufus	a lichen	Native
Buellia aethalea	a lichen	Native
Cladonia coniocraea	a lichen	Native
Cladonia polydactyla var. polydactyla	a lichen	Native
Cladonia portentosa	a lichen	Native
Cladonia pyxidata	a lichen	Native
Fuscidea cyathoides var. cyathoides	a lichen	Native
Lecanora chlarotera	a lichen	Native
Lecanora soralifera	a lichen	Native
Lecidea lithophila	a lichen	Native
Lecidella elaeochroma f. elaeochroma	a lichen	Native
Lepraria incana sens. lat.	a lichen	Native
Parmotrema perlatum	a lichen	Native
Peltigera hymenina	a lichen	Native
Porpidia macrocarpa	a lichen	Native
Porpidia tuberculosa	a lichen	Native
Rhizocarpon reductum	a lichen	Native

	Stereocaulon vesuvianum var. vesuvianum	a lichen	Native

Invertebrates (incidental Observations)

	Aglais urticae	Small Tortoiseshell	None
	Agriphila inquinatella	a moth	Common
	Anax imperator	Emperor Dragonfly	None
*	*Aphantopus hyperantus*	Ringlet	None
	Apis mellifera	Western Honey Bee	None
*	*Bombus jonellus*	Heath Bumblebee	None
	Bombus lapidarius	Red-tailed Bumblebee	None
	Bombus lucorum sens. str.	White-tailed Bumblebee	None
	Bombus pascuorum	Common Carder Bee	None
	Bombus terrestris	Buff-tailed Bumblebee	None
	Chionaspis salicis		None
	Chrysotoxum bicinctum	a hoverfly	None
	Cicindela campestris	Green Tiger Beetle	None
	Coenonympha pamphilus	Small Heath	None
	Coreus marginatus	Dock Bug	Common
	Cucullia asteris	Star-wort	Nb
	Eupithecia virgaureata	Golden-rod Pug	Local
	Maniola jurtina	Meadow Brown	None
	Megachile centuncularis	Patchwork Leafcutter Bee	None
	Mellinus arvensis	Field Digger Wasp	None
*	*Mompha raschkiella*	a moth	Common
	Notocelia uddmanniana	Bramble Shoot Moth	Common
	Ochlodes sylvanus	Large Skipper	None
	Oedemera lurida		None
	Omocestus viridulus	Common Green Grasshopper	None
	Osmia bicornis	Red Mason Bee	None
	Pararge aegeria	Speckled Wood	None
	Petrophora chlorosata	Brown Silver-line	Common
	Phalera bucephala	Buff-tip	Common
	Polyommatus icarus	Common Blue	None
*	*Pyronia tithonus*	Gatekeeper	None
	Scotopteryx mucronata umbrifera	Lead Belle	Common
	Tyria jacobaeae	Cinnabar	Common
	Vanessa atalanta	Red Admiral	Migrant
	Volucella bombylans	a hoverfly	None

Fungi

	Myriangium duriaei		None

Bryophytes (mossess & liverworts)

	Atrichum undulatum	Common Smoothcap	Native
	Barbula unguiculata	Bird's-claw Beardmoss	Native
	Brachythecium rutabulum	Rough-stalked Feathermoss	Native
	Bryum bornholmense	Potato Bryum	Native
	Bryum capillare	Capillary Threadmoss	Native
	Bryum dichotomum	Bicoloured Bryum	Native
	Calliergonella cuspidata	Pointed Spearmoss	Native
	Calypogeia arguta	Notched Pouchwort	Native
	Calypogeia fissa	Common Pouchwort	Native
	Campylopus introflexus	Heath Star Moss	Non-native
	Cephalozia bicuspidata	Two-horned Pincerwort	Native

	Cephaloziella divaricata	Common Threadwort	Native
*	*Cephaloziella hampeana*	Hampe's Threadwort	Native
	Ceratodon purpureus	Redshank	Native
	Cryphaea heteromalla	Lateral Cryphaea	Native
	Dichodontium palustre	Marsh Forklet-moss	Native
	Dichodontium pellucidum	Transparent Forkmoss	Native
	Dicranella heteromalla	Silky Forklet-moss	Native
	Dicranella rufescens	Rufous Forklet-moss	Native
	Dicranoweisia cirrata	Common Pincushion	Native
	Dicranum scoparium	Broom Forkmoss	Native
	Didymodon fallax	False Beardmoss	Native
	Didymodon insulanus	Cylindric Beardmoss	Native
*	*Didymodon nicholsonii*	Nicholson's Beardmoss	Native
	Diplophyllum albicans	White Earwort	Native
*	*Eurhynchium striatum*	Common Striated Feathermoss	Native
	Fissidens bryoides var. bryoides	Lesser Pocketmoss	Native
	Fissidens taxifolius	Common Pocketmoss	Native
	Frullania dilatata	Dilated Scalewort	Native
*	*Funaria hygrometrica*	Bonfire Moss	Native
	Grimmia pulvinata	Grey-cushioned Grimmia	Native
*	*Homalothecium lutescens*	Yellow Feathermoss	Native
*	*Homalothecium sericeum*	Silky Wall Feathermoss	Native
	Hylocomium splendens	Glittering Woodmoss	Native
	Hypnum cupressiforme var. cupressiforme	Cypress-leaved Plaitmoss	Native
	Hypnum cupressiforme var. lacunosum	Great Plaitmoss	Native
	Hypnum jutlandicum	Heath Plaitmoss	Native
	Isothecium myosuroides	Slender Mouse-tail Moss	Native
	Kindbergia praelonga	Common Feathermoss	Native
	Lewinskya affinis	Wood Bristlemoss	Native
	Lophocolea bidentata	Bifid Crestwort	Native
	Metzgeria furcata	Forked Veilwort	Native
	Microlejeunea ulicina	Fairy Beads	Native
	Mnium hornum	Swan's-neck Thyme-moss	Native
	Nardia scalaris	Ladder Flapwort	Native
	Orthotrichum pulchellum	Elegant Bristlemoss	Native
	Orthotrichum striatum	Shaw's Bristle-moss	Native
	Orthotrichum tenellum	Slender Bristlemoss	Native
	Pellia epiphylla	Overleaf Pellia	Native
	Philonotis fontana	Fountain Apple-moss	Native
	Plagiothecium undulatum	Waved Silkmoss	Native
	Pleuridium acuminatum	Taper-leaved Earthmoss	Native
	Pleurozium schreberi	Red-stemmed Feathermoss	Native
	Pogonatum aloides	Aloe Haircap	Native
	Pogonatum urnigerum	Urn Haircap	Native
*	*Pohlia camptotrachela*	Crookneck Nodding-moss	Native
	Pohlia elongata var. elongata	Sharp-leaved Threadmoss	Native
	Pohlia wahlenbergii var. wahlenbergii	Pale Glaucous Threadmoss	Native
	Polytrichastrum formosum	Bank Haircap	Native
	Polytrichum commune	Common Haircap	Native
	Polytrichum formosum	Bank Haircap	Native
	Polytrichum juniperinum	Juniper Haircap	Native
	Polytrichum piliferum	Bristly Haircap	Native
	Pseudocrossidium hornschuchianum	Hornschuch's Beardmoss	Native
	Pseudoscleropodium purum	Neat Feathermoss	Native

Pseudotaxiphyllum elegans	Elegant Silkmoss	Native
Racomitrium aciculare	Yellow Fringemoss	Native
Racomitrium ericoides	Dense Fringemoss	Native
Racomitrium fasciculare	Green Mountain Fringemoss	Native
Racomitrium lanuginosum	Woolly Fringemoss	Native
Rhytidiadelphus loreus	Little Shaggy-moss	Native
Rhytidiadelphus squarrosus	Springy Turf-moss	Native
Scapania irrigua	Heath Earwort	Native
Sciuro-hypnum populeum	Matted Feathermoss	Native
Solenostoma gracillimum	Crenulated Flapwort	Native
Sphagnum auriculatum	Cow-horn Bogmoss	Native
Sphagnum fimbriatum	Fringed Bogmoss	Native
Sphagnum subnitens	Lustrous Bogmoss	Native
Streblotrichum convolutum var. convolutum	Lesser Bird's-claw Beardmoss	Native
Tortula muralis	Wall Screwmoss	Native
Ulota phyllantha	Frizzled Pincushion	Native
Zygodon conoideus	Lesser Yokemoss	Native

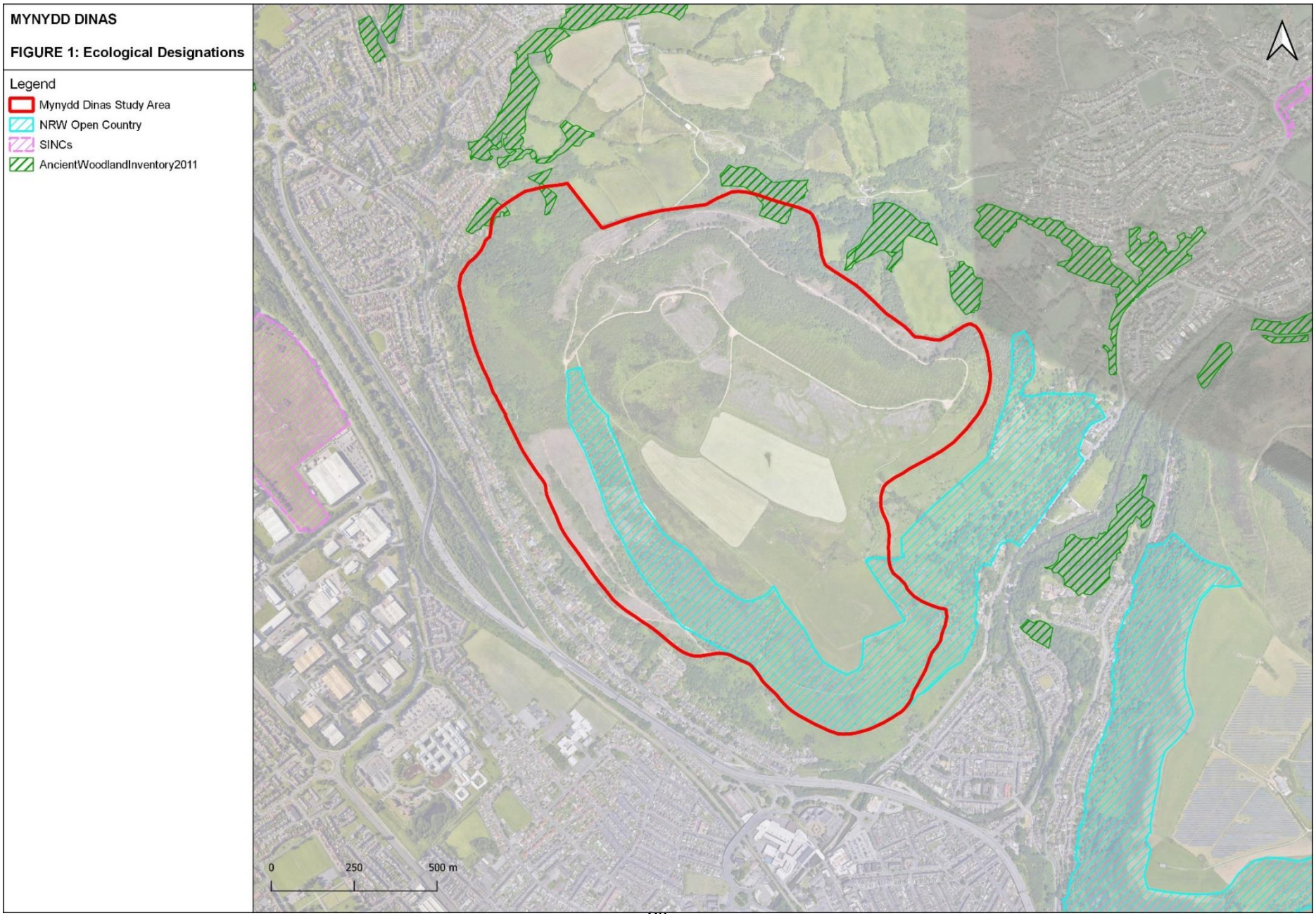
Birds (Incidental observations)

Aegithalos caudatus	Long-tailed Tit	A
Alauda arvensis	Skylark	A
Anthus pratensis	Meadow Pipit	A
Buteo buteo	Buzzard	A
Columba palumbus	Woodpigeon	A
Cyanistes caeruleus	Blue Tit	A
Erithacus rubecula	Robin	A
Garrulus glandarius	Jay	A
Larus argentatus	Herring Gull	A
Linaria cannabina	Linnet	A
Parus major	Great Tit	A
Periparus ater	Coal Tit	A
Phylloscopus collybita	Chiffchaff	A
Phylloscopus trochilus	Willow Warbler	A
Prunella modularis	Dunnock	A
Pyrrhula pyrrhula	Bullfinch	A
Regulus regulus	Goldcrest	A
Saxicola rubicola	Stonechat	A
Spinus spinus	Siskin	A
Sylvia atricapilla	Blackcap	A
Sylvia communis	Whitethroat	A
Troglodytes troglodytes	Wren	A
Turdus merula	Blackbird	A
Turdus philomelos	Song Thrush	A
Turdus viscivorus	Mistle Thrush	A

APPENDIX 3: FIGURES

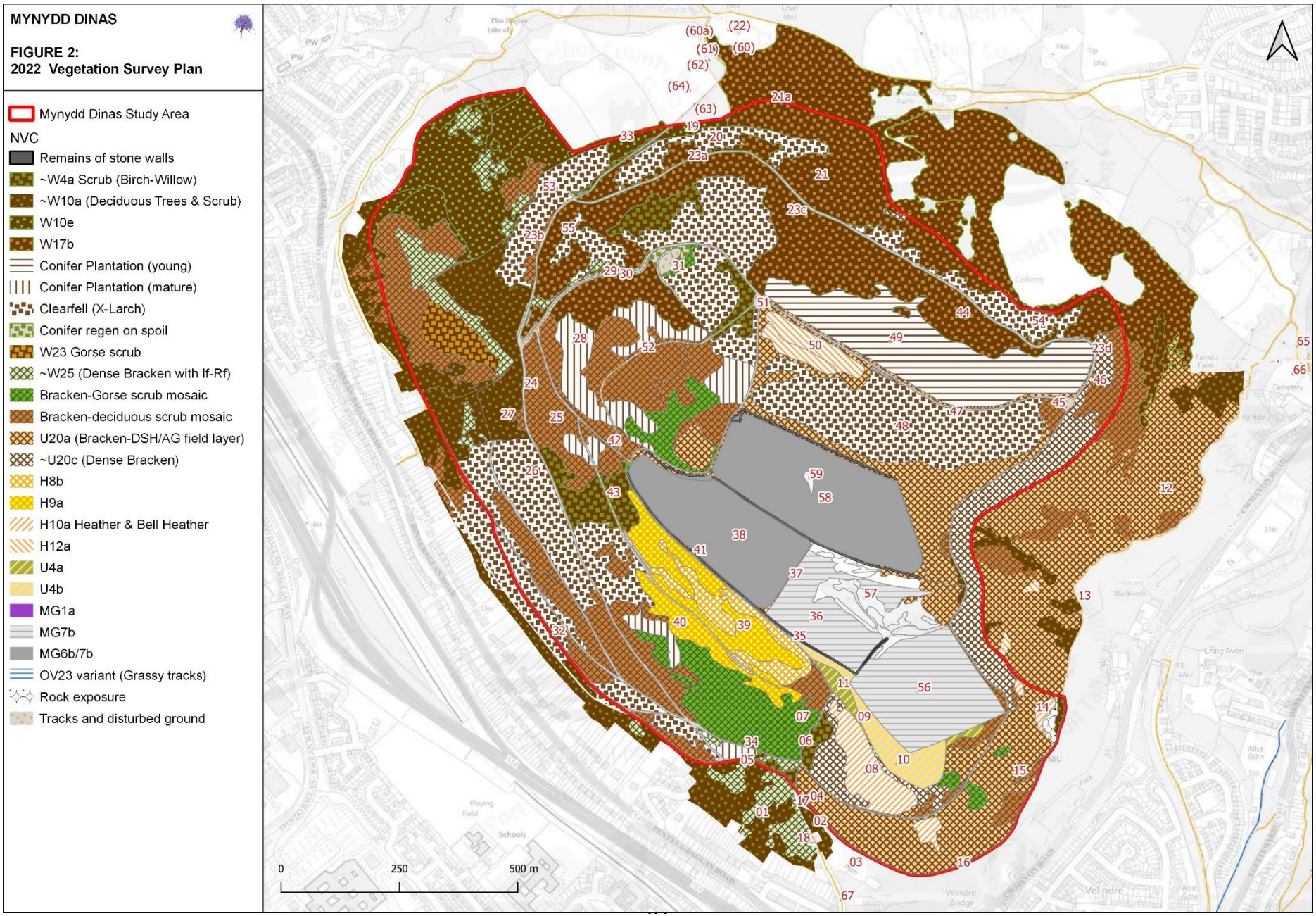
MYNYDD DINAS

FIGURE 1: Ecological Designations



MYNYDD DINAS

FIGURE 2:
2022 Vegetation Survey Plan

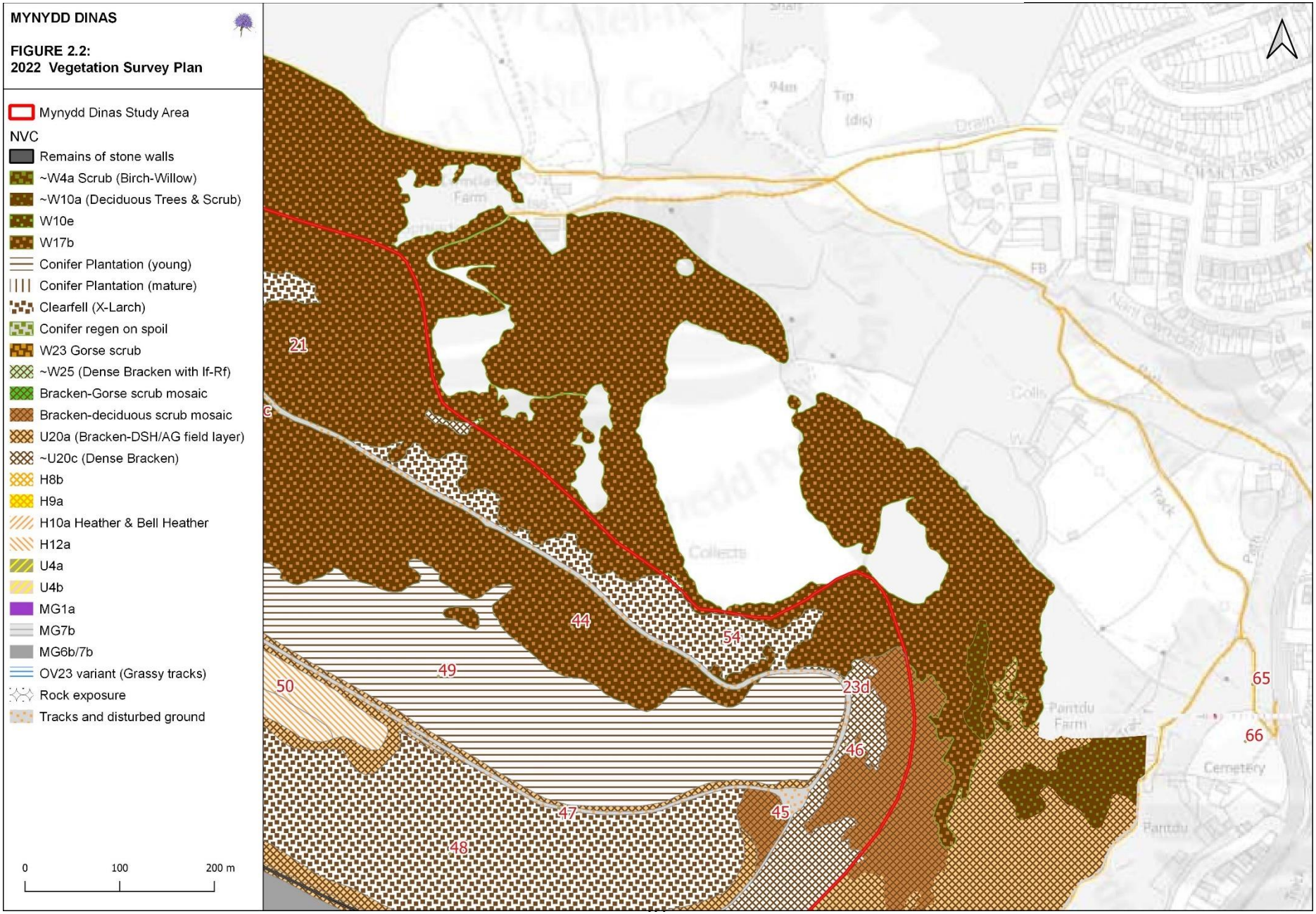


MYNYDD DINAS

FIGURE 2.1:
2022 Vegetation Survey Plan

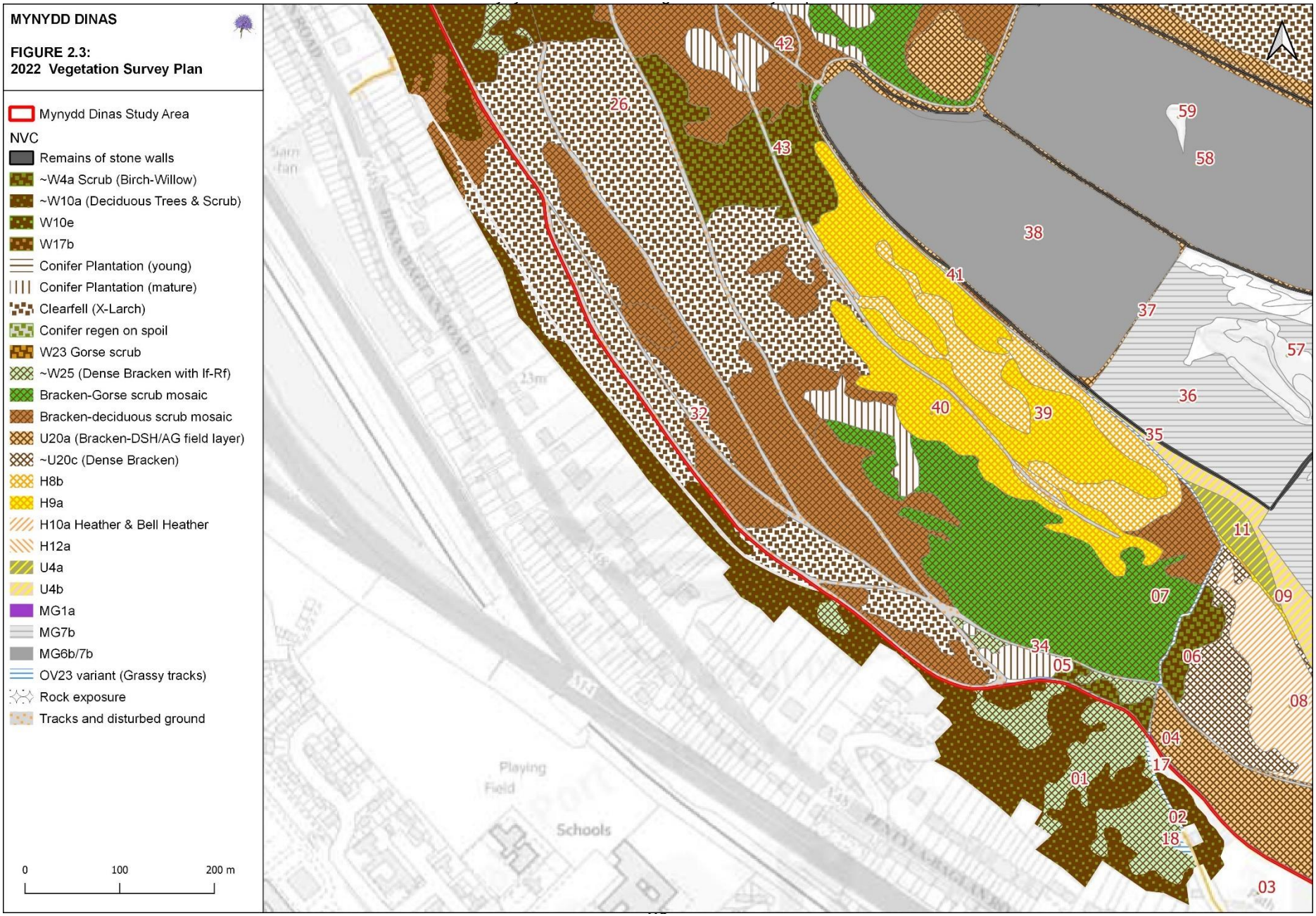
MYNYDD DINAS

FIGURE 2.2:
2022 Vegetation Survey Plan



MYNYDD DINAS

FIGURE 2.3:
2022 Vegetation Survey Plan



MYNYDD DINAS

FIGURE 2.4:
2022 Vegetation Survey Plan