HAWKESWOOD ECOLOGY
Specialists in Ecological Survey and Assessment

17 Heol Henrhyd, Coelbren, Nr. Ystradgynlais, POWYS. SA10 9PG. Tel/Fax: 01639 701304
Mobile: 07957 154794 E-mail: hawkeswoodecology@btinternet.com
VAT Reg No 926 9271 93
(Proprietors: Niki and Eric Hawkeswood)

PROVISION OF NEW BIKE TRAILS AT BIKE PARK WALES SITE, GETHIN FOREST

On behalf of

BIKE PARK WALES.

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Ref HE/35/2023

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We confirm that in preparing this Report we have exercised reasonable skill and care, taking into account the project objectives, the agreed scope of the work, prevailing site conditions and the degree of manpower and resources allocated to the project.

All habitat and protected species surveys present a ‘snapshot’ of conditions existing and species present, or considered having potential to be present, at the time of survey. Many species are mobile and distributions can vary across time. Results and findings presented in this report should be considered with these factors in mind.

Protected species surveys are recognised as having a ‘shelf life’ of two years maximum in normal circumstances. Surveys older than this are unlikely to be accepted by a Local Planning Authority or Natural Resources Wales as viable documentation without just cause.

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SUMMARY
Hawkeswood Ecology was instructed to carry out an assessment of impacts of new bike trails proposed at the Bike Park Wales Site in the Gethin Forest, Abercanaid. The assessment covered tracks being constructed in Ancient Semi-Natural Woodland (ASNW) and across less sensitive areas of the Site, much of which is designated for nature conservation as Sites of Importance for Nature Conservation (SINCs) at a local level. The Site is a busy and successful Mountain Bike Centre catering for many thousands of bike riders each year. The majority of trails are constructed through forestry plantations however some tracks cross into Ancient Woodland.

A walkover survey of the Site was undertaken which involved assessing the general condition of the ASNW and the wider affected area. This was done by ground truthing the Site against earlier detailed surveys carried out by David Clements Ecology Ltd and known data held by the Local Record Centre.

Bike Park Wales lies on the western slopes of Merthyr Vale above Abercanaid, it is largely afforested and has been managed by or on behalf of the former Forestry Commission and now Natural Resources Wales for timber production. The proposed trails will result in impacts on the ground flora but unlikely to affect shrubs or trees within the ASNW. Works to construct the Trails are limited in extent and can normally be contained to the corridor of the new track and its margins.

Whilst there will undoubtedly be impacts upon the Ancient Semi-Natural Woodland (ASNW) and SINCs on Site, there are also a number of biodiversity benefits accrued from the presence and working of the Bike Park. NRW will change the designation of the woodland from a productive commercial forest within the bike park area (approx. 700 acres) thus no longer commercially logging and restocking the area if a new lease is approved and the trails go ahead. Over the longer term this has enormous benefits for the currently isolated areas of ASNW present on Site allowing the potential for the whole Site to recover to broad leaved/mixed woodland and a long term recovery of soils and ground flora to occur and increase connectivity across the area.

In summary, the proposed bike trails will have a negligible adverse impact upon the wider areas of the Site, however, the benefits from removing the whole Site from the commercial sector will have the potential to provide real benefits for habitats and species over the medium to longer term.

1 INTRODUCTION

1.1 Hawkeswood Ecology was commissioned by Bike Park Wales to assess areas of the Site in relation to a planning application for new bike trails at the Gethin Forest mountain bike site. Bike Park Wales lease land within the Gethin Forest to provide a series of mountain bike trails mainly traversing the eastern slopes of the wooded hillside. The Site lies at approximate central Grid Reference SO 049 033 on the eastern slopes of Gethin Woodland overlooking Merthyr Tydfil.

1.2 The Bike Park Wales Site comprises large areas of coniferous woodland for timber production, along with a number of other habitats on the lower slopes, notably blocks of Ancient Semi-Natural Woodland (ASNW). Other significant habitats present on Site include acid and marshy grassland and areas of broad-leaved scrub. The land is largely managed by Natural Resources Wales (NRW). The proposals largely affect the afforested areas, recently felled (and some replanted) areas and areas of ASNW.

1.3 Figure 1 gives aerial overviews of the Site in 1945 and 2021 respectively. The 1945 aerial show the relatively limited amount of tree cover on the Site and indeed within the ASNW blocks at that date. The photograph from 2021 shows that as well as significant forestry planting over the upper slopes of the Site, semi-natural broad-leaved woodland has also expanded in area considerably since the earlier date.

1.4 The proposals are to construct new trails across the Site plus two new roads accessing the top of the hill. The road sections are relatively short and are identified in Figure 1 and chosen to minimise impacts on important habitats. These are habitats cited in the Environment Act (Wales) 2016 Section 7. Section 7 lays out habitats and species that are of principal biological importance for biodiversity in Wales. The bike trails lead back to the Park Centre or join other existing trails at some point on the hill.

1.5 The objectives of the current survey and report are to:

- Assess the Site biodiversity features against those described in the earlier reports by Hawkeswood Ecology (2016) and David Clements Ecology Ltd (2008 and 2013);
- Assess the impacts of the proposals to the ASNW and Designated Sites and protected species potentially affected by the proposed works;
- Provide mitigation and compensation proposals to mitigate against any potential impacts from the proposals.

1.6 A daytime assessment of the Site was carried out on 19th and 20th April 2023.

1.7 This report should be read in conjunction with the DCE reports of 2008 and 2013 and the Hawkeswood Ecology Assessment reported in 2016 (see below and bibliography).

2. SURVEYOR EXPERIENCE

2.1 The surveyor and report author is Eric Hawkeswood. Eric has many years experience of broad habitat and detailed botanical and species surveying. He has been an active member of the Brecknock Bat Group since 1999 and been involved in a number of long running surveys within the county. He is a Natural Resources Wales (NRW) licensed bat worker (licence no. 61005:OTH:CSAB:2014) and dormouse worker (licence number 65263:OTH:SA:2015) has extensive experience of protected species survey work involving these and other species. He has been a professional in the nature conservation field for thirty four years formerly working as Reserves Manager and Conservation Officer at Gwent Wildlife Trust and Woodland Manager for the Ruperra Conservation Trust. Eric has worked as an Ecological Consultant as joint proprietor of Hawkeswood Ecology since 2001.

3. METHODOLOGY

Desktop Study

3.1 The South East Wales Biodiversity Records Centre (SEWBReC) was asked to provide records of Protected and Priority Species, Designated Sites and Phase I habitats from a radius of two kilometres of the Site. In reporting, the previous study results (reported as '*Response to Planning Queries, ref P/15/0385, New Bike Trails, Gethin Forest. Hawkeswood Ecology – March 2016*' are also considered alongside Sites of Importance for Nature Conservation (SINC) survey documents from David Clements Ecology Ltd (DCE).

Walk-over Appraisal

3.2 Given the data accrued through the SINC surveys (DCE) and the previous assessment undertaken by Hawkeswood Ecology in 2015, a general walk over survey was again considered appropriate and undertaken to assess against previous survey and to look for any significant change.

3.3 In addition, a greater effort was taken in the areas of ASNW to particularly assess against potential impacts from the proposals.

3.4 Site photographs are given in Appendix 1. These include both ground captures and drone images showing existing trails giving an indication of trail management trackside vegetation. The Drone images in particular show the impacts of management of the side of the trails.

Constraints

3.5 The timing of the survey was relatively early in the season and given the poor and cold weather conditions up to the survey date, it is possible that some vernal species may not have been fully evident with summer flowering species almost certainly held back by conditions.

3.6 Some steep slopes on the Site, such as deep stream gorges, were difficult to access and had to be viewed from adjacent areas. In addition, on one of the survey dates the Park was in operation and limited access to some of the track areas.

3.7 As there is much data already held on the Site, the constraints were not considered to significantly affect the walk over outcomes as it was not in itself a detailed botanical survey. In addition, being on Site during a very busy day offered the opportunity to qualitatively assess the operational levels of activity across the Site.

4 DESKTOP STUDY

Designated Sites

4.1 SEWBReC reported a number of Sites of Special Scientific Interest (SSSI) and Sites of Importance for Nature Conservation (SINC) within the search buffer. The only SSSI indicated is Cwm Glo which lies approximately 1.2 kilometres to the north at its nearest approach.

4.2 Fifteen SINCs are reported of which five are within the boundary of the Site works and will be affected by the trail proposals. A further three are immediately adjacent to the working area but given the minimal and localised nature of the works these are not considered to be at risk from the operations. The SINCs within the Site are listed below with brief details from the Background Paper, '*Review of Sites of Importance for Nature Conservation*' 2018. Figure 3 shows the new trails and SINC locations.

Table 1: Sites of Importance for Nature Conservation on the Proposed Working Areas (from '*Review of Sites of Importance for Nature Conservation*' 2018

No.	SINC Name	Brief SINC description
28	Mynydd Merthyr	Large area of semi-upland ffridd and upland moorland habitat mostly developed on old colliery spoil. Chiefly dry acid grasslands on the upper slopes with several areas of inundation vegetation on tip plateau and areas of bracken and marshy grassland. A small area of bilberry heath is also present.
30	Graig Gethin	Wooded ffridd slopes, supporting extensive ancient semi- natural woodland and bracken slopes with large trees, together with some scree areas supporting lichen heath. The bracken slopes support abundant bluebell. Also includes an area of wet heathland which extends along a ride within a conifer plantation and supports plant species of interest. The site supports a good range of breeding bird species and brown hare has also been recorded.
36	Rhydycar Gorllewin/ Rhydycar West	Very extensive mosaic of ffridd enclosures supporting complex of semi-upland and lowland habitats, partly contained within conifer plantation. Main components are ancient semi-natural woodland fragments, other semi- natural woodlands, wet heathland, dry heathland, marshy grassland and semi-improved neutral grasslands. Also there are some bracken slopes, scrub, small ponds, streams and sections of dismantled railway. There are areas of semi-improved acid grasslands to the south especially. The habitats intergrade to form a complex mosaic and may therefore also include some small areas of improved or low diversity semi-improved grassland, but any such areas are a very minor component. Great crested newt occurs in small pools; noctule and pipistrelle bats have both been recorded. Nationally rare and scarce invertebrates are varied and common throughout the area.
37	Coed Cwm/ Cwm Woods	Area of ancient semi-natural woodland within a much larger conifer plantation. The grassy field layer has locally abundant bluebell. Also includes some associated areas of bracken, dry heathland, scrub, marshy grassland and acid grassland. A range of localised bird and moth species have also been recorded.

61	Gethin Forest	Mosaic of upland and semi upland habitats comprising conifer plantation, semi natural broad leaved, wet and replanted ancient woodland, heathland, acid grassland, water courses, standing open water, flushes and supporting scrub, neutral grassland and ffridd. The whole site qualifies as a candidate SINC for its mosaic of habitats, which support a diverse range of flora and fauna.

Habitats

4.3 Ancient Semi-Natural Woodland (ASNW) is identified across parts of the Site and is affected by the proposals. There are four categories of Ancient Woodland on the Site, Category 1, planted Ancient Woodland (PAWs), Restored Ancient Woodland (RAWs) and Ancient Woodland Site of unknown Category (AWSUC). The largest area of ASNW on Site is in the Craig Gethin area to the south and is the most affected by the proposals. Figure 4 shows the proposed trails and locations of Ancient Woodland at the Site; the categories of ASNW are highlighted.

4.4 Other habitats identified on Site include planted coniferous woodland, semi-improved neutral and acid grassland, dry heath, wet heath and acid grassland mosaic and dense scrub.

Species

4.5 SEWBReC report a large number of Protected and Priority Species from the search area. Many of these will not be impacted by the limited scope of the works. An overview of relevant species is given in Table 2 below:

Table 2: Relevant Protected and Priority Species Reported

Group	Species
Amphibians	Common frog
	Common toad
	Palmate newt
Birds*	Nightjar
	Goshawk
	Cuckoo
	Tree pipit
	Pied flycatcher
	Wood warbler
	Crossbill
	Bullfinch
	Lesser redpoll
	Grasshopper warbler
	Red kite
	Peregrine
	Starling

Mammals	Brown hare
	Badger
	Hedgehog
	Otter
Mammals - bats	Common pipistrelle
	Greater horseshoe
	Brown long-eared bat
Butterflies	Grayling
	Small heath
	Marsh fritillary**
	Dingy skipper
	Small pearl bordered fritillary
	Wall
Bees	Brown banded carder bee
Plants	Bluebell
	Clubmoss

*A large number of birds are reported many of which could occur on the hillside. Those most likely to do so and possibly breed are reported in Table 2.
**Marsh fritillary will not occur on Site but is an EPS recorded nearby.

4.6 A large number of moths are recorded from grassland sites around Bike Park Wales and there is potential for many of these to occur across the Site.

4.7 Three hundred and eighty five records of Species of Conservation Concern were reported which consisted mainly of bird records and included many species likely to occur in the Park. These included redstart, goldcrest, members of the tit family, green woodpecker, woodcock and willow warbler.

4.8 Three plant species are noted with none closer than 1 kilometre. Welsh poppy was reported from approximately 3.5 kilometres to the west and is the most likely to occur in the Site. A number of beetles, true bugs and moths are reported with none closer than 770 metres. Balding pin cushion moss was recorded in the woods immediately to the south of the Site on a goat willow.

5 FIELD SURVEY

General Site Characteristics

5.1 The key habitat types identified and mapped by DCE remain largely as described. The majority of the changes on Site relate to forestry operation rather than any other aspect of activities on Site. In the 2015 Hawkeswood Ecology ground truthing (reported in 2016) it was noted that there had been felling of conifers since the DCE surveys of 2013. At that time, the plateau at the top of the Site, part of Mynydd Merthyr SINC was easily walkable with recent clearance and replanting. This area is now largely inaccessible with most viewing undertaken from forestry roads and footpaths.

5.2 Although a number of years have passed since the assessment carried out by Hawkeswood Ecology in 2015 it is considered that the main changes in the site relate to the regrowth of conifer (mainly spruce) in the replanted areas and the continuing growth of spruce in and adjacent to some of the areas categorised as ASNW. Spread of spruce seedlings into the more open areas was noticed in the recovering ancient woodland areas. This assessment of the proposed new routes considered a general assessment of the new trails across the afforested and felled/replanted and mixed broad-leaved woodland areas of the Site (mainly designated SINCs) and of the areas of Ancient Semi-Natural Woodland, which itself is split into three categories (see below), affected by them.

5.3 Apparent disparities between the habitat types on the ground and those mapped by DCE in 2013 are fully discussed in the 2016 report produced by Hawkeswood Ecology. The only significant change in habitat noted is the regrowth in felled areas with the habitats on Site still reflecting those originally described by DCE in 2008. A brief review is given below.

Non ASNW Areas

5.4 Across the whole Site, outside the ASNW, habitats affected by the planning application are dominated by planted or recently felled woodland. SINCs affected are Mynydd Merthyr, Gethin Forest, Craig Gethin, Cwm Woods and Rhydycar West. The major impact will be upon Gethin Forest which is the dominant SINC on the Site covering much of the area.

Roads

5.5 Two new roads are proposed, one within Gethin Forest (Road A in Figure 2) and one on Mynydd Merthyr (Road B in Figure 2). A road is proposed on the existing uplift road which will provide a short cut to the existing forest road.

5.6 Road A passes through a mature Sitka spruce plantation with no understorey. The ground layer is dominated by bare earth and leaf litter. Vascular species noted were rough meadow grass, wood sedge, rosebay willowherb, bilberry, broad buckler fern, hard fern and slender St John's wort. None were found in anything other than occasional occurrence. A narrow border from the plantation to the existing road is dominated by a mix of young spruce, pine and goat willow over a purple moor-grass, bramble and rosebay willowherb mosaic.

5.7 Road B leads from the current uplift terminal across the Mynydd Merthyr Plateau to a new terminal some 500 metres to the south east. In 2015 this area was recently cleared and walkable, subsequent regrowth meant that the proposed route could not be walked. It was looked over from

a number of locations however. As well as the dense spruce regrowth, there are tracks through parts of the plantation and in these areas a mix of heath and acid grassland habitats persist (or more likely have recolonised the forestry edges).

5.8 Species noted included mat grass, wavy hair-grass, common heath, purple moor-grass, sheep's fescue, bilberry, heath woodrush, heath rush, cross-leaved heath, tormentil and an *Agrostis* grass species. Whilst these are recorded as Section 7 habitats (dry heath, wet heath and acid grassland - dry heath mosaic) they are very much restricted by the current forestry operations to forest road edges and are likely to suffer as the canopy closes.

Bike trails

5.9 As mentioned above, the bike trails are mainly passing over planted or previously planted land. Spruce is dominant in the majority of these areas. Some areas are recovering Ancient Woodland, these are very much affected by seeding from the mature plantations. The ground flora is generally dominated by bramble or bracken. However, the trackside vegetation on the forest roads often consists of vegetation that reflects to a limited extent, the acid broad leaved woodland flora locally and more open moors with bilberry, bluebells and common heath frequently occurring in places.

5.10 Where the bikes pass through ASNW that is also identified as a SINC such as Cwm Woods or Craig Gethin a more detailed account of the flora is given below.

5.11 Figure 1 gives an aerial view of the Bike Park and the amount of commercial forestry and felling undertaken in recent years can be clearly seen. The areas of ASNW discussed below are also clear to view and the particular open nature of many parts of Craig Gethin in particular are visible, representing the Ffridd habitat locally.

Ancient Semi-Natural Woodland areas

5.12 Four blocks of ASNW were noted where the trails would pass through or be immediately adjacent to. These are shown in Figure 2. They are described below as blocks 1 to 4 with a brief overview of structure and species noted.

Block 1

5.13 Block 1 is Cwm Woods, all of the works will be taking place uphill of the uplift road, the area of woodland downhill of the uplift Road is considered by NRW to be an oakwood in good condition and will not be affected. The area of the proposed trails consists of Category 1 ASNW and Category 3, Planted Ancient Woodland (PAWS).

5.14 The ASNW woodland here consists of an open canopy with widely spaced mature oak and silver birch trees. The shrub layer is sparsely developed with locally frequent sycamore, silver birch and rowan. The ground layer reflected the acidic nature of the Site with bilberry, common heath and sheep's fescue occurring. Dominant species noted included locally frequent bramble and creeping soft-grass and locally dominant bracken. Bluebell, wood sorrel, foxglove, hard fern, male fern, willowherb species and rough meadow grass were also recorded. The PAWs consisted of semi-mature pine with no shrub layer. The ground flora was dominated by bare ground;

bramble and bryophytes occurred frequently with occasional bilberry, wavy hair-grass and rough meadow grass.

5.15 The immediately adjacent areas were disturbed and cleared with spruce and pine regrowth and silver birch regeneration, with occasional hazel and buddleia occurring rarely. The ground flora was generally disturbed with locally frequent bramble and bracken. Bilberry and heath bedstraw occurred with local frequency and *Polytrichum* and a feather moss (*Pseudoscleropodium* sp) were frequently occurring in bare areas. Other species noted included creeping soft-grass, bracken, wood avens and rosebay willowherb.

Block 2

5.16 Block two is an area of ASNW of varying categories including Category 1 ASNW (which comprises the bulk), Category 2, Restored Ancient Woodland (RAWS), Category 3 (PAWS) and Category 4, Ancient Woodland Site of Unknown Category (AWSUC). The areas affected are identified as ASNW and AWSUC and are uphill of the uplift road. The tracks run Rhydycar West SINC in this area, which is designated its Ffridd habitat including open, sparsely wooded semi-natural woodland.

5.17 The canopy is generally open, it is poorly formed with occasional oak and frequent, mainly semi-mature, silver birch, mature hazel and occasional goat willow. The shrub layer is dominated by frequently occurring hazel. The ground flora supports abundant creeping soft-grass, bluebell bramble and bracken. Other species included wood sorrel, tufted hair-grass, barren strawberry, lesser celandine and common dog-violet. In wet areas or flushes, opposite leaved golden saxifrage was frequent. Open glades are dominated by dense bracken.

5.18 In this block, existing track sides could be assessed and here common dog-violet, barren strawberry, bluebell and wood sorrel occurred with greater frequency along with rosebay willowherb, wood avens, tormentil, male fern, thyme-leaved speedwell and hard fern. Grasses were dominant in more open areas of the tracksides with creping soft-grass, rough meadow grass and annual meadow grass all occurring frequently.

5.19 At the southern part of this section (AWSUC) spruce has been planted previously and the canopy is poorly formed with this, silver birch and oak. The ground flora here includes abundant bramble, frequent creeping soft-grass, ivy and bracken; foxglove and male fern are occasionally occurring. Other species noted include locally frequent pignut and occasionally occurring wood speedwell.

5.20 Downhill (east) of the uplift road, the woodland is wet in nature with alder dominating the canopy. The shrub layer is sparse with hazel. The ground flora here appears grazed and is dominated by grasses.

Block 3

5.21 This section of woodland is difficult to separate from the felled plantation woodlands around it. It consists of PAWS which is largely felled and AWSUC, which was again difficult to identify during the survey. It can be separated into two areas, a large previously felled area to the north and a small area of young spruce.

5.22 The felled area has no mature canopy with only occasional silver birch and ash. The shrub layer is dominated by growth of silver birch, goat willow and rowan, all occurring with local abundance or less frequently in the frequent open glades; these are dominated by dense bracken. Other species noted included locally abundant bluebell, bilberry and bramble.

5.23 The small area at the south of the section is dominated by young spruce which back into a mature plantation. The regular nature of the spruce does suggest that they may have been planted but are being competed with by the broad-leaved species present elsewhere. Within this area is a large open glade with a mature silver birch and semi-mature oak; the ground flora here, as elsewhere, is dominated by dense bracken.

Block 4

5.24 This ASNW block basically comprises the Craig Gethin SINC, it is the largest block affected and is comprised of mainly Category 1 ASNW with a small area of Category 3 PAWS. The open canopy areas are typical of Ffridd habitat of which a much larger area is present to the immediate south. This large area has a varying canopy cover from sparse to well developed. Canopy species are oak, holly and silver birch, with oak being the dominant species across the woodland. The shrub layer varied across the woodland also being sparse in areas to dense in some others, hazel, holly, silver birch, goat willow and rowan all occur.

5.25 The ground flora also varies across the woodland with grasses much more frequently occurring in open canopy conditions. Species recorded include bramble, bracken, bluebell, creeping soft-grass and *Polytrichum* moss all occurring across the Site at a high frequency. Other species recorded included greater stitchwort, hard fern, wood sorrel, heath bedstraw, common heather, sheep's sorrel, mat-grass, tormentil, foxglove, wood sedge, herb robert, common dog-violet, bilberry, broad buckler fern, tufted hair-grass, dog's mercury, sheep's fescue, slender St John's wort and in flushes and streams abundant opposite leaved golden saxifrage.

Summary

5.26 Whilst the ASNW is considered the most important habitat on Site, other categories of Ancient woodland are present and other habitat types also. Of the ASNW the large block at Craig Gethin is the most diverse with a good number of species noted in a brief walkover. Much of the Site outside the ASNW is disturbed through forestry operations (including PAWS and RAWS) but some species such as bilberry, bluebell and common heather are found throughout the Site. Many species found are not ancient woodland indicator species, but species such as bilberry and common heather form a significant constituent of the more open woodlands on the Site and the overall acidic nature of the wider Site will favour them and other calcifuge species.

Fauna

5.27 Adventitious sightings were restricted to birds and a small number of butterflies and a fox. The species recorded on Site were:

Birds
Blackbird
Blackcap
Blue tit

Bullfinch
Buzzard
Chaffinch
Chiffchaff
Coal tit
Crossbill
Dunnock
Goldcrest
Great spotted woodpecker
Great tit
Lesser redpoll
Long tailed tit
Mistle thrush
Nuthatch
Peregrine
Raven
Robin
Siskin
Song thrush
Treecreeper
Willow warbler
Wood pigeon
Wren

Butterfly
Brimstone
Orange tip
Peacock
Red admiral
Speckled wood

Mammal
Fox

6 DISCUSSION AND ECOLOGICAL IMPACT ASSESSMENT

6.1 The provision of new bike trails will not require the removal of trees or woody understorey; the direct impacts will be to the ground flora in the corridor of working and the resultant bike trail through the woodland. Obviously there is potential for ongoing impacts from bike riders leaving the paths or discarding rubbish, but currently this does not appear to be a significant issue with no evidence of this noted during the two day walk over. The existing trails clearly show that the verges provide opportunities for plants to recolonise and offer some diversity particularly where bracken is dominant. The trails also act as rides and offer opportunities for invertebrates, particularly lepidoptera, with shelter from wind and a warmer microclimate in sunshine.

6.2 The construction process is localised with a working corridor normally of up to 2.5 metres in normal circumstances with the trail itself rarely more than a metre in width; the widest trail proposed in ASNW is 3 metres on a short trail section of 29 metres. Track width is generally decided on safety factors. Typically there is less than 300mm of organic surface material and the sub soils that are suitable for the base riding surface tend to be at that depth or shallower. When cutting into a side slope it will be deeper depending on the steepness of the slope and the undulations on the trails are created by varying the depth of the cut into the ground (cut and fill). If an aggregate stone finish is necessary, then this is typically laid at 150 – 200mm depth and is acidic gritstone.

6.3 When building up a banked corner or a jump either a cut and fill ‘on trail’ technique is used, winning material for the corner or jump by digging the levels down before and after it and moving to where it is needed, or if necessary by creating a small ‘borrow pit’ where the vegetation is stripped, material is won and then the surface layers are placed back to landscape it back in, immediately adjacent to the feature.

6.4 Effectively the whole Site is designated for various SINCs (see Table 1) and the division of ASNW and areas outside ASNW is fairly arbitrary as the ASNW are within SINC sites. However, NRW do recommend that works affecting Ancient Woodland are assessed more vigorously and subjected to an Ecological Impact Assessment (EcIA). In this instance, a full EcIA is not considered necessary as the works are so limited in both area and operation. This is not to diminish any impacts upon the ASNW, but the woodlands and their overall functionality are unlikely to be damaged in the long term by the proposals.

6.5 Indeed, it could be argued that the proposals will offer long term benefits to the ecological resilience of the Bike Park (approximately 350ha) local area. Currently the four blocks of ASNW affected by the proposals are separated by blocks of commercial forestry. Should the proposals go ahead, a new lease agreement with NRW is to be agreed which will change the designation of the area from a productive commercial forest to recreation as a primary use, also allowing ecological enhancement across the Site. Such enhancement would include the gradual long term reversion of the Site to broad leaved mixed woodland along the upper slopes (Gethin Forest SINC), allowing migration of plants and animals over the longer term across the Site with a reversal of the fragmentation of habitat currently occurring.

6.6 Another consideration is the spread of semi-natural broad-leaved growth since 1945 (Figure 1) which shows a comparison of habitats present across the Site in 1945 and 2021. What is immediately apparent is the recovery of woodland on Site since the cessation of agriculture and the spread of broad-leaved woodland across formerly grazed or mown areas. The removal of commercial forestry from the Site would be likely to allow continued advancement of broad-leaved woodland across the whole area with the very limited works now undertaken by Bike Park Wales offering a viable commercial project that could retain and enhance the growing habitat in the longer term.

6.7 A total of 27 new trails are proposed along with associated climb and link trails, many of the climb and links utilising existing tracks within the Site. All of these lie within the identified SINC sites with sections lying in the ASNW as shown in Table 3 below.

Table 3: Description of Proposed Trail Routes within ASNW.

Trail Identifier	Trail Distance within ASNW (m)	Trail Width (m)	Floor Area m2	ASNW Block
Trail 1	656	1	656	4
Trail 2	29	3	87	2
Trail 3	116	1.5	174	2
Trail 4	182	1	182	4
Trail 8	115	1	115	1
Trail 11	330	1	330	4
Trail 12	206	1	206	4
Trail 13	183	2	366	1
Trail 16	470	1	470	4
Trail 23	109	1.5	163.5	4
Trail 24	468	1	468	4
Trail 26	200	1	200	3
Totals	3,064		3,418	

6.8 Looking at the loss of SINC to the proposals, the total figure, including that lost in the ASNW, is approximately 4ha with a track length of around 29,000m Therefore the total length of the proposed trails passing through ASNW is approximately 11% of the total proposed length of new trails. If link trails and climbs are included the total rises to around 16%, however, many of these trails occupy existing tracks.

6.9 Therefore the approximate total area affected by the new trails would be approximately 4ha across the wider Bike Park area of 350ha. The amount of ASNW in Gethin Forest is calculated at approximately 40ha; the area of new trails proposed in the ASNW is approximately 0.34ha giving approximately 0.7% of the ground layer affected by the proposals. No change to shrub or canopy layers are expected.

Ecological Impact Assessment

6.10 The following addresses the impacts on the ecology of the Site of the construction and post construction periods.

Zone of Influence

6.11 The study area covered the Zone of Influence (ZOI) for the Proposal. The ZOI is an area over which ecological features may be subject to significant impacts as a result of the proposals and any associated activities. This often extends beyond the proposed 'red line' working area and will be affected by the habitats and species present, their value and level of protection and scarcity.

6.12 Based on the scale of the Proposed Development and the similarity of the habitats on Site to those in the surrounding open countryside a 2 kilometre radius for the Desktop study was considered appropriate. Given the extremely localised nature and impact of the proposed works, the ZOI was considered as the Bike Park boundary and the Field Study was contained within this area.

Baseline Conditions

6.13 These are fully discussed in Section 4, Desktop Study. Field survey and assessment considered the habitats on Site to accord with those given in earlier survey, ASNW, coniferous plantation, replanted areas and Ffridd habitat (Rhydycar West SINC).

6.14 Habitats are more affected than species in this instance, protected and priority species that are most of concern include an number of bird species, nightjar in particular, a good assemblage of moths identified by local surveys and the plant bluebell.

Field Study

6.15 As shown in Section 3, the survey was based on assessing the wider Site for significant differences from earlier detailed survey work undertaken by David Clements Ecology Ltd (DCE) and a ground truthing exercise undertaken by Hawkeswood Ecology in 2015. The Ancient Woodland on Site affected by the proposals was also looked at in more detail. The outcomes of the walk over survey are given in section 5.

6.16 The basic outcome over the walk over was that apart from conifer regrowth, there was little change in the intervening years. This in itself offers some evidence that apart from the initial construction disturbance, there are no significant long term indirect impacts from the use of the Site as a bike trail park.

6.17 Birds were noted throughout the Site and the species of butterflies noted were distributed across the whole of the Site. Possibly of most interest, and purely empirically, despite one survey day being during a particularly busy bike park session, actual disturbance was very limited.

6.18 Clearly the major impact has been on the loss of vegetation at ground level. Where a track passes the ground is denuded of vegetation by bikes or the trail is built and stone used. Noticeably, the trail edges are kept clear of tall vegetation (bracken and bramble) for safety reasons and in the

cleared verges, up to 2 metres certain species, such as common dog violet and bluebell, are thriving in places.

Identification of Key Features and Receptor Sensitivity

6.19 CIEEM consider a Key Feature to be one which is considered important and is potentially affected by the proposal. CIEEM state it is not considered necessary to '*carry out a detailed assessment if features that are sufficiently widespread, unthreatened and resilient to project impacts and will remain viable and sustainable*'.

6.20 In this instance, Key Features identified are those which are potentially directly or indirectly impacted by the proposed development and associated operations; effectively those within the ZOI (Zone of Influence) are significant features.

6.21 Thus, the Site supports designated SINCs in its entirety and ASNW. Within the SINCs are areas of conifer plantation, particularly within Gethin Forest SINC, although there are also afforested areas in the affected areas of Cwm Woods SINC which are PAWS.

6.22 In this instance, Key Features are considered to be:

- **Ancient Semi-Natural Woodland;**
- **Ffridd Habitat;**
- **Assemblage of breeding birds;**
- **Assemblage of Moth species including Section 7 species.**

6.23 The large blocks of forestry, even where designated as part of a SINC, are not considered as key habitat within the ZOI.

6.24 For species, the Site is considered to be of Local importance for its **assemblage of breeding birds and moths**. Both can be considered to be Key Features of Local Importance as they exist within a much wider similar habitat across the Mynydd Merthyr mountain and wider area, thus impacts are likely to be of only a local nature and largely temporary.

6.25 Mammals reported in the Desktop study include badger, brown hare, hedgehog and otter. Of these the site is considered to be in suitable condition only for hedgehog and badger. The Site is too dense for brown hare although it may persist on the very lower edges of the Site. Otter is unlikely to occur as the main A470 road presents a formidable barrier to animals crossing from the River Taf. Badger and hedgehog may occur but are not considered to be a key Feature of the Site given their widespread populations.

6.26 In 2016 it was concluded that the primary bird species of concern potentially affected by the development of bike trails would be nightjar. Figures given for distance for disturbance of nightjar vary between accounts with Currie & Elliott (1997) suggesting a working distance for foresters of 50 – 250 m, but a later study by Ruddock and Whitfield (2007) suggesting that disturbance occurs at a lower threshold, 50 - 100 metres during chick rearing, but at a maximum of 10 metres when sitting on eggs. The latter authors also infer that although the bird may remain static, they may have been disturbed but relying on their cryptic plumage for camouflage.

6.27 The highest density of new tracks is in the lower downhill section where nightjar are unlikely to be present. With regrowth of the spruce on the plateau at the top of the hill, it is considered that suitable nesting areas on the Site are now virtually absent. Should the proposals proceed and the forest area be withdrawn as a productive commercial forest, it is likely that there will not be suitable breeding conditions for nightjar on Site in the future. The continuation of commercial forestry practices in the local wider area will continue to provide suitable nest sites for nightjar and as such it is no longer considered a Key Feature of the Site.

6.28 It is considered that all Key Features are important within a Local Context with the exception of ASNW category 1 which is considered to be of national interest. For the purposes of this document, it is not possible to separate ASNW and Ffridd habitat by boundaries on Site and the impacts on both considered in the report under ASNW.

Assessment and Ecological Significance of Effects

6.29 This section identifies and assesses the significance of the effects on habitats and species likely to occur as a result of the proposals. The significance of effects reflects judgement as to the importance or sensitivity of the affected receptors and the nature and magnitude of the predicted changes.

6.30 The proposed bike trails will involve removal of small area of ground vegetation within the ASNW habitat. The loss of vegetation will be both temporary, during construction along the boundaries of the trail, and permanent, the actual path of the bike trail. Ongoing maintenance of the trails will use the trail itself for access and limit excursions into surrounding habitats.

6.31 The unmitigated effects on habitats and species as a result of the works in summary may be:

- loss in area of important habitat;
- disturbance and possible loss of protected species and their breeding and feeding habitats;
- disturbance/pollution of designated sites;
- disturbance to species as a result of factors such as removal of suitable habitat, noise, and the increased movement of visitors.

6.32 Effects may be direct (such as direct loss of habitat) or indirect (such as visitor disturbance). They may be temporary, such as noise disturbance, or permanent, such as loss of vegetation.

6.33 The following sections considers the key habitats and species groups in turn and addresses the potential effects of the proposals specific to each, together with proposed mitigation measures and the long term residual effects, both Beneficial and Adverse.

6.34 CIEEM Guidelines recommend that ecological features are considered within a defined geographical context. For the purposes of this Impact Assessment the following are used:

- International – Special Protection Areas (SPA), SACs, Ramsar Sites, etc;
- National – Sites designated at UK level, e.g. SSSIs;
- Regional – Habitats or populations of species of value at a regional (i.e. South Wales) level;
- County – Designated Sites, such as SINCs or habitats/species populations of value at a county (Pembrokeshire) level;
- Local – Immediate surrounding area.;

- Site – restricted impacts to the Site itself.

6.35 This addresses the potential for the proposed works to contravene relevant UK and Welsh Government law, regulations and policy. The impact assessment will therefore consider the effects and significance of effects on the following receptors shown in **Table 4** below:

Table 4: Level of importance of ecological features

Feature	Level of Importance
Habitats	
Ancient semi-natural woodland (and Ffridd see para 6.27)	National
Species	
Assemblage of birds	Local
Assemblage of moths	Local

6.36 The significance of effects is characterised according to CIEEM guidelines (2018). Effects may be Beneficial or Adverse, their extent is considered as are the magnitude of the effect and its duration.

6.37 For the purpose of this Impact Assessment, the stages of construction (including vegetation removal) and post construction (i.e. during the life of the trails and longer term) are considered. The considered findings and impacts are shown in Table 5 below. In particular, only impacts that are considered to have significant effects upon biodiversity, Adverse or Beneficial, and that are of material consideration in the decision making process relating to the application are assessed.

Table 5: Predicted Effects and Significance of Effects

Feature	Initial Geographical Value of feature	Effect description	Development stage (construction, operational, decommission)	Ecological significance of Effect	Rationale for significance level
Habitats					
Ancient Semi-Natural Woodland (including Ffridd habitat)	National	Permanent vegetation impacts Disturbance	Construction Operational	Minor adverse	Any impact would be likely to be extremely limited even if unmitigated. Out of a total of around 40 hectares of ASNW approximately 0.34ha of ground vegetation will be permanently damaged by the trails accounting for a loss of around 0.7%.
Species					
Assemblage of Breeding Birds	Local	Disturbance and loss of foraging areas. Fragmentation of habitat.	Construction Operational	Negligible adverse	The development will result in a minor loss of ground vegetation and is unlikely to impact upon the ability of birds to successfully forage. Disturbance is a factor that may affect some species during the ongoing operation of the project, however, trails already exist across the area of proposed works and it is unlikely that any birds susceptible to disturbance are present within the Bike Park area. The area has previously supported nightjar but we suspect that the plantation growth is now too dense for this species. They could still persist on the hill however and their possible presence, along with any breeding bird, should be taken account of.
Assemblage of moths	Local	Disturbance of existing habitats leading fragmentation and loss of habitat.	Construction	Minor adverse	The development will result in disturbance of habitats with no removal of woody shrub understory or canopy trees. The presence of tracks with a semi-managed verge may be of benefit to some species. It is not expected that moth species will be lost from this location as a result of the development.

Proposed Mitigation and Residual Effects

6.38 The proposals to mitigate effects of the proposed new Bike Trails are given in **Table 6** below which outlines the proposed mitigation and the predicted residual effect after mitigation.

6.39 Some mitigation is actively determined, this may be by the manner in which the Site vegetation is stripped, or may be consequential of the process, i.e. improvement of trailside vegetation.

6.40 If the proposals are agreed, the Bike Park Wales activity area will be removed from commercial forestry. This will offer many positive benefits for woodland management over the medium to longer term with any felling or other management carried out solely on the basis of safety or for ecological enhancements.

Table 6: Mitigation proposals and residual effect.

Feature	Initial Value of Feature	Effect Description	Significance of Effect	Mitigation	Residual Effect
Habitat					
Ancient Semi-Natural Woodland (including areas of Ffridd habitat)	National	Permanent vegetation impacts Disturbance	Minor adverse	• All working areas should be maintained to the narrowest possible width; • Within the specifications allowed, the trails should be engineered to avoid areas of particular botanical richness, swathes will be cut through dense bracken where feasible. This will help fragment the bracken stands and allow regeneration of the woodland flora seedbank in the managed verge corridor. • The trackside vegetation should be cut as after seed is set in June if this is safe to do so. This will allow vernal species time to set seed and propagate. The vegetation growth should be monitored, possibly by simply looking at cove of grasses to broad leaved herbs as a quantitative assessment. This will be subject to safety issues for riders; • Cutting of track verges should try maintaining a minimum vegetation height of around 10cm. This will allow smaller	Negligible adverse in a Site context.

Feature	Initial Value of Feature	Effect Description	Significance of Effect	Mitigation	Residual Effect
				plants to grow without damage (i.e. common dog violets) and maintain a different habitat for invertebrates; • Cutting of trackside vegetation will provide a positive benefit for the Site allowing a wider diversity in species to grow in areas currently dominated by dense bracken in virtual monocultures; • The organic materials and soils should be used to recover the trail sides following excavation. The woodland flora seed bank is often short lived, as such it should be recovered as soon as possible; • New trails should maintain a distance from existing keeping undisturbed vegetation between them and where possible utilise existing sections of trails where safe to do so. This will minimise the amount of ground vegetation lost; • All riders should be required to respect the habitats they are riding through, they should be told to only stop at approved rest areas unless there is no option and to not throw rubbish away;	

Feature	Initial Value of Feature	Effect Description	Significance of Effect	Mitigation	Residual Effect
				• Longer term, Bike Park Wales should consider engaging with a suitably experienced ecologist to plan beneficial works as the woodland is removed from forestry production and measure that can allow a progressive recolonisation of the Site by broad leaved woodland and other Section 7 habitats (heath etc.) across the Site; • Removal of the Site from productive commercial forestry will support the use of more environmentally beneficial methods of woodland working including the creation of gaps when dangerous trees are removed rather than wholesale clearance.	
Species/ Species assemblages					
Assemblage of Breeding Birds	Local	Disturbance and loss of foraging areas. Fragmentation of habitat.	Minor adverse	• No works affecting scrub or trees will be undertaken during the accepted breeding season of end February to end August. There is no licence to destroy active bird nests; • All riders should be required to respect the habitats they are	Remains Negligible adverse in a Site context only

Feature	Initial Value of Feature	Effect Description	Significance of Effect	Mitigation	Residual Effect
				riding through, they should be told to only stop at approved rest areas unless there is no option and to not throw rubbish away; • Where possible the trails should avoid dense vegetation;	
Assemblage of moths	Local	Disturbance of existing habitats leading fragmentation and loss of habitat.	Minor adverse (short term disturbance in construction)	• All working areas should be maintained to the narrowest possible width	Neutral

7 CONCLUSIONS

7.1 The proposed new bike trails will inevitably cause some local impacts on both habitats and species.

7.2 A number of recommendations are made that if implemented will mitigate against the potential impacts and offer opportunities for habitat improvements across the Park.

7.3 The opportunity to remove the Bike Park Wales area from commercial forestry offers a long term opportunity to allow recolonisation f ancient woodland species across the Site, reducing and reversing fragmentation and allowing transport of species across the Site during changing climatic conditions.

7.4 Removing the Site from commercial forestry will also allow management to focus on environmentally beneficial activities in woodland management that can work alongside the trail network. Bike Park Wales should consult on suitable operations with a suitably experienced ecologist on management measures that will improve the biodiversity value and ecological resilience of the Site long term.

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FIGURE 1:
AERIAL VIEW OF THE SITE 1945 AND 2021
(approximate area of operations outlined in red)


Bike Park Wales Site
1945 imagery
Legend
Abercanaid
BikePark Wales
Pentrebach
TAFF VALLE
River Taff
TROED-Y-RHIW
N
1 km
Google Earth
Image © 2023 The GeoInformation Group


Bike Park Wales Site
2021 imagery
Legend
Abercanaid
BikePark Wales
Pentrebach
River Taff
N
1 km
Google Earth

FIGURE 2
APPROXIMATE LOCATIONS OF PROPOSED BIKE TRAILS

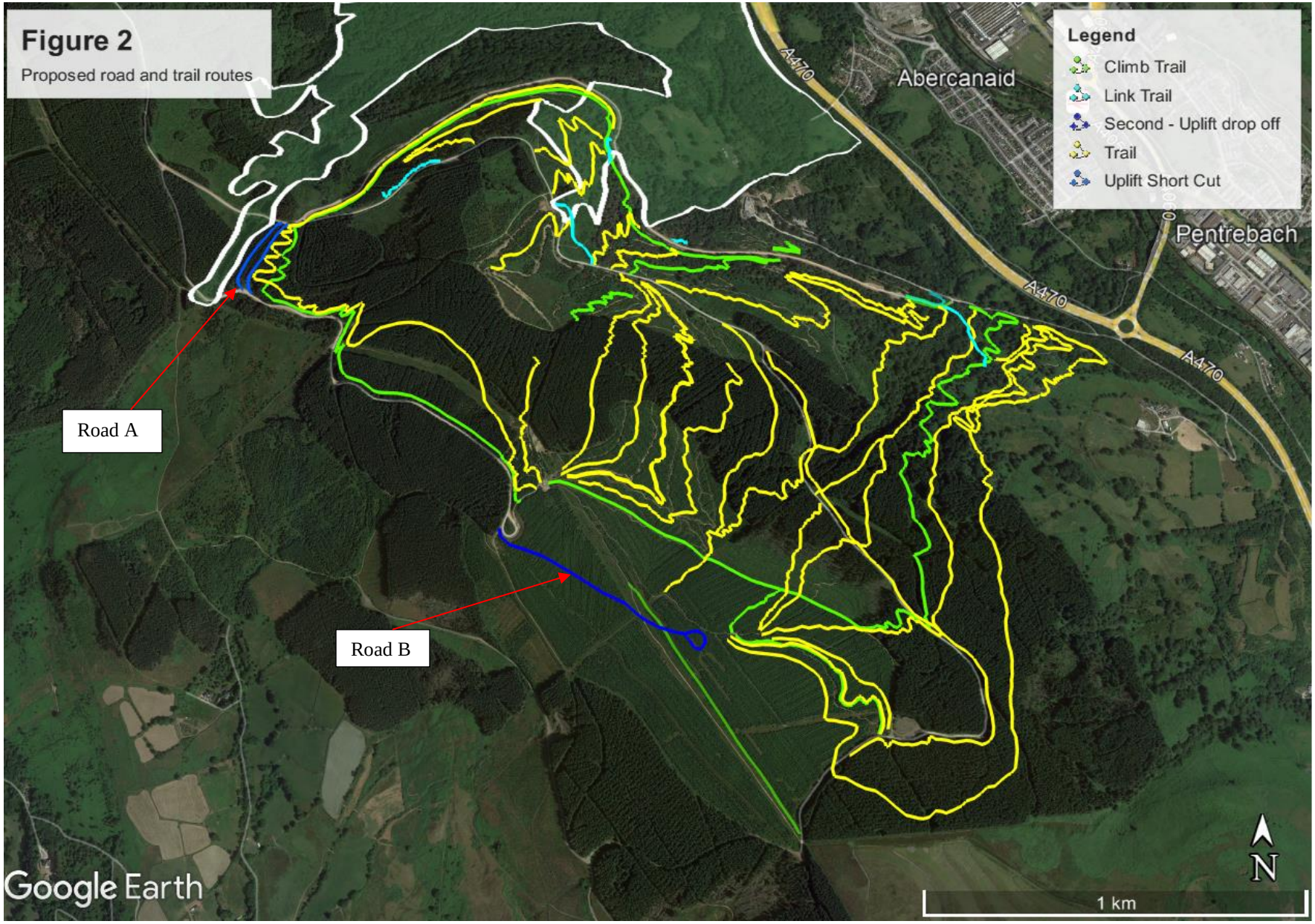


Figure 2
Proposed road and trail routes
Legend
Climb Trail
Link Trail
Second - Uplift drop off
Trail
Uplift Short Cut
Abercanaid
Pentrebach
A470
A470
A470
Road A
Road B
Google Earth
N
1 km

FIGURE 3
APPROPRIATE LOCATIONS OF TRAILS AND SITES OF IMPORTANCE FOR NATURE CONSERVATION

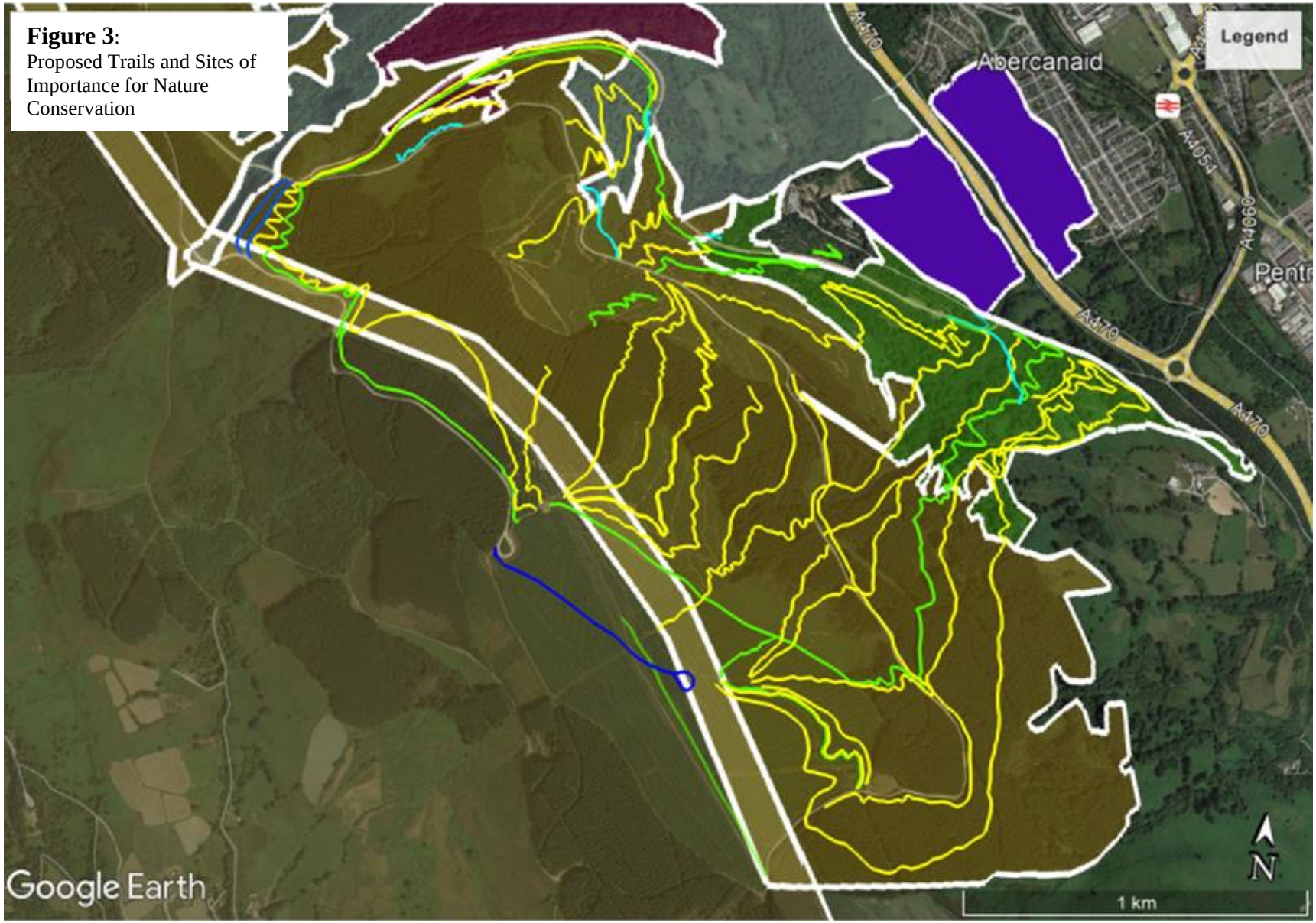
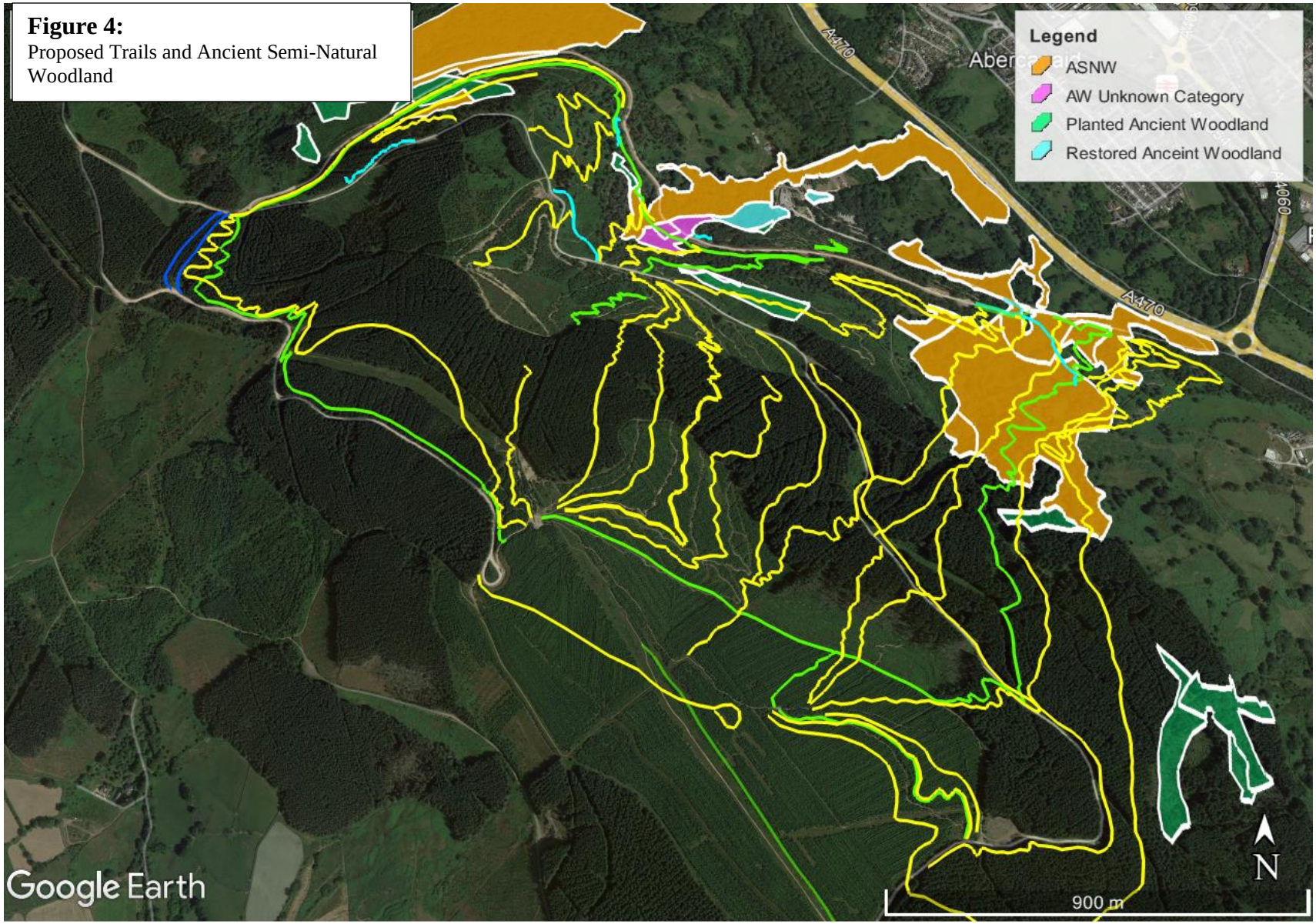


Figure 3:
Proposed Trails and Sites of Importance for Nature Conservation

FIGURE 4
APPROPRIATE LOCATIONS OF TRAILS AND SITES OF ANCIENT SEMI-NATURAL WOODLAND

Figure 4:
Proposed Trails and Ancient Semi-Natural Woodland



HAWKESWOOD ECOLOGY

Specialists in Ecological Survey and Assessment

17 Heol Henrhyd, Coelbren, Nr. Ystradgynlais, POWYS. SA10 9PG. Tel/Fax: 01639 701304
Mobile: 07957 154794 E-mail: hawkeswoodecology@btinternet.com
(Proprietors: Niki and Eric Hawkeswood)

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