Brynmawr Traffic-Free Route

Ecological Desk Study

April 2018

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Executive Summary

Sustrans has been commissioned to undertake a feasibility study for upgrading an existing footpath through Beaufort Hill in Blaenau Gwent, South Wales. The proposed route is approximately 2.8km in length and situated between Garnlydan and Brynmawr (SO 17307 12571and SO 19553 12112).

The main route primarily follows an existing un-bound stone track and series of minor residential access roads. A small spur is also proposed along a short section of agricultural/earth track to the east (SO 19348 12509). Additional short sections of route are also proposed to improve links with existing networks. The exact engineering solutions are yet to be confirmed, but are anticipated to focus on improving access infrastructure within existing developed areas, with sections of unbound surfacing and earth track upgraded to tarmac.

This report makes a desk-based assessment of likely ecological impacts on nature conservation sites, habitats and protected or notable fauna. No site visit has been undertaken conclusions in this report.

The route is partly situated through Beaufort Hills LNR/SINC and Bryn Farm SINC. The proposed route is located near to the boundaries of a series of European and other statutory protected sites, but owing to the scale and nature of the works, no significant impacts upon these sites are anticipated.

The existing stone track to be upgraded is of negligible ecological value, however based on this review habitats adjacent to the track are of district/county value and therefore construction protection measures will need to be applied. It is recommended that where the route passes within 20m of these habitats (namely at SO 18236 12640, between SO 18816 12681 and SO 18816 12681 and SO 19273 12525 to SO 19397 12457) suitable construction fencing is to be erected along the edge of the proposed work area (no more than 2m outwards from the edge of the existing track).

Disturbance to skylark and lapwing during and post-construction has been identified as a potential impact of the proposals. Further targeted consultation with the local planning ecologist is ongoing and further assessment was commissioned in spring 2018. This is to confirm the pattern of ground nesting bird activity along the route, agree the scale of impacts arising from the proposals and identify a series of mitigation measures proportionate to the scale of the impact.

Measures to safeguard other species including common amphibians, badgers, reptiles and tree/shrub nesting birds will also need to be implemented.

A herpetofauna method statement, listing a series of reasonable avoidance measures will need to be prepared and implemented, with a pre-commencement survey completed for badgers. If in the event works are proposed during the bird nesting period, then further checks by a suitably qualified Ecologist will be required.

Current planning policy demands that construction projects not only minimise their ecological impact, but provide enhancements wherever possible. Ecological enhancement measures proportional to the scale of the proposal should be built into the detailed design of the scheme. Any further ecological assessment and/or consultation will determine appropriate measures for this project.

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1 Background

1.1 Project Introduction

Sustrans has been commissioned to undertake a feasibility study for creating a route for walking and cycling which links an existing off-road section of NCN46 to the west and existing highway section of NCN 46 to the east. The proposed route will also provide improved links between Garnlydan and Brynwawr, Blaenau Gwent, South Wales

The proposed route is approximately 2.8km in length and situated between Garnlydan and Brynmawr (SO 17307 12571and SO 19553 12112). The main route primarily follows an existing un-bound stone track, and existing minor residential access roads, but does include a short section of earth track to the east (SO 19348 12509). Additional short sections of route are also proposed to improve links with existing networks. These are shown on Figure 1.1.

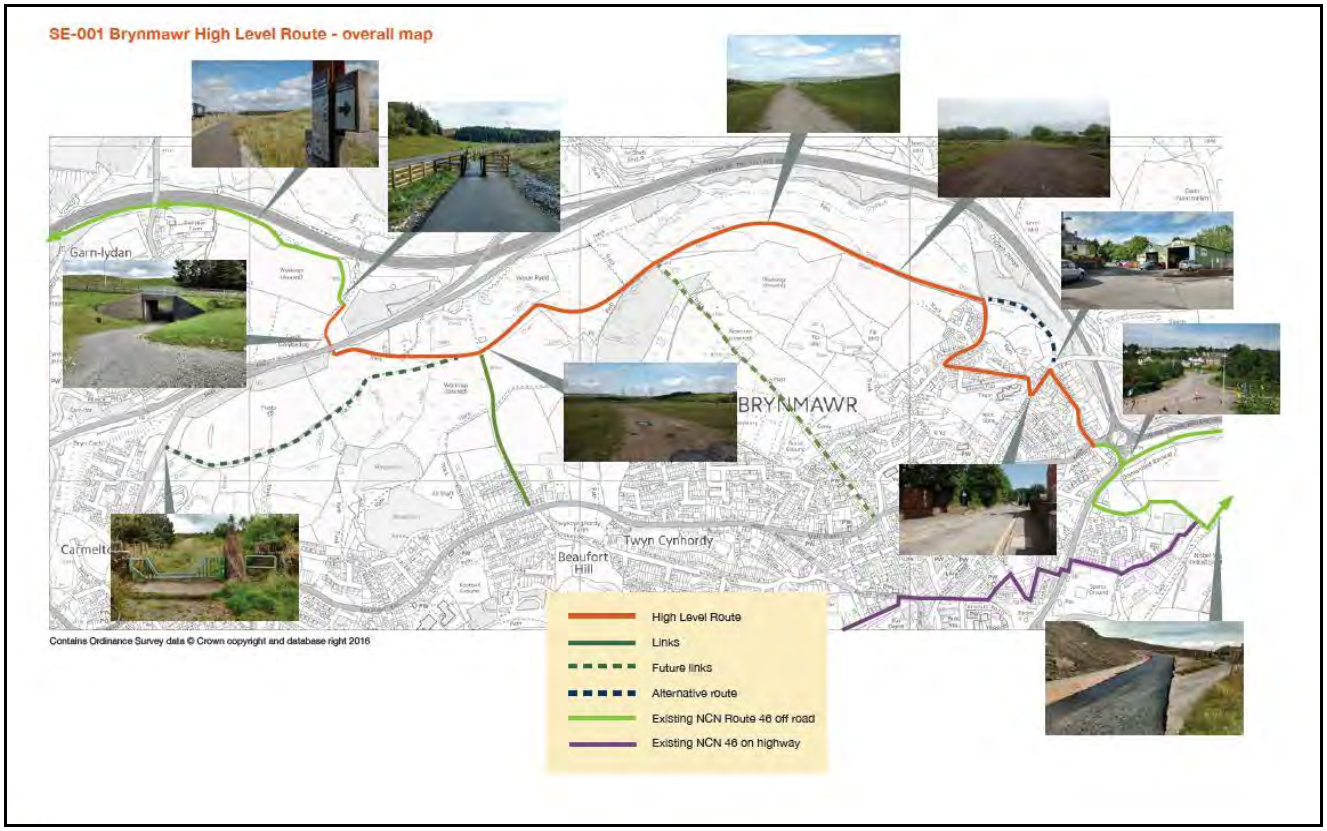

Figure 1.1. – Proposed route

In order to provide an initial assessment of the likely ecological constraints of this proposal, a desk study has been conducted. This assesses the possible impacts of the proposed works on nature conservation sites, habitats and protected or notable fauna. This assessment has not included a site visit and does not constitute a Preliminary Ecological Assessment (in accordance with CIEEM guidelines 2017) but provides an overview of possible ecological issues and constraints to the proposed development.

1.2 Ecological Assessment Methods

A desk study has been undertaken to determine likely ecological impacts of the proposal, identify any further ecological assessments required and provide an evaluation of whether any ecological features identified might form a barrier or significant constraint to the proposal.

The desk study comprised a data search, an assessment of the likelihood of ecological features being present and an assessment of potential impacts.

A data search was undertaken to determine the presence of any designated nature conservation sites and protected or notable species recorded near the route. Natural Resources Wales (*MAGIC* website) and SEWBReC were contacted to obtain data relating to the route. The following information was determined;

- Designated sites of international importance within a 5km radius of the route;
- Other statutory designated sites within a 2km radius of the route;
- Non-statutory designated sites within a 2km radius of the route;
- Records of protected and notable species within 2km of the route*; and,
- Priority habitats within 2km of the proposed route

*These are species which have European and/or UK Legal Protection, Section 6 species (Environment (Wales) Act, UK BAP Priority Species, Global Red List, British Red Data Book, Nationally Rare & Scarce, RSPB Red and Amber Birds, Welsh Vascular Plant Red Data List, Local Biodiversity Action Plan (LBAP) Species, and Locally Important Species as identified by local experts.

As part of initial discussions with local stakeholders, the author was informed about an ongoing road scheme located immediately to the north of the proposed route: Section 2, Heads of the Valley Road (A465). An electronic search for relevant ecological information was conducted, this identified a single reference: *A465 Gilwern-brynmawr conservation habitats and species regulations 2010 statement*.

To date (as of January 2018), it has not proven possible to locate the protected species surveys which underpin this assessment, however based on information provided as part of the SEWBReC search, records from these surveys appear to have been supplied to the records centre.

Aerial mapping and photographs of the route have been used to aid assessments of some of the broad habitat types present. An accurate habitat evaluation cannot be made from a desk based assessment such as this, but can inform where further survey and assessment will be required.

Potential impacts on ecological features from the proposed works have been assessed. Where impacts are anticipated, the value of the ecological feature and scale of the impact have been assessed. This has been undertaken in accordance with CIEEM Guidelines for Ecological Impact Assessment (CIEEM 2016). This is considered in light of current ecological legislation and planning policy and so considers impacts on designated nature conservation sites, protected and notable species and landscape scale impacts such as habitat fragmentation.

This report therefore makes recommendations regarding what implications ecology has on the feasibility of the proposed route creation; what further studies would be required and what measures to avoid, mitigate or compensate for ecological impacts are likely to be necessary.

Current planning policy requires developments to include ecological enhancement measures wherever practical. These should be proportionate to the scale of the development and relevant to the wildlife present in the local area. Opportunities for ecological enhancement have been identified where appropriate throughout this document.

1.3 Constraints

The study which follows represents a desk based assessment of the likely impacts of the proposals. No walkover survey has been completed in support of the conclusions and recommendations presented.

This approach is unorthodox as normally a walkover survey is required to given an accurate assessment of the ecological baseline and impacts of a proposal (Preliminary Ecological Appraisal

Guidelines, CIEEM 2017). In this instance, preparation of a desk study represents a logical first step when the relatively small scale and short duration of the works are taken in to consideration.

The majority of the proposed works focus on the upgrade of an existing unbound stone track, which is itself subject to regular legal (dog walkers, bird watchers) and illegal (motorcycle usage) disturbance. The existing surface of the track is to be replaced by a small team with a closed tarmac surface. The remainder of the route (approx. 210m) is focused on the construction of a new path along an existing earth track, which appears to be used on an occasional basis for agricultural purposes.

The proposals do not include widening of either the stoned, or earth track. It is also anticipated that the re-surfacing works will be completed within the existing track footprint. When these factors are taken in to account, the scheme, in principal should give rise to a comparatively small ecological impact and so a desk top evaluation, at least initially is considered reasonable.

2 Baseline Information

2.1 Nature Conservation Sites

Two internationally designated sites have been identified within 5km of the proposed route; Cwm Clydach Woodlands and Usk Bat Sites. These two sites are Special Areas of Conservation (SAC).

Six sites with statutory protection (Site of Special Scientific Interest (SSSI), National and Local Nature Reserve (NNR, LNR) has been identified within 2km of the route; Brynmawr Sections, Cwm Clydach, Mynydd Llangatwg, Beaufort Hills Pond and Woodland and Parc Nant-Y-Waun.

19 locally designated sites, Site of Importance for Nature Conservation (SINC), have also been identified within 1km of the proposed route.

All of these sites including their reasons for designation are summarised below;

Cwm Clydach Woodlands SAC, SSSI and NNR

The closest unit belonging to the SAC is approximately 1km east of the proposed route. The primary reason for the award of the SAC designation is that the site supports a rare form of beech woodland (*Asperulo-Fagetum* beech forest) located on the extreme north-western edge of its European range. These habitats within the SAC are also populated by a number of rare and declining plant species including whitebeam *Sorbus porrigentiformis*, mountain sedge *Carex montana*, yellow bird's-nest *Monotropa hypopitys* and bird's-nest orchid *Neottia nidus-avis*. The conservation status of this feature within the site is considered to be 'Favourable' as of 2006.

A secondary reason for its designation is the presence of a more acidic woodland community at the base of the slope (Atlantic acidophilous beech forests). The conservation status of this feature within the site is also considered to be 'Favourable' as of 2006.

The stands of acidic are considered to be of a lower quality (Grade C) than the adjoining areas of more calcareous woodland (Grade A/B).

Areas of woodland within the SAC are managed by a mixture of non-governmental organisations (Woodland Trust) and private owners.

The accompany SSSI citation for the site (45 ha), makes the following additional observations:

- The woodland supports several nationally scare species including large-leaved lime *Tilia platyphyllous* and three moss species (*Platydictya jungermannioides, Campylophyllum calcerum*, *Euryhynchium schleicheri*
- The extensive range and abundance of standing and fallen deadwood is occupied by a number of rare and scarce cranefly and beetle species
- The wooded slopes also support two areas of national geological importance

Usk Bat Sites SAC and SSSI

This 1686ha site is of international importance and covers land designated within the following Sites of Special Scientific Interest (SSSI).

- Mynydd Llangatwg (Mynydd Llangattock) SSSI;
- Siambre Ddu SSSI;
- Buckland Coach House and Ice House SSSI; and
- Foxwood SSSI

At its closest point the proposed route comes within approximately 250m of the boundary of the SAC. For the majority of the route, the proposed route is separated from the southern boundary of the site by A465 (Heads of the Valleys Road).

The land within the SAC is principally designated to provide protection for Lesser Horseshoe bats *Rhinolophus hipposideros* (Annex II species). Habitats covered by the designation include a range of nationally important roost sites, upland habitats, woodlands and cave systems which together support approximately 5%[1] of the UK lesser horseshoe bat population. The conservation status of this feature within the site is considered to be 'Favourable' as of 2006.

Secondary reasons for designation include the presence of a broad spectrum of Annex I habitats including dry heath, raised and blanket bog, calcareous rocky slopes, caves (without public access) and a rare form of ash/lime woodland (*Tilio-Acerion* forests of slopes, screes and ravines). The conservation status of this feature within the site is considered to be 'Favourable, maintained' as of 2006.

The SSSI unit located closest to the proposed route is Mynydd Llangatwg. The SSSI citation reiterates the importance of the habitats for which the site has received its international designations but also notes species and populations of national and regional significance. These include;

- Tree species that are nationally scarce, or on the edge of their natural range including large and small leaved lime *T.cordata*, as well as several whitebeam species including least whitebeam *Sorbus minimia* which is unique to the local area.
- Nationally scarce plant such as limestone fern *Gymnocarpium robertianum*, endemic hawkweeds *Hieracium sp.* and alpine enchanter's-nightshade *Circaea alpine*. The areas of limestone escarpment also include a locally important assemblage of bryophytes and lichen including the jelly lichen *Collema cristatum*.

Currently the majority of the SSSI is sheep grazed, with access to cave systems and vegetation around these features carefully controlled.

Brynmawr Sections SSSI

This site is located approximately 120m east from the route and separated from it by the A465. This relatively small, 4.1Ha site is of special interest for its geological interest. The land formations within the cutting contain several nationally and regionally important outcrops. Overall the site is considered to be of '*outstanding stratigraphical and palaeogeographical significance*'.

Beaufort Hills Pond and Woodland LNR

The proposed route would pass through the north-eastern corner of this site (SO 17247 12384 to SO 18148 12580). This comparatively large (80Ha) former quarry site incorporates a broad range of habitats including woodland, heathland, flushes, ponds, hedgerows, exposed rock and mixture of grassland communities. Several habitats are species rich and support locally notable plant species to the regional such as crowberry *Empetrum nigrum* (heathland), small cudweed *Filago minima* (sandy soils) and white water lily *Nymphaea alba* (standing water).

A primary reason for designation as LNR is the strong assemblage of bird species it supports (45 species) including ground nesting species such as lapwing *Vanellus vanellus* and skylark *Alauda arvensis*. The RSPB have identified the site as a key hotspot for lapwing and have been providing management guidance.

The site is actively managed by the council's leisure and regeneration teams, with support from Beaufort Hills Woodland and Pond Preservation Society. The majority of open habitats are managed through sheep grazing.

[1] Based on hibernation counts, this may be an underestimate

Parc Nant Y Waun LNR / cSINC

The proposed route, at its nearest point is located over 850m from the northern boundary of Parc Nant Y Wayn. The LNR contains a valuable mosaic of habitats within a generally developed/residential landscape. Unimproved grassland is the dominant land cover, with a mixture of woodland and wetland habitat making up the remainder. Locally notable plant and bird species are also present within the Site, including Kingfisher *Alcedo atthis* (RPSB Amber List[2]).

Non-Statutory Sites

The 19 SINCS (SINCs) situated within 2km of the proposed route are summarised in Table 2.1.

Name	Location and Proximity	Description
Adjacent to Blaen-y-Cwm School	0.65km south-east	1.5ha located adjacent to existing built areas. Principally characterised by semi-improved neutral grassland (M5/M6) with patches of marshy grassland in lower lying areas (M23).
Adjacent to Noble Square	0.5km south-east	0.75ha site. Slopes and banks support series of plants associated with acid grassland.
Beaufort Hill Ponds and Woodland	See LNR description above	
Ben Wards Fields	0.1km south-east	c.60ha site. Post-industrial mosaic of grassland, heathland and wetland habitats. Designated on the basis of the presence of breeding lapwing and yellow hammer *Emberiza citrinella*, breeding linnet *Carduelis cannabina*, skylark and whinchat *Saxicola rubetra*. Adder *Vipera berus* and common lizard *Zootoca vivipara* also reported.
Blaenafon Road Pond 1 (SO2011/064)	0.9km south-east	Individual pond (0.075ha) surrounded by dry heath and acid grassland. Two different rush communities are present.
Blaenafon Road Pond 2 (SO2011/063)	0.99km south-east	Individual pond (0.15ha) containing a diverse range of submerged and marginal plant species.
Bryn Farm, Brynmawr	Along northern boundary, route passes through north-eastern tip (SO 18783 12695)	19.4ha site. Multi-faceted site, supporting a number of neutral and acidic lowland and upland habitat types: heathland, mire and open water communities are of particular importance.
Brynawelon Pond	1.9km south-west	Individual pond (0.07ha) surrounded by a mixture of improved and unimproved grassland. Pond supports notable assemblage of floating leaved and emergent vegetation (NVC S14/S22).
Brynmawr Pond	0.3km south	Individual pond (0.05ha). Heavily vegetated pond populated by mixture of common emergent plant species. Reasonable invertebrate assemblage recorded in the past.
River Clydach	0.13km north	Fast flowing river (10km length). Designated on the basis of the connectivity it provides coupled with the likely presence of resident and migratory fish as well as otter *Lutra lutra* and dipper *Cinclus cinclus*

[2] RSPB – Birds of Conservation Concern. Amber status: Species which have undergone significant declines (c.50% over the last 25 years) in either breeding numbers, range or abundance.

Name	Location and Proximity	Description
		(UKBAP priority species).
Edge of the Mulfran	1.2km south-east	Series of small fields (c.1.5ha in total) incorporating a mosaic of acidic heathland and grassland communities. Crowberry (strong heathland indicator present in this area), purple moor grass *Molinia caerulea* and 10 other indicators of acid grassland/heathland present.
Embankment Grassland	1.3km south	Small plateau (c.1.5ha) comprised of a series of small pools with corresponding areas of wet grassland/rush pasture. Drier areas support areas of neutral grassland (10 indicator species present).
Garnlydan	125m north	Formerly open cast mine (c.51.6ha). Divided from proposed route by A465. Principally single large expanse of open water supporting snipe *Gallinago gallinago* and common sandpiper *Actitis hypoleucos* – RSPB Amber list. Fringed by mixture of acid grassland, wet heath and mire.
Llwydcoed Pond	1.35km south	Individual pond (0.02ha) supporting open water, floating sweet-grass *Glyceria fluitans*) and several other swamp indicator species (e.g. bulbous rush *Juncus bulbosus*).
Mulfran, Mynydd Coity, Myndd James & Gwastad	0.75km south-east	Large area of open common land supporting a diverse range of upland acid grass and dwarf shrub communities. Site supports only known breeding site of the Silurian moth *Eriopygodes imbecilla* (Section 7 species[3]).
Nantyglo Meadow	1.5km south	Two separate grassland fields (4.1Ha in total) supporting a continuum of semi-improved and improved neutral and acid grassland. Patch of Japanese knotweed present.
Parc Nant-y-Waun	See LNR Description above	
Pond Group 1	0.165km south	A network of two large ponds with man-made embankments along the southern edge, together with two smaller permanent ponds, two seasonal ponds and wet flushes. Series of ditches with corresponding flushes link these waterbodies together, with semi-improved grassland forming the remainder of the surrounding habitat. Existing Public Rights of Way pass through this site.
Pond Group 2	0.05km north	Three small ponds (0.128ha) situated just south of the A465 Heads of the Valleys Trunk Road. Two of the ponds support bog pond weed *Potamgeton polygonifolius*.(indicator of good water quality).
Semtex Pond	0.88km south	Single large waterbody surrounded by UK Priority Habitats (neutral grasslad and hedgerow).Total site area of 8ha. 25 bird species observed to visit the site, including at least two Schedule 1 species (Kingfisher and Common Goldeneye *Bucephala clangula*).

Table 2.1: Local Wildlife Sites within 1km of the proposed route

[3] Environment (Wales) Act, 2016 – Section 7 Species are those of principal ecological importance in Wales

2.2 Habitats and Plants

Reference to national habitat inventories indicate there are 12 woodland units listed in the National Forest Inventory within 1km of the proposed route. These are listed as broadleaved (10), with individual units of conifer and stands of young trees reported.

As part of the data trawl, a detailed habitat plan covering the proposed route and a 2km buffer was provided. This habitat plan has been adapted to show the proposed route and is presented in Figure 2.2 below.

Figure 2.2 – Hybrid Phase 1 Habitat Plot (Source: SEWBReC), proposed route shown in red

For ease of reference the following observations are labelled in accordance with the waypoints marked on Figure 2.2.

A-B (SO 17319 12578 to SO 17259 12372)

Reference to online aerial photography resources and the habitat information presented in Figure 2.2 indicate that the proposed route will be situated along an existing unbound stone track (c.4m width). The boundaries of the track already appear to be disturbed with areas of bare and disturbed ground on either side. The route then passes adjacent to an existing standing of broadleaved plantation woodland to the east (when north of the A465), with a further section to the west immediately after the crossing under the trunk road.

B-C (SO 17529 12372 to SO 18065 12525)

The preferred route continues to run along the line of the unbound, stone path between point B and C. The track widens out to approximately 10-12m width to the east, where it is crossed by another track orientated north-south (SO 17706 12388), with areas of bareground (black fill, Figure 2.2) to the south. Mapped habitats within 50m of the route include a series of lean-to structures with accompanying horse pasture, hedgerow, scattered broadleaved trees, as well as an area of semi-improved neutral grassland and dense scrub. Habitat to the east are mapped in less detail, with review of these areas using aerial photos indicating they are unenclosed and appear to be areas of bare ground with areas of grazed, species poor improved grassland in-between.

C-D (SO 18065 12525 - SO 19217 12541)

The proposed route follows the existing unbound stone track. Habitats adjacent to the track along this section to the north include standing water (Pond Group 2 SINC) and associated areas of semi-improved and improved grassland. Further east habitats present include a mosaic of improved grassland, scrub and ditches. To the south, habitats within 50m of the route include dry shrub heath, marshy grassland and acid grassland. Small areas of shrub heath and unimproved acid grassland containing scattered scrub and trees are located along the southern boundary of the existing track in several locations, although these appear to be separated from track by a ditch and steep embankment.

D-E (SO 19217 12541 - SO 19443 12416)

This section of the proposed route diverges away from the existing stone path and instead runs along the line of an earth track which runs downhill towards an existing storage yard and commercial unit (Mechanix GRX – Moto Centre). The section along the earth track is approximately 210m in length (between SO 19217 12541 – SO 19405 12461). The character and composition of the earth track is unknown. Based on interpretation of the SEWBReC habitat plot; habitats adjacent to the north of the preferred route include young and more mature broadleaved plantation, scattered scrub, acid grassland and scrub. Aerial photography would suggest that patches of dry shrub heath are present approximately 8-10m from the centre of the track on either side.

D-F (SO 19217 12541 – SO 19549 12114)

For approximately the first 30m, the proposed route will follow a permissive footpath located through a belt of dense native scrub. Once through, the route will utilise existing residential access roads. Gardens and residential properties line the preferred route along the majority of this section. A line of mature coniferous trees (mostly like Scots Pine *Pinus sylvestris*) line an existing part of the route (SO 19353 12308 - SO 19355 1224).

Records of a single non-native species occurring within 2km of the route were provided by SEWBReC. This record related Spanish bluebell (*Hyacinthoides non-scripta x hispanica = H. x massartiana*). The record location places within an area of community space approximately 500m of the proposed route. A record for fairy flax *Linum catharticum*, a locally infrequent species was reported within a similar location.

2.3 Fauna

2.3.1 Invertebrates

Records of one notable invertebrate species were provided by SEWBReC. Two records for small pearl-bordered fritillary *Boloria selene* were returned (UKBAP Priority Species, Section 7), both were associated with woodland habitats to the north of the A465, approximately 890m east of the preferred route.

Without a detailed route design and habitat survey, the importance of habitats within the works footprint to be invertebrates cannot be determined.

Some generalisations can be made in relation to features known to be present along the proposed route. The dry shrub heath and associated acid grassland habitats are likely to be important habitats for invertebrates, including species that are frequently under-recorded. Based on an evaluation of the SINC data, waterbodies in the local area are also likely to be important to invertebrates. The existing unbound stone track is considered likely to be of minimal value to invertebrates.

2.3.2 Amphibians

The desk study did not return any amphibian records within 2km of the proposed route. A review of the NBN Atlas, identified a historic great crested newt record approximately 5.5km to the east.

Reference to Ordinance Survey mapping indicates that there are ponds within 250-50m of the proposed route, without a field survey the presence of great crested newts within these ponds cannot be ruled out. However based on a review of the habitat mitigation measures implemented as part of the recent Heads of the Valleys Duelling project, no mitigation measures relating to amphibians were included in association with sections of the scheme which would have impacted upon these waterbodies (Oct 16, Job No. 60477, 16.1li-l).

The lengths of existing stone track to be resurfaced is considered unlikely to provide foraging, or overwintering opportunities for great crested newts. Parts of the route to the east, associated with an existing bare earth track will be situated through a mosaic of early successional habitats including grass and scrub which could provide foraging opportunities for these species. No waterbodies are located within 250m of this section of the proposed route and so the likelihood of great crested newts being present within this area are also considered to be low.

2.3.3 Birds

The data trawl yielded fewer bird records than might otherwise be expected considering the number of statutory and non-statutory wildlife sites within 2km of the route, and the comparatively large areas of open water formed by former quarry workings in the local area.

The only records returned by the search related to Barn owl *Tyto alba*, 5 records (Schedule 1 of the Wildlife and Countryside Act) and bullfinch *Pyrrhula pyrrhula* (RSPB Red List), single record.

As described in Section 2.1, Beaufort Hill LNR s known to support a locally important assemblage of wildfowl, including lapwing and skylark (Section 7, Species of Principal Concern). Historically skylark[4] were recorded within compartments of developing woodland to the west of the proposed route, with lapwing in more open areas of common land to the north of the reserve near to the proposed route. The open habitats either side of the proposed route have the potential to be used by skylark and lapwing. Concentrations of bird activity are also anticipated in association with the smaller and larger waterbodies located near to the route, with target species likely to include mallard and tufted duck[5].

Further research has also confirmed that Beaufort Hill LNR and the surrounding area, form one of a series of priority areas for lapwing, as identified by the RSPB and form part of the Heads of the Valleys Lapwing Conservation Project[6]. Historically, the wider area has supported approximately 10% of the resident lapwing population in Wales (c.60 breeding pairs). The RSPB are supporting the implementation of management plans to stabilise and improve the density and number of lapwing breeding in the local area.

Along the whole route, trees, scrub and hedgerows will be used by nesting and foraging birds.

2.3.4 Invertebrates

Small pearl bordered fritillary

2.3.5 Mammals

Bats and in-particular lesser horseshoe bats were the principal species returned by the data search. As detailed Section 2.1 above, the populations of lesser horseshoe bats associated with the nearby SACs (Usk bat sites, Cwm Clydach Woodlands) are of international importance.

More than 400 bat records were identified by the data search, with the majority associated with surveys used to inform the duelling of the nearby A465/Heads of the Valley road. Records covered at least six bat species, common pipistrelle *Pipistrellus pipistrellus*, soprano pipistrelle *P.pygmeaus*,

[4] Beswick, N. (2007) Beaufort Hull and Parc Nant-Y-Wayn Ornithologicla Survey – April-June 2007
[5] Pers.Comm. Nicholas Beswick, Jan 2018.
[6] https://www.rspb.org.uk/our-work/conservation/projects/heads-of-the-valleys-lapwing-project/

brown long-eared bat *Plecotus auritius*, pipistrelle *Pipistrellus sp,* Myotid *Myotis sp.*, greater horseshoe bat *Rhinolophus ferrumequinum* and lesser horseshoe bat.

94% of the records returned were for lesser horseshoe bats, many of which relate to significant breeding (maternity) and winter hibernation roosts within 2km of the preferred route. The nearest bat roost is located approximately 250m east. Activity records indicate that the underpass beneath the A465 (at SO 1834 1291) is an important flight path for bats and, with the underpass along the proposed route having the potential to provide crossing points for bats. Based on the construction and condition of this underpass it is considered unlikely to provide roosting opportunities for bats. The spatial distribution of bat records indicate that bats regularly forage around in the wooded areas to the south and east of the proposed route.

No badger *Meles meles* records were reported by the search. The existing stone track to be re-developed is unsuitable as sett building habitat for badgers, although adjacent drier/more sheltered areas associated with existing and developing woodland and scrub could provide suitable locations. The areas of improved grassland located either side of the site would also provide foraging opportunities for these species.

Records of otter *Lutra lutra* have been provided and this species may forage along the River Clydach and associated streams through the landscape.

2.3.6 Reptiles

Two adder *Vipera berus* record was provided by SEWBReC. Although this was not situated in close proximity to the route, it is anticipated that the taller grassland, scrub and heathland habitats located either side of the proposed route to the east, may be suitable for this species and other reptiles.

3 Anticipated Impacts

3.1 Plants and habitats

The proposed route construction will lead to minor permeant and temporary habitat loss. Approximately 90% of the route will be concentrated along existing unbound stone track which based on the available photographs (dated June 2017) and aerial photography appears to be of negligible ecological value. At this stage no details have been supplied detailing the size or location of any storage areas/construction compounds.

Review of habitat information supplied by SEWBReC and aerial photographs, would suggest that areas of dry shrub heath and acid grassland are located in close proximity to the proposed and existing track at SO 18236 12640, between SO 18816 12681 and SO 18816 12681 and SO 19273 12525 to SO 19397 12457. Lowland dry heath and acid grassland are nationally important habitats and form qualifying features for several of the statutory and non-statutory within 2km of the proposed route. It will be essential for the design and construction of the new track along this eastern section to avoid direct (e.g. tracking over, storage of materials) or indirect impacts on these habitats (e.g. alteration in hydrology, pollution events).

Resurfacing of the new tarmac track may require machinery to operate beyond the edge of the existing stone track (e.g. 1-2m on either side). From review of aerial photographs many of these edges appear to be have been trampled by pedestrians, or poached/disturbed by off-road motor cycles, therefore temporary disturbance of these areas as part of the works is not considered likely to be significant; unless reinstatement resulted in permanent changes to the local hydrology, or lead to nutrient enrichment/pollution of these areas.

The construction of approximately 210m of new tarmac path to the east, will likely lead to the loss of approximately 0.1ha of bareground, semi-improved grassland and scattered scrub. The importance of these habitats along the route cannot be determined without a site visit.

It has been assumed from plans that the route will not require any alterations to existing structures (e.g. underpasses). If this is not the case, more detailed surveys of these feature will need to be undertaken.

As the River Clydach, at its closest point is located more than 120m from the proposed route, no significant impacts upon this feature are anticipated subject to standard construction pollution control measures being implemented.

3.2 Fauna

3.2.1 Invertebrates

The existing stone track is considered to be of negligible value to invertebrates and so re-surfacing of this feature is considered unlikely to have a significant effect. Possible impacts could include the temporary loss of higher value invertebrate habitat (acid grassland / shrub heath) located adjacent to the proposed route, these are habitats known to be favoured by the larva of small pearl-bordered fritillary butterflies identified as a species of local interest by the SEWBReC search.

The impact on invertebrates of a new section of track cannot be fully assessed without a field survey, however based on the scale of the works in this area and pattern of historic land use (usage as agricultural track), significant impacts on invertebrates are considered unlikely.

3.2.2 Amphibians

The data trawl identified that great crested newts were likely absent from the proposed works area, with the re-surfacing of an existing stone track considered unlikely to lead to the loss, or fragmentation of potential breeding, foraging or overwintering sites for these species.

Other commoner species of amphibian, could be present within the areas of grassland and dry shrub heath either side of the existing unbound stone track, as well as the early successional habitats associated with the proposed new section of track to the east.

3.2.3 Birds

The construction phase of the scheme has the potential to cause minor disturbance to ground nesting birds (mostly likely skylark and lapwing). The existing unbound stone track and margins either side (within 2-3m) are not considered to provide suitable conditions for ground nesting birds, and so direct impacts on these species are considered unlikely. The only exception to this relates to the mosaic of successional habitats located along the existing bare earth track to be upgraded to the east, where other species may choose to nest in small trees/scrub within this area.

Indirect impacts on ground nesting birds during construction are considered to be minor as birds nesting in these areas are likely to be habituated, at least partially to human disturbance due to existing users of the track and surrounding areas (i.e. dog walkers and off-road motoryclists[7]).

The use machinery and concentration of human activity linked to re-surfacing of the path would generate a short-term, but noticeable increase in noise, dust and light pollution in the absence of mitigation. Potential mitigation measures either through the use of screening, or timing of works will need to adopted to reduce this impact to an acceptable level.

It is reasonable to assume that once upgraded, the track will attract more visitors and so the current baseline level of usage will increase. Lapwing and skylark, like other ground nesting species are sensitive to human disturbance. Regular disturbance can lead to the abandonment of nests, or foraging areas lowering the ability for these species to breed successfully[8]. Research would suggest that dogs, particularly when off-lead are a key source of disturbance.

In a local context (RPS, 2017[9]), lapwing nesting failures have largely been attributable to corvid activity.

In the absence of mitigation, this increase in usage along the track could result in increased disturbance to birds roosting and nesting in the areas of open grassland and heathland located either side of the proposed route. As Beaufont Hills LNR and adjoining areas form a local priority area for lapwing and other ground nesting species, mitigation is required to minimise these effects.

In order to proceed, it is recommended that a consultation exercise with the Local Planning Ecologist be undertaken. The focus of this consultation would be:

- Confirm current pattern of usage of the site by ground nesting birds including breeding ‘hotspots’
- Confirm existing sources of disturbance;
- Agree measures to reduce disturbance; taking in to account that increased dog walking/visitor access may discourage motor cycling activity.

3.2.4 Mammals

It is considered unlikely that the proposal will result in significant loss of habitat or habitat fragmentation for mammals.

This includes lesser horseshoe bats, whose populations in the local area are of international importance. The proposed works will not lead to the loss of any roost sites, fragmentation of flight lines (through the removal of linear features such as hedgerows, or lighting of crossing points/flight

[7] Perso Communicaiton – Nicholas Beswick - 24.01.18
[8] English Nature (2005) R649 - Dogs, access and nature conservation
[9] A465 Heads of the Valleys Section 2, Ben Ward’s Fields & Mitigation Area Survey of Breeding Lapwing, 2017 – 5.14, pg 10

paths), neither will the scheme lead to the loss of any existing areas of significant foraging habitat for these species.

The only risks identified in relation to mammals are;

- The potential for badger setts to be damaged and badgers disturbed if setts were present along the proposed route; and
- Possible disturbance to nesting/hibernating hedgehogs dependent on habitats disturbed and timing of works.

These two potential impacts can be managed through the implementation of a pre-construction survey.

3.2.5 Reptiles

The majority of the route is focused on unsuitable reptile habitat (unbound stone track). Sections of the existing track may provide suitable basking opportunities for these species, although this usage is considered likely to be very transient and only during the active period.

The proposal would not be anticipated to fragment, or significantly reduce habitat for reptiles, but has a very low potential to kill/injure individuals during construction, principally when the existing earth track is upgraded to the east.

Dependent upon on the habitats within the work footprint in this area there may also be the additional risk of damaging or destroying reptile hibernacula.

It is anticipated that all of these impacts can be readily avoided and compensated for.

4 Conclusions and Recommendations

The proposed works are generally small scale and minor in nature, as they relate principally to the re-surfacing of an existing unbound stone track with tarmac. The footprint of the tarmac will match the existing stone track, except in a single location where an existing bare earth track will be upgraded.

The route is not situated within any European protected sites, however it is situated through Beaufort Hills, a Local Nature Reserve/SINC and Bryn Farm SINC.

The existing stone track to be upgraded is of negligible ecological value, however based on this desktop review habitats adjacent to the track of district/county value and therefore construction protection measures will need to be applied.

Minor disturbance to skylark and lapwing during and post-construction have been identified as potential impacts of the proposals. Measures to safeguard other species including common amphibians, badgers, reptiles and tree/shrub nesting birds will also need to be implemented.

Disturbance to birds

As part of the route is located within a priority area for lapwing, further targeted consultation with the relevant ecological stakeholders as detailed in Section 3.2.3 is recommended. This is principally to confirm the pattern of ground nesting bird activity, determine the scale of impact arising from the proposals and identify a series of mitigation measures proportionate to the scale of the impact.

Based on the available information (c.2-3 breeding pairs of lapwing, likely located to the west of the path). Mitigation could include the installation of interpretation signage to:

- Encourage dog walkers to behaviour responsibly (i.e. keep dogs on leads in key areas where lapwing have, or have historically nested)
- Encourage other visitors (e.g. bird watchers, walkers) to consider ground nesting birds when visiting the site

In addition targeted planting to discourage visitors from accessing known breeding hotspots may also be beneficial.

Habitat Protection

Acid grassland and dry shrub heath, which are of district/county value are located in several locations adjacent to the proposed route. As well as direct impacts, these habitats are vulnerable to indirect effects.

It is recommended that where the route passes within 20m of these habitats (namely at SO 18236 12640, between SO 18816 12681 and SO 18816 12681 and SO 19273 12525 to SO 19397 12457) suitable construction fencing is to be erected along the edge of the proposed work area (no more than 2m outwards from the edge of the existing track).

The fencing should be erected before work commences and left in place until works within the fenced area are complete. All items are to be stored within the enclosed working space. All contractor and machinery movements should be focused along the existing track, or other hard-surfaces.

When surfacing of the track is complete, any peripheral areas (e.g. track edges) are to be done so with care, with soils placed rather than spread and compacted down.

Other protected species issues

Other impacts identified by the proposal are;

- Low risk of injuring/killing amphibians and reptiles during construction, principally in relation to the upgrade of an existing earth track to east. A Method Statement detailing reasonable avoidance measures to address the identified risk to herpetofauna should be prepared and issued to the appointed contractors.
- Disturbance to birds nesting if construction is undertaken during the breeding season. Breaches in legislation could be readily avoided through timing of works outside of bird nesting period (March to September inclusive/Mid-March – July for ground nesting species)
- Disturbance badgers and nesting/hibernating hedgehogs if these are present along the route. A pre-construction survey by a suitable qualified ecologist should be undertaken at least 6-8 weeks before any site enabling, or vegetation clearance works takes place.

Current planning policy demands that construction projects not only minimise their ecological impact, but provide enhancements wherever possible. Ecological enhancement measures proportional to the scale of the proposal should be built in the scheme. A series of recommendations are bulleted below:

- Creation of additional amphibian/reptile sheltering and hibernacula in suitable locations
- Creation of series of shallow scrapes adjacent to the path within lower value habitats (i.e. improved grassland, shown as white areas on Figure 2.2 above) to provide additional foraging grounds for wetland birds (e.g. lapwing, snipe)
- Application of locally sourced acid grassland seed/green hay mix along edges of path to be constructed along earth track to east. Common dog violet *Viola riviniana* plug plants could also be planted along the eastern side of the new track to provide additional food sources for small pearl-bordered fritillary larva.

5 Index and Bibliography

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