Chandler KBS

Elan Valley Lakes

Preliminary Ecological Appraisal Report

Alan Cowlishaw

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Revision and Amendment Register

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1	03/09/2024	All	All	V1 for issue	Michael Underwood	Keith Ross

Contents

Non-Technical Summary		
Site Name	Elan Valley Lakes	
Proposed Works	Visitor Centre Redevelopment	
Methods	Desk Study, UKHab Habitat Survey, Preliminary Roost Assessment	
Ecological Receptor	**RAG Status[1]**	**Recommendations**
Designated sites		A Habitat Regulations Assessment should be undertaken to assess the potential impacts of the proposed development on designated sites in the absence of mitigation.
Habitats		Best practice pollution prevention methods (including dust and silt control) should be adhered to at all times throughout the works to ensure that run-off and / or silt do not enter any of adjacent habitats. An arboricultural impact assessment should be undertaken prior to any works that might affect trees.
Bats		Before works are carried out on the buildings, emergence surveys are recommended under the supervision of suitably qualified Ecologist.
Hazel dormouse		No further action required.
Amphibians		No further action required.
Otter		An otter survey of the watercourses should be carried out. This can be undertaken at any time of year and should extend 250 m up and downstream of the two crossing points.
Fish		Best practice pollution prevention methods (including dust and silt control) should be adhered to at all times throughout the works to ensure that run-off and / or silt do not enter any of adjacent habitats.
Badger		A pre-works badger check should be undertaken up to 4 weeks before the works to ensure no badgers are present.
Water vole		No further action required.
Reptiles		Ground level vegetation clearance and topsoil excavation should be undertaken under an Ecological Clerk of Works to relocate any reptiles found.

[1] **Green**: No adverse effects anticipated, and no further survey effort / mitigation required. **Amber**: Adverse effects are possible and further survey effort / mitigation is required. **Red**: Adverse effects will occur in the absence of mitigation and further survey effort / mitigation is required.

Wild birds		Any vegetation removal should be undertaken outside of the nesting bird season (March to August inclusive). If this is not possible, vegetation should be checked by an ecologist prior to clearance. The pre-works check should be undertaken as close to and no longer than 48 hours prior to the vegetation removal taking place. If nesting birds are present, a buffer will be implemented around the nest, and works cannot proceed in this area until the chicks have fledged or the nest is deemed (by an ecologist) to be inactive.
Plants and fungi		No further action required.
Invertebrates		Best practice pollution prevention methods (including dust and silt control) should be adhered to at all times throughout the works to ensure that run-off and / or silt do not enter any of adjacent habitats.
Other notable mammals		A pre-works hedgehog check should be undertaken on the day of the works to ensure no hedgehogs are present.
INNS		No further action required.
Nocturnal wildlife		If additional lighting is required during construction, a lighting plan should be provided to and reviewed by an ecologist, to assess the impacts to nocturnal wildlife (including bats, badger, and hedgehog).

1. Introduction

1.1 Purpose and Brief

APEM Ltd (APEM) were commissioned by Chandler KBS on behalf of Dŵr Cymru Welsh Water (DCWW) to undertake a Preliminary Ecological Appraisal (PEA) and Ground Level Tree Assessment (GLTA) for improvements to the existing Elan Valley Visitor Centre, Powys (nearest postcode: LD6 5HW; National Grid Reference (NGR): SN 92807 64624, hereafter be referred to as 'the Site'.

This report provides the survey methodology and results of the PEA and GLTA carried out at the Site in June 2024. Following interpretation of the results, the report provides an assessment of the potential effects of the proposals on habitats and protected species. It also provides recommendations for further surveys, mitigation or licences that are required in advance of any works being undertaken at the Site.

The key objectives of a PEA, as defined by the Charted Institute of Ecology and Environmental Management (CIEEM, 2017) are to:

- Identify the likely ecological constraints associated with a project;
- Identify any mitigation measures likely to be required following the 'Mitigation Hierarchy[2]';
- Identify any additional surveys that may be required to inform an Ecological Impact Assessment (EcIA); and,
- Identify the opportunities offered by a project to deliver ecological enhancement.

1.2 Site Description

The Site is located in Elan Valley, Rhayader, Powys, Wales (nearest postcode: LD6 5HP, NGR: SN 92801 64631).

The Site is a stone building visitor centre which has a car park, grassland, trees, and the Afon Elan River, immediately adjacent. The wider area consists of grassland and heath to the north, the Elan Village to the east, ancient woodland to the south, and Caban-Coch Reservoir to the west.

[2] A sequential process to avoid, mitigate and compensate negative ecological impacts and effects.

1.3 The Proposed Works

It is understood that Chandler KBS have been commissioned by Dŵr Cymru Welsh Water (DCWW) to deliver improvements to the existing Visitor Centre. This includes the following:

- Café extension - additional seating area for circa 60 people and kitchen extension, and the creation of additional outside seating (some of which to be covered);
- Terrace / Decking outside the visitor centre;
- Shop / reception re-worked in line with the extension to enable the current shop area to be returned back to the exhibition area;
- Existing overflow carpark area to be improved and electric hook-ups provided;
- Additional car parking provision;
- Pedestrian routes from car park to visitor centre to be routed via the river edge, to discourage the car park being used as the primary access route to avoid vehicle interaction;
- Café kitchen extension in-line with training facility;
- Working areas, rest facilities etc in-line with apprenticeships;
- Improvements / relocation of play area; and
- Replace windows in original building - grade 2 listed.

The timescales for development are not currently known.

This report has been informed by the following documents:

- 296EVC - Elan Valley VC re-development 050624 Client Meeting extract – Ray Hole Architects June 2024.

1.4 The Survey Area

The survey area included the habitats and structures within the red line boundary in 296EVC - Elan Valley VC re-development 050624 Client Meeting extract.

The survey area is shown in Figure 1 in Appendix A.

2. Legislation and Planning Policy

2.1 Legislation

A framework of international, national and local legislation exists to protect and conserve wildlife and habitats. The following core legislation exists to protect habitats and species of nature conservation importance.

- The Conservation of Habitats and Species 2017 (as amended);
- The Wildlife and Countryside Act 1981 (as amended);
- Environment Act 2021;
- Environment (Wales) Act 2016;
- The Hedgerow Regulations 2017;
- The Invasive Alien Species (Enforcement and Permitting) Order 2019;
- The Protection of Badgers Act 1992;
- Town and Country Planning Act 1990; and,
- Wild Mammals (Protection) Act 1996.

The Environment (Wales) Act 2016 placed a strengthened biodiversity duty on public authorities. Section 6 requires public bodies to "maintain and enhance biodiversity in the exercise of functions in relation to Wales, and in so doing promote the resilience of ecosystems, so far as consistent with the proper exercise of those functions". Section 7 of the Act outlines the steps to maintain and enhance biodiversity.

2.1.1 Net Benefit for Biodiversity

Section 6 of the Environment Wales Act 2016 requires all public authorities, when carrying out their functions in Wales, to seek to "maintain and enhance biodiversity" where it is within the proper exercise of their functions. In doing so, public authorities must also seek to "promote the resilience of ecosystems".

The net-benefits for biodiversity (NBB) approach by Welsh Government aims to deliver an overall improvement in biodiversity by putting emphasis on proactive consideration of biodiversity and wider ecosystem benefits within a placemaking context early in the design process.

2.2 National Planning Policy

The Planning Policy Wales (PPW) sets out the land use planning policies of the Welsh Assembly Government and is supplemented by a series of Technical Advice Notes (TANs) with the most relevant for ecology being TAN 5: Nature Conservation and Planning (Welsh Goverment, 2009). TAN 5 provides advice on how the land use planning system should contribute to protecting and enhancing biodiversity. A summary of the main points in TAN 5 relevant to the ecological assessment of the development is provided below.

- Local planning authorities have a duty to take reasonable steps to further the conservation and enhancement of biodiversity.
- The planning system has a key role to play in helping to reverse the decline in biodiversity.
- Addressing the consequences of climate change should be a central part of any measures to conserve biodiversity. Development plan strategies, policies and development proposals must consider the need to:
    - Support the conservation of biodiversity (wildlife and habitats);
    - Ensure action in Wales contributes to meeting international responsibilities and obligations for biodiversity;
    - Ensure statutorily and non-statutorily designated sites are properly protected;
    - Safeguard protected and priority species and existing biodiversity assets from impacts which directly affect their nature conservation interests.
- Biodiversity and resilience should be considered at an early stage in development planning.
- All reasonable steps must be taken to maintain and enhance biodiversity.
- Development should not cause any significant loss of habitats or populations of species and must provide a net benefit for biodiversity.
- Planning authorities must have regard to the relative significance of international, national and local designations. Statutorily designated sites must be protected from damage and deterioration.
- Statutorily protected species protected under European or UK legislation are material considerations if a development would result in disturbance or harm, and the range and population of the species should be sustained.
- 'Planning authorities must follow a step-wise approach to maintain and enhance biodiversity and build resilient ecological networks by ensuring that any adverse environmental effects are firstly avoided, then minimized, mitigated, and as a last resort compensated for; enhancement must be secured wherever possible'.
- Emphasis to the importance of trees, hedgerows and woodlands (especially ancient woodland) is also given, and states 'ancient woodland and semi-natural woodlands and individual ancient, veteran and heritage trees are irreplaceable natural resources.'
- Green infrastructure should be incorporated into development through appropriate site selection and use of creative design.

A recent letter from the Welsh Government's Chief Planner to the Heads of Planning (Welsh Government, 2019) has strengthened the requirement for LPAs to ensure NBB in all planning applications. The letter states that development applications which do not propose biodiversity enhancements will be refused unless they include other significant material considerations.

Since publication of the latest edition of the PPW, updates have also been made to Chapter 6 (which relates to conserving and enhancing the natural environment). These were published in a Heads of Planning Letter (Welsh Government, 2023), summarising the main changes to policy as follows:

- Green Infrastructure: a stronger emphasis has been placed on taking a proactive approach to green infrastructure covering cross boundary considerations, identifying key outputs of green infrastructure assessments, the submission of proportionate green infrastructure statements with planning applications and signposting Building with Nature standards.
- Net Benefit for Biodiversity and the Step-wise Approach: further clarity is provided on securing NBB through the application of the step-wise approach, including the acknowledgement of off-site compensation measures as a last resort, and the green infrastructure statement as a means of demonstrating the step-wise approach is made explicit. The importance of strategic collaboration to identify and capture larger scale opportunities for securing NBB is recognised.
- Protection for Sites of Special Scientific Interest: strengthened approach to the protection of SSSIs, with increased clarity on the position for site management and exemptions for minor development necessary to maintain a 'living landscape'. Other development is considered unacceptable as a matter of principle.
- Trees and Woodlands: closer alignment with the step-wise approach, along with promoting new planting as part of development based on securing the right tree in the right place.

2.3 Local Planning Policy

The Site lies within the jurisdiction of Powys County Council. The Powys Council Adopted Local Development Plan (LDP) (Powys County Council, n.d.) includes specific environmental policies that are of relevance to the ecology of the Site, as detailed below:

Policy DM2 – The Natural Environment

Development proposals shall demonstrate how they protect, positively manage and enhance biodiversity and geodiversity interests including improving the resilience of biodiversity through the enhanced connectivity of habitats within, and beyond the site.

3. Methodology

3.1 Desk Study

A desk study was undertaken to identify the existing ecological information for the Site and surrounding area.

Records of European and nationally designated sites were obtained from the Multi Agency Geographic Information for the Countryside (MAGIC) Interactive (DEFRA, 2023). Records of non-statutory sites, as well as protected and notable species from within a 2 km buffer of the Site, were obtained from Aderyn on 25th July 2024 (Aderyn, 2024).

All species records in the data search have been reviewed and considered as part of the desk study. Historic records (i.e., those older than 10 years[3]) have not been included in the results section as standard, except where it was considered to be of particular relevance to the Site or proposed works.

3.2 Field Surveys

The surveys were undertaken by Principal Ecologist Alan Cowlishaw BSc (Hons) MSc MCIEEM MRSB on the 24th June 2024. The weather conditions at the time of the survey were 21°C, dry with a 4 mph wind speed.

3.2.1 UK Hab Survey

The UKHab survey involved undertaking a detailed walkover of the Site marked out by the survey boundary detailed in Section 1.4 and shown in Figure 1, Appendix A. The aim of UKHab is to provide a rapid system for recording and classifying habitats. The system comprises a principal hierarchy (the Primary Habitats, which include ecosystems, broad habitats, priority habitats and Annex 1 habitats) and non-hierarchical Secondary Codes. All habitats present on-site were recorded on a UKHab map (Figure 2, Appendix A).

The presence of any invasive non-native species (INNS) was also recorded.

[3] Whilst records older than 10 years are unlikely to be representative of current local species populations, they can provide valuable data regarding historic populations and changes in species distributions.

During the survey habitats within the Site were mapped according to UKHab survey methodology. The survey area was inspected for field evidence and suitability to support the following protected species:

- Bats (*Chiroptera* spp.);
- Hazel dormouse (*Muscardinus avellanarius*);
- Great crested newt (*Triturus cristatus*) and other amphibians;
- Otter (*Lutra lutra*);
- Fish;
- Badger (*Meles meles*);
- Water vole (*Arvicola amphibius*);
- Reptiles;
- Wild birds;
- Plants and fungi;
- Terrestrial and aquatic invertebrates; and,
- Other protected or notable mammal species.

In the context of this report, rare, protected, or otherwise notable species of flora or fauna were those considered to meet any of the following criteria:

- Species protected by legislation;
- Priority species (Environment Wales Act, 2016) or (Natural Environment and Rural Communities Act, 2006);
- Nationally or locally rare or scarce species; and,
- Species of conservation concern (e.g., JNCC Red List, RSPB / BTO Red or Amber Lists).

3.2.2 Preliminary Roost Assessment for Bats (PRA)

The PRA and subsequent classification followed current best practice guidance (Collins, 2023). The visitor centre building was inspected internally and externally for field evidence of bats including:

- droppings,
- individual bats (live or dead),
- feeding remains,
- scratch marks,
- urine staining,
- grease marks, and;
- clean cobweb-free gaps around potential entrance points and crevice roost sites.

The building was also inspected for evidence and its suitability to support nesting birds.

3.3 Assessment of Ecological Features

The assessment of impacts from construction and operation has followed the methodology set out by CIEEM (2017). In line with this guidance, the following definitions are used for impacts and effects:

- Impact – Actions resulting in changes to an ecological feature. For example, the construction activities of a development removing a hedgerow.
- Effect – Outcome to an ecological feature from an impact. For example, the effects on a dormouse population from loss of a hedgerow.

CIEEM guidelines (CIEEM, 2018) state that the importance of an ecological feature[4] should be considered within a defined geographical context. It is recommended that the following frame of reference be used, or adapted to suit local circumstances:

- International;
- National (UK);
- Country;
- Regional;
- County;
- Local; and,
- Site.

3.3.1 Zone of Influence

All species, habitats and integrated plant and animal communities that occur within the 'zone of influence' (ZoI) of the proposed development are defined as potential 'ecological receptors'. The ZoI for ecological receptors varies, depending on the nature and behaviour of the receptors, and the type of impact that may affect them.

The ZoI of the proposed works on ecological receptors is considered to be the Site plus the distances listed in Table 1 below.

Table 1 ZoI for the proposed works

Ecological Receptor	Maximum ZoI
Statutory designated European sites	Up to 5 km
Statutory designated European sites for which bats are a qualifying feature.	Up to 10 km
Statutory designated national sites	Up to 2 km

[4] An ecological feature is defined as a habitat, species or ecosystem.

Ecological Receptor	Maximum ZoI
Non-statutory sites	Up to 1 km
Protected or notable habitats	On and adjacent to the Site
Protected or notable species	On and adjacent to the Site
Invasive non-native plant species	On the Site

3.4 Personnel

The survey work and reporting were completed by Principal Ecologist Alan Cowlishaw BSc (Hons) MSc MCIEEM MRSB. Alan is an experienced ecologist and has 14 years' of professional ecology experience.

3.5 Limitations

Access to internal loft voids was limited to access constraints, however a visual inspection from the hatch was possible therefore this is not considered a significant limitation.

The results presented in this report represent those at the time of survey and reporting, and data collected from available sources.

4. Results and Discussion

4.1 Statutory and Non-statutory Sites

Table 2 details the statutory and non-statutory sites located within the ZoI of the Site.

Table 2 Designated Sites

Site Name	Designation Type	Distance and Direction from Site (km)
Statutory		
Coetiroedd Cwm Elan / Elan Valley Woodlands	Special Area of Conservation (SAC)	43 m south
Elenydd - Mallaen	Special Protection Area (SPA)	62 m north and south
Elenydd	SAC	1.3 km south
Carn Gafallt	Site of Special Scientific Interest (SSSI)	43 m south
Elenydd	SSSI	62 m north and south
Non-statutory		
Ancient Woodland	Ancient Semi-Natural Woodland	43 m south
Cambrian Mountains Woodlands Important Plant Area	Site of Importance for Nature Conservation (SINC)	43 m south
Ancient Woodland	Restored Ancient Woodland Site	0.25 km south
Carngafallt	Local Nature Reserve (LNR)	0.3 km east
NRW Priority Area (Heathland and Grassland)	SINC	0.35km east

4.1.1 Potential for Adverse Effects

No sites designated for bats have been identified within 10 km of the Site.

Coetiroedd Cwm Elan / Elan Valley Woodlands SAC is located south of the Site on the opposite side of the Afon Elan River. The SAC is designated for mixed woodland on base-rich soils associated with rocky slopes, dry heaths, and western acidic oak woodland (NRW, 2005). This SAC also includes Carn Gafallt SSSI, Cambrian Mountains Woodlands IPA, Ancient Woodland sites, and overlaps with Carngafallt LNR. There is potential for disturbance to these woodland sites during the construction phase resulting from light spill and noise.

Elenydd - Mallaen SPA is designated for breeding birds including red kite (*Milvus milvus*), raven (*Corvus corax*), and buzzard (*Buteo buteo*) (NRW, 1993). Due to the distance from Site and the localised nature of the works, no adverse effects to this site are anticipated.

Elenydd SAC is designated for blanket bog, grasslands on soils rich in heavy metals, dry heaths, floating waterplantain, and clear-water lakes or lochs with aquatic vegetation and poor to moderate nutrient levels (NRW, 2004). Due to the distance from Site, the localised nature of the works, and absence of impact pathways, no adverse effects to this site are anticipated.

Carn Gaffallt SSSI is a predominantly upland site supporting a diverse range of habitat including semi-natural broadleaved woodland, heather moorland, notable populations of birds, invertebrates and lower plants. Potential impacts to this site have been discussed above.

Elenydd SSSI is of interest for its range of breeding birds of upland and woodland. Much of the hill vegetation is also of special interest (CCW, 1992). Potential impacts to this site have been discussed above.

Impacts to non-statutory sites within the ZoI have been discussed above.

4.2 Habitats

4.2.1 Habitat Descriptions

The habitats identified within the survey area during the UKHab Habitat survey are described in Table 3. A UKHab map of the Site is provided at the end of the report in Figure 2, Appendix A.

Table 3 Habitat Descriptions

Phase 1 Habitat Name and Code	Description and Species Present	Ecological Importance and Potential for Adverse Effects	Condition Assessment Score
w1g - Broadleaved woodland	Small patches of broadleaved and mixed woodland are found throughout the Site, consisting of red oak (*Quercus rubra*), rowan (*Sorbus aucuparia*) and silver birch (*Betula pendula*). The ground cover is grazed grassland, which adjoins the woodland (**Photograph 1**).	The woodland found on Site is present in small, isolated stands within the car park and landscaping. A small number of trees are likely to be removed to facilitate works and improve access. There is the potential for damage to tree roots if excavation is required to extend the car park, in which case an arborist should be consulted.	Poor
h3h - Dense mixed scrub	A small area of dense, mixed scrub is present located north of the visitor centre building, consisting of hawthorn (*Crataegus monogyna*), privet (*Ligustrum ovalifolium*) and honeysuckle (*Lonicera periclymenum*).	The scrub is small and isolated nature which limits its ecological importance. However it has the potential to support breeding birds.	Poor
g3c – Other neutral grassland	Small patches of other neutral grassland are found throughout the Site, including an area of Lolium-Cynosurus grassland to the south of the Site. Species present include daisy (*Bellis perennis)*, white clover (*Trifolium repens)*, meadow buttercup (*Ranunculus acris)*, crested dog's-tail (*Cynosurus cristatus)*, creeping thistle (*Cirsium arvense)*, and sharp-flowered rush.	This species-rich grassland has ecological importance for pollinators, however it is not expected to be impacted by the works.	Poor - Moderate

Phase 1 Habitat Name and Code	Description and Species Present	Ecological Importance and Potential for Adverse Effects	Condition Assessment Score
u1b – Developed land ; sealed surface	A car park forms a large part of the Site.	The car park is a sealed surface with no ecological value.	N/A
u1b5 - Buildings	A single building, a visitor centre, is present in the centre of the Site.	This has potential use as a roosting site for bats, please see Section 4.3 for an assessment of this.	N/A
U1b6 – Other developed land	Children's play area.	This is an unsealed unvegetated surface with no ecological value.	N/A

4.3 Species

4.3.1 Bats

Bat records returned by Aderyn from within 2 km of the Sites included: brown long-eared bat (*Plecotus auritus*), greater horseshoe bat (*Rhinolophus ferrumequinum*), Daubenton's bat (*Myotis daubentonii*), whiskered bat (*Myotis mystacinus)*, Natterer's bat (*Myotis nattereri),* Brandt's bat *(Myotis brandtii)* and pipistrelle sp. (*Pipistrellus* sp.)

The closest record to the Site was of a whiskered bat found immediately adjacent in 2011.

See section 4.4 for details of the Preliminary Roost Assessment.

4.3.2 Hazel Dormouse

No records of Dormouse were returned from the data search.

The woodland habitats within the Site are not suitable to support hazel dormouse due to an absence of understorey vegetation and lack of connectivity with surrounding woodland.

The Site was not surveyed for hazel dormouse feature.

Due to the absence of species records and suitable habitat, hazel dormouse are scoped out of further assessment and no adverse effects are anticipated.

4.3.3 Great crested newt and other amphibians

A single record of a palmate newt was returned from the data search, found 0.3 km from the Site in 2014. No records of great crested newt (GCN) were returned.

No waterbodies suitable for GCN have been identified within 500 m of the Site.

Due to the absence of species records and suitable habitat, GCN are scoped out of further assessment and no adverse effects are anticipated.

4.3.1 Otter

Eighteen (18) otter records were returned within 2 km of the Site. The closest otter record was of otter in 2006, found immediately south of the Site.

There are no habitats suitable for otters within the Site, and it is unlikely that otters would use the Site for commuting, however, the Site is adjacent to the Afon Elan River with suitable habitat to support otter holts within 50 m.

The works have the potential to indirectly affect otters through disturbance resulting from noise and lighting and entrapment in excavations.

4.3.2 Fish

Aderyn returned six records of fish including Atlantic salmon (*Salmo salar*), closest record 1 km, and brown trout (*Salmo trutta fario*), closest record 1.3km.

The Afon Elan River adjacent to Site has the potential to support both of these and other species.

In the absence of mitigation there is potential for adverse effects to fish in the Afon Elan River resulting from silt and / or pollution runoff.

4.3.3 Badger

Fifty seven (57) badger records were returned by Aderyn from within 2 km of the Site. The closest record was found approximately 150 m from the Site in 2014.

No evidence of badger or their setts was recorded during the walkover.

Grassland, woodland and scrub habitat across the wider Site provide suitable foraging and commuting habitat for badger. Whilst there is no habitat suitable for sett building within the Site, there is bracken and scrub habitat adjacent to the Site that may be suitable.

There is the potential to disturb badgers if there is a sett in adjacent habitat, and entrap and injure commuting / foraging badgers (and other mammals) during the construction phase.

If additional lighting is required during construction, this could indirectly affect badgers through disturbance.

4.3.4 Water Vole

No records for water vole were returned from within 2 km of the Site.

No habitat suitable for water vole have been identified on or adjacent to the Site.

Due to a lack of records and suboptimal habitat, no adverse effects to water vole are considered likely. Water vole are scoped out of further assessment and no adverse effects are anticipated.

4.3.5 Reptiles

Twenty six (26) records of reptiles were returned by the biological record centre from within 2 km of the Site. The species were slow worm (*Anguis fragilis*) and common lizard (*Zootoca vivipara*). The closest record is for a slow worm which was found approximately 150 m from the Site in 2013.

The Site offers suitable reptile habitat in the grassland and scrub. However, no features suitable for refugia or hibernation have been identified.

Some habitats suitable for reptiles is anticipated to be removed to facilitate the development.

There is potential for adverse effects such as disturbance and killing as a result of vegetation clearance and excavation.

4.3.6 Wild Birds

The biological records centre returned records of 114 species of bird from within 2 km of the Site. There were 153 records of red kite (*Milvus milvus*) which have been found on Site, and three records of kingfisher (*Alcedo atthis*), the closest of which was approximately 330 m from the Site (recorded in 2006). Both species are listed under Schedule 1 of the Wildlife and Countryside Act 1981[5]

Priority Species (Welsh Government, 2016) such as starling (*Sturnus vulgaris*) and bullfinch (*Pyrrhula pyrrhula)* were also returned.

The buildings, trees and scrub present within the Site provide suitable habitat for a variety of nesting birds. If vegetation removal or works to the building are completed during nesting bird season (March to August, inclusive), direct adverse effects to nesting birds through disturbance and/or destruction of nests or eggs could occur. The habitats are not suitable for Schedule 1 species identified above.

4.3.7 Plants and Fungi

Aderyn returned 1969 records of plants and fungi within 2 km of the Site including 22 species of fungi, 144 species of lichen, and 51 species of vascular plant.

Due to the low species diversity of the habitats within the Site, no adverse effects are anticipated.

4.3.8 Terrestrial and Aquatic Invertebrates

Aderyn returned 1022 records of terrestrial and aquatic invertebrates from within 2km of the Site including small blue butterfly (*Cupido minimus*) and marsh fritillary (*Euphydryas aurinia*), both listed on schedule 5 of the Wildlife and Countryside Act 1981 (as amended).

No protected aquatic invertebrate records were returned by Aderyn.

Due to the low species diversity of the habitats within the Site, impacts from vegetation removal are anticipated to be temporary and no net loss of habitat is anticipated.

[5] For Schedule 1 birds and their young, it is an offence to intentionally or recklessly disturb them while they're nesting, building a nest, in or near a nest that contains their young, or disturb their dependent young.

There is potential for adverse effects to aquatic invertebrates as a result of silt or pollution runoff during construction.

4.3.9 Other Protected or Notable Mammals

Aderyn returned 85 records priority mammals listed on Section 7 of the Environment (Wales) Act 2017 including west European hedgehog (*Eninaceus europaeus*) and brown hare, (*Lepus europaeus*).

The Site has the potential to support hedgehogs in the scrub habitats. Removal of these habitats and excavations has the potential to have adverse effects on this species through disturbance and/or killing.

The site does not support grassland with long sward suitable for brown hare.

4.3.10 Invasive Non-native Species

No records of invasive species were provided by the local biological records and no invasive species were recorded during the survey.

4.4 Preliminary Roost Assessment

4.4.1 Roosting Bats

The Elan Valley Visitor Centre building is a former maintenance building for trains serving the construction of the reservoir dams dating from the early 20th century with a modern extension built to house a café in the 1980's.

Both sections of the building are of stone construction with slate roofs. The original building has cupola vents on the north, south and west slopes, and the modern extension has a single cupola vent in the centre apex. These have louvred panels that may provide access points / roosting opportunities for bats; however, they are isolated from the inside of the building.

The original building has gaps around the wall tops with access points for bats and roof nesting birds. There are a small number of holes in the walls where services may have previously entered the building that may be suitable for roosting bats. The roof on the west elevation has some raised or missing slates that may provide access points / roosting opportunities for bats. **There is high potential to support roosting bats in the original building.**

The modern extension has well sealed soffits and the roof is in good condition. The only potential roost feature is the cupola vent. **There is low potential for roosting bats in the modern extension.**

4.4.2 Hibernating Bats

Whilst not considered a typical hibernation site for bats, crevice dwelling species such as common and soprano pipistrelle bats to hibernate in the wall tops of the original building. T**here is moderate potential for hibernating bats in the original building.**

The absence of potential roost features in the modern extension other than the cupola vent make the presence of hibernating bats unlikely. **There is negligible potential for hibernating bats in the modern extension.**

4.4.3 Foraging and Commuting Bats

The Site is located adjacent to a river and extensive semi-natural woodland which is likely to be used by commuting and foraging bats. Due to the connectivity with these habitats and the potential roost feature in the buildings, the habitats on Site also have the potential to support commuting and foraging bats.

4.4.4 Nesting Birds

Nesting birds including house martin (*Delichon urbicum*) have been identified nesting under the eaves and house sparrow (*Passer domesticus*) in cavities, both located on the original building.

5. Net Benefits for Biodiversity

A Net Benefits for Biodiversity assessment has not been undertaken at this stage. However, the designs have considered the Wesh Government requirements for considering the requirements of Edition 12 of Planning Policy Wales and the Building with Nature standards and Net Benefits for Biodiversity will be considered in the planning application (CIEEM, 2022).

A Green Infrastructure Statement has been produced for submission as part of the Pre-Application Consultation.

6. Conclusions

In the absence of mitigation proposed works have the potential to adversely affect the following ecological receptors:

- **Designated sites:** There is potential for disturbance to woodland sites including Coetiroedd Cwm Elan / Elan Valley Woodlands SAC and Carn Gaffallt SSSI during the construction phase resulting from light spill and noise.
- **Habitats:** There is potential for loss of grassland, scrub and trees as a result of the proposed works.
- **Bats:** There is potential to disturb roosting bats during the proposed works.
- **Otter:** The works have the potential to indirectly affect otters through disturbance resulting from noise and lighting.
- **Fish:** In the absence of mitigation there is potential for adverse effects to fish in the Afon Elan River resulting from silt and / or pollution runoff.
- **Badger:** There is the potential to disturb badgers if there is a sett in adjacent habitat, and entrap and injure commuting / foraging badgers (and other mammals) during the construction phase. If additional lighting is required during construction, this could indirectly affect badgers through disturbance.
- **Reptiles:** There is potential for adverse effects such as disturbance and killing as a result of vegetation clearance and excavation.
- **Wild Birds:** The buildings, trees and scrub present within the Site provide suitable habitat for a variety of nesting birds. If vegetation removal or works to the building are completed during nesting bird season (March to August, inclusive), direct adverse effects to nesting birds through disturbance and/or destruction of nests or eggs could occur.
- **Aquatic Invertebrates:** There is potential for adverse effects to aquatic invertebrates as a result of silt or pollution runoff during construction.
- **Hedgehog:** Removal of scrub habitats has the potential to have adverse effects on this species through disturbance and/or killing.

7. Recommendations

Following the initial surveys at the Site, the following recommendations for further survey effort and or mitigation measures have been made.

Table 4 Ecological Recommendations

Ecological Receptor	Recommendation
Designated sites	A Habitat Regulations Assessment should be undertaken to assess the potential impacts of the proposed development on designated sites in the absence of mitigation.
Habitats	Best practice pollution prevention methods (including dust and silt control) should be adhered to at all times throughout the works to ensure that run-off and / or silt do not enter any of adjacent habitats. An arboricultural impact assessment should be undertaken prior to any works that might affect trees.
Bats	Before works are carried out on the buildings, emergence surveys are recommended under the supervision of suitably qualified Ecologist.
Otter	An otter survey of the watercourses should be carried out. This can be undertaken at any time of year and should extend 250 m up and downstream of the two crossing points.
Fish	Best practice pollution prevention methods (including dust and silt control) should be adhered to at all times throughout the works to ensure that run-off and / or silt do not enter any of adjacent habitats.
Badger	A pre-works badger check should be undertaken up to 4 weeks before the works to ensure no badgers are present.
Reptiles	Ground level vegetation clearance and topsoil excavation should be undertaken under an Ecological Clerk of Works to relocate any reptiles found.
Wild Birds	Any vegetation removal should be undertaken outside of the nesting bird season (March to August inclusive). If this is not possible, vegetation should be checked by an ecologist prior to clearance. The pre-works check should be undertaken as close to and no longer than 48 hours prior to the vegetation removal taking place. If nesting birds are present, a buffer will be implemented around the nest, and works cannot proceed in this area until the chicks have fledged or the nest is deemed (by an ecologist) to be inactive.

Ecological Receptor	Recommendation
Aquatic Invertebrates	Best practice pollution prevention methods (including dust and silt control) should be adhered to at all times throughout the works to ensure that run-off and / or silt do not enter any of adjacent habitats.
Hedgehog	A pre-works hedgehog check should be undertaken on the day of the works to ensure no hedgehogs are present.
Nocturnal wildlife	If additional lighting is required during construction, a lighting plan should be provided to and reviewed by an ecologist, to assess the impacts to nocturnal wildlife (including bats, badger, and hedgehog).

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Appendices

Appendix A – Figures

Appendix B – Survey Photographs

Appendix C – The Proposed Works

Appendix D – Relevant Protected Species Legislation

Appendix A – Figures

Figure 1 – Site Location Plan

Figure 2 – UK Habitat Classification Plan

APEM Group

Elan Valley Lakes
P00014769

Site Location Plan

Legend

Site Boundary

Notes

Basemap: Contains Ordnance Survey data © Crown copyright and database rights (2024). OS OpenData

Coordinate System:
OSGB36 / British National Grid

0 0.06 0.12 km

0 0.01 0.02 NM

Scale:	Date:	Drawn by:	Checked by:	Approved by:
1:2000 @ A4	03/09/2024	AC	MU	KR

Riverview
A17 The Embankment Business Park
Heaton Mersey
Stockport
SK4 3GN
http://www.apemltd.com
+44 (0) 161 442 8938

Figure 1.0

Figure Reference:

APEM Group

Elan Valley Lakes
P00014769

UK Habitat Classification Plan

Legend

- Site Boundary
- g3c - other neutral grassland
- g3c6 - Lolium-Cynosurus neutral grassland
- w1g - other woodland-broadleaved
- h3 - dense scrub
- u1b - developed land. sealed surface
- u1b5 - buildings
- u1b6 - other developed land

Notes

Basemap: Contains Ordnance Survey data © Crown copyright and database rights (2024). OS OpenData

Coordinate System:
OSGB36 / British National Grid

0 0.06 0.12 km

0 0.01 0.02 NM

Scale:	Date:	Drawn by:	Checked by:	Approved by:
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Riverview
A17 The Embankment Business Park
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+44 (0) 161 442 8938

Figure 1.0

Figure Reference:

Appendix B – Survey Photographs

Photograph 1: w1g - Broadleaved woodland

Photograph 2: h3h - Dense mixed scrub

Photograph 3: g3c – Other neutral grassland

Photograph 4: Early 20th century workshop

Photograph 5: 1980's extension

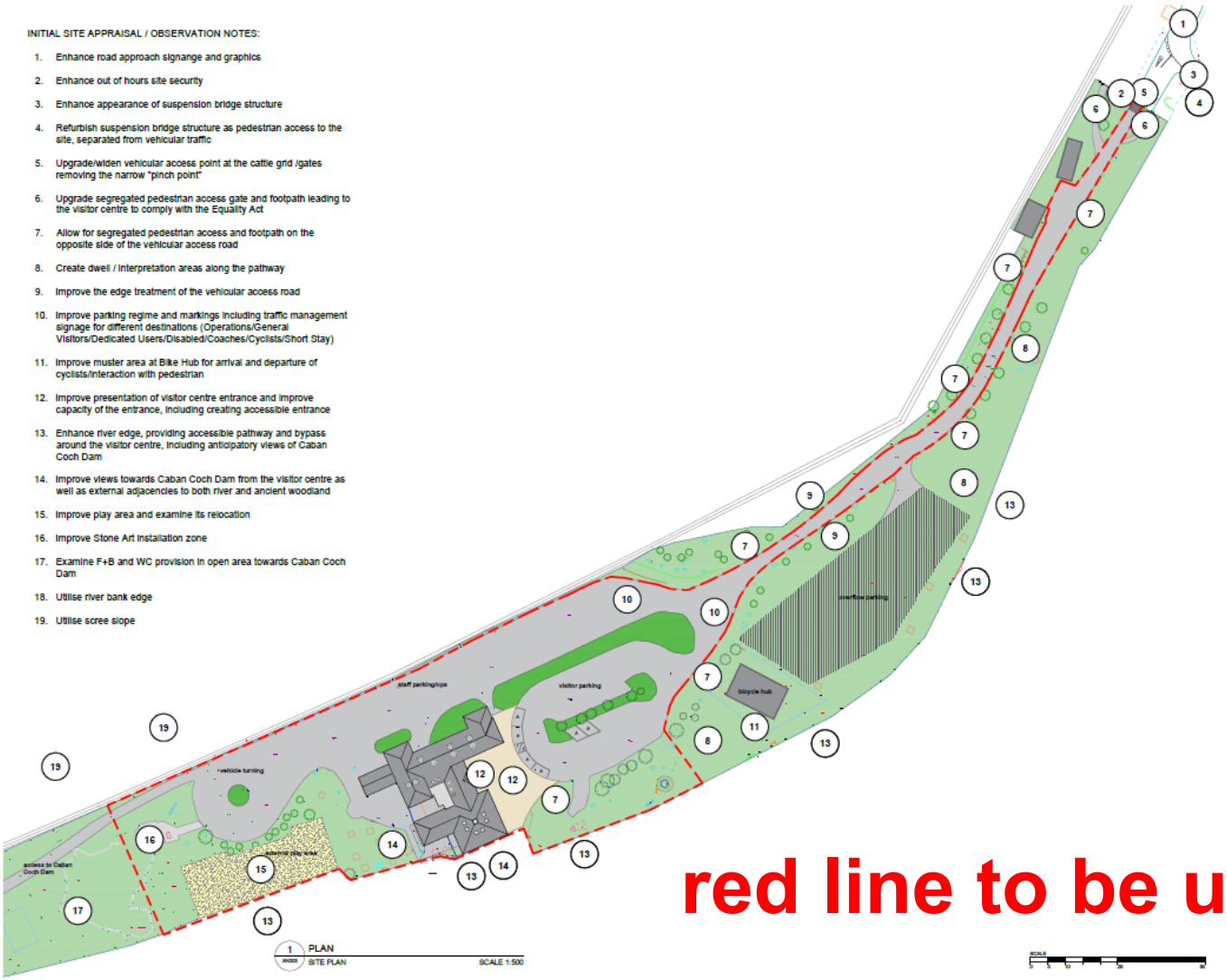
Photograph 6: Ventilation cupola.

Appendix C – Proposed Works

Appraisal - Site Considerations

INITIAL SITE APPRAISAL / OBSERVATION NOTES:

1. Enhance road approach signange and graphics
2. Enhance out of hours site security
3. Enhance appearance of suspension bridge structure
4. Refurbish suspension bridge structure as pedestrian access to the site, separated from vehicular traffic
5. Upgrade/widen vehicular access point at the cattle grid /gates removing the narrow "pinch point"
6. Upgrade segregated pedestrian access gate and footpath leading to the visitor centre to comply with the Equality Act
7. Allow for segregated pedestrian access and footpath on the opposite side of the vehicular access road
8. Create dwell / interpretation areas along the pathway
9. Improve the edge treatment of the vehicular access road
10. Improve parking regime and markings including traffic management signage for different destinations (Operations/General Visitors/Dedicated Users/Disabled/Coaches/Cyclists/Short Stay)
11. Improve muster area at Bike Hub for arrival and departure of cyclists/interaction with pedestrian
12. Improve presentation of visitor centre entrance and improve capacity of the entrance, including creating accessible entrance
13. Enhance river edge, providing accessible pathway and bypass around the visitor centre, including anticipatory views of Caban Coch Dam
14. Improve views towards Caban Coch Dam from the visitor centre as well as external adjacencies to both river and ancient woodland
15. Improve play area and examine its relocation
16. Improve Stone Art installation zone
17. Examine F+B and WC provision in open area towards Caban Coch Dam
18. Utilise river bank edge
19. Utilise scree slope



red line to be updated

Appendix D - Relevant Protected Species Legislation

Bats

In the United Kingdom (UK) all bat (*Chiroptera* spp.) species and their roosts are legally protected. This protection is detailed in the Wildlife and Countryside Act 1981 (as amended) and the Conservation of Habitats and Species Regulations 2019 (as amended).

Together these pieces of legislation make it a criminal offence to:

- Deliberately take, injure or kill a wild bat;
- Intentionally or recklessly disturb a bat in its roost or deliberately disturb a group of bats;
- Damage or destroy a place used by bats for breeding or resting (roosts) (even if bats are not occupying the roost at the time);
- Possess or advertise / sell / exchange a bat of a species found in the wild (dead or alive) or any part of a bat; and
- Intentionally or recklessly, obstruct access to a bat roost.

Wild Birds

Nesting and nest building birds are protected under the Wildlife and Countryside Act 1981 (as amended). It is an offence to:

- Intentionally kill, injure or take any wild bird;
- Take, damage or destroy the nest of any wild bird when it is in use or is being built; and,
- Take or destroy an egg of any wild bird.

Additional protection is given to the rare birds listed in Schedule 1 of the Act where it is an offence intentionally or recklessly to:

- Disturb a Schedule 1 bird while it is building a nest or is in, on or near a nest containing eggs or young; or,
- Disturb dependent young of a Schedule 1 bird.

There are several exceptions to the offences created by the Wildlife and Countryside Act, including acting under a licence.

Otter

Otters are fully protected as a European protected species under listed under Annex II of the Habitats Directive and under Sections 9 and 11 of the Wildlife and Countryside Act 1981.

It is an offence to:

- Capture, kill, disturb or injure otters (on purpose or by not taking enough care);

- Damage or destroy a breeding or resting place (deliberately or by not taking enough care);
- Obstruct access to their resting or sheltering places (deliberately or by not taking enough care); and,
- Possess, sell, control or transport live or dead otters, or parts of otters.

Badgers

Badgers are protected and so are the setts they live in. Under the Protection of Badgers Act 1992, in England and Wales it is an offence to:

- Wilfully kill, injure or take a badger (or attempt to do so);
- Cruelly ill-treat a badger;
- Dig for a badger;
- Intentionally or recklessly damage or destroy a badger sett or obstruct access to it;
- Cause a dog to enter a badger sett; and,
- Disturb a badger when it is occupying a sett.

Reptiles

Reptiles (adder, grass snake, common lizard and slow worm) are protected through part of Section 9 of the Wildlife & Countryside Act 1981 (as amended) against intentional killing and injuring (note the provision in Section 9 of Wildlife & Countryside Act 1981 prohibiting "taking" does not apply to reptiles).

Butterflies and Moths

Wild butterflies and moths listed in Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) receive full protection against the following offences:

- Intentional killing, injuring, taking;
- Possession or control (live or dead animal, part or derivative);
- Damage to or destruction of any structure or place used by a scheduled animal for shelter or protection;
- Disturbance of any animal occupying such a structure or place;
- Obstructed access to any such structure or place;
- Selling, offering for sale, possessing or transporting for the purpose of sale (live or dead animal, part or derivative); and,
- Advertising for buying or selling live or dead animal, part or derivative.

This applies to the following moth species: barberry carpet (*Pareulype berberata*), black-veined moth (*Siona lineata*), Essex emerald (*Thetidia smaragdaria*), fiery clearwing (*Pyropteron chrysidiformis*), fisher's estuarine moth (*Gortyna borelii lunata*), New Forest burnet (*Zygaena viciae argyllensis*), reddish buff (*Acosmetia caliginosa*), Sussex emerald (*Thalera fimbrialis*)

And the following butterfly species: heath fritillary (*Melitaea athalia*), high brown fritillary (*Fabriciana adippe*), large blue (*Phengaris arion*), large copper (*Lycaena dispar*), marsh fritillary (*Euphydryas aurinia*) and swallowtail (*Papilio machaon*).

Hedgehog

Hedgehogs have some degree of legal protection in the UK:

- They are listed on Schedule 6 of the Wildlife and Countryside Act 1981 (as amended) which makes it illegal to kill or capture wild hedgehogs, with certain methods listed;
- They are also listed under the Wild Mammals Protection Act 1996, which prohibits cruel treatment of hedgehogs; and,
- They are a Priority Species under the NERC Act 2006 and Environment Wales Act 2016 which confers a 'duty of responsibility' to public bodies.

Appendix E - Condition Assessment

Condition Sheet: GRASSLAND Habitat Type (medium, high and very high distinctiveness)

UK Habitat Classification (UKHab) Habitat Types

Grassland - Lowland calcareous grassland
Grassland - Lowland dry acid grassland
Grassland - Lowland meadows
Grassland - Other lowland acid grassland
Grassland - Other neutral grassland
Grassland - Tall herb communities (H6430) [Not to be confused with the Tall forbs secondary code – see UKHab guidance for details.]
Grassland - Upland acid grassland
Grassland - Upland calcareous grassland
Grassland - Upland hay meadows
Sparsely vegetated land - Calaminarian grassland

Habitat Description

ukhab – UK Habitat Classification

On-site or off-site, site name and location	Elan Valley Lakes	**Survey date and Surveyor name**										
		Survey reference (if relating to a wider survey)										
Limitations (if applicable)		**Habitat parcel reference**	1	2	3	4	5					
Condition Assessment Criteria		**Grid reference**	SN9271 964607	SN927446 4623	SN9277 164622	SN9278 764604	SN9283 364618					
		Criterion passed (Yes or No)										**Notes (such as justification)**
A	The parcel represents a good example of its habitat type, with a consistently high proportion of characteristic indicator species present relevant to the specific habitat type (and relative to Footnote 3 suboptimal species which may be listed in the UKHab description).[1] **Note - this criterion is essential for achieving Moderate or Good condition for non-acid grassland types only.**		yes	yes	no	yes	no						
B	Sward height is varied (at least 20% of the sward is less than 7 cm and at least 20% is more than 7 cm) creating microclimates which provide opportunities for insects, birds and small mammals to live and breed.		no	no	no	no	no						
C	Cover of bare ground is between 1% and 5%, including localised areas, for example, rabbit warrens[2].		no	no	no	no	no						
D	Cover of bracken *Pteridium aquilinum* is less than 20% and cover of scrub (including bramble *Rubus fruticosus* agg.) is less than 5%.		yes	yes	yes	yes	yes						
E	Combined cover of species indicative of suboptimal condition[3] and physical damage (such as excessive poaching, damage from machinery use or storage, damaging levels of access, or any other damaging management activities) accounts for less than 5% of total area. If any invasive non-native plant species[4] (as listed on Schedule 9 of WCA[5]) are present, this criterion is automatically failed.		yes	yes	yes	yes	yes						
Additional Criterion - must be assessed for all non-acid grassland types													
F	There are 10 or more vascular plant species per m^2 present, including forbs that are characteristic of the habitat type (species referenced in Footnote 3 and 5 cannot contribute towards this count). **Note - this criterion is essential for achieving Good condition for non-acid grassland types only.**		yes	yes	no	yes	no						
		Essential criterion for Good condition achieved (for non-acid grassland) (Yes or No)	yes	yes	no	yes	no						
		Number of criteria passed	4	4	2	4	2						

Condition Assessment Result	**Condition Assessment Score**	**Score Achieved ×/✓**									
Acid grassland types (Result out of 5 criteria)											
Passes 5 criteria	Good (3)										
Passes 3 or 4 criteria	Moderate (2)										
Passes 2 or fewer criteria	Poor (1)										
Non-acid grassland types (Result out of 6 criteria)											
Passes 5 or 6 criteria, including essential criterion A and additional criterion F.	Good (3)										
Passes 3 - 5 criteria, including essential criterion A.	Moderate (2)	yes	yes		yes						
Passes 2 or fewer criteria; OR Passes 3 or 4 criteria excluding criterion A and F.	Poor (1)			yes		yes					

Suggested enhancement interventions to improve condition score

Restrict grazing to promote growth, limit feertilisation and allow a varied sward height.

Notes

Footnote 1 - Professional judgement should be used alongside the UKHab description.

Footnote 2 – For example, this could include small, scattered areas of bare ground allowing for plant colonisation, or localised patches not exceeding 5% cover.

Footnote 3 - Species indicative of suboptimal condition for this habitat type include: creeping thistle *Cirsium arvense* , spear thistle *Cirsium vulgare* , curled dock *Rumex crispus* , broad-leaved dock *Rumex obtusifolius* , common nettle *Urtica dioica* , creeping buttercup *Ranunculus repens* , greater plantain *Plantago major* , white clover *Trifolium repens* and cow parsley *Anthriscus sylvestris* . There may be additional relevant species local to the region and or site.

Footnote 4 – Assess this for each distinct habitat parcel. If the distribution of invasive non-native species varies across the habitat, split into parcels accordingly, applying a buffer zone around the invasive non-native species with a size relative to its risk of spread into adjacent habitat, by applying professional judgement.

Footnote 5 – Wildlife and Countryside Act 1981 (as amended).

Condition Sheet: SCRUB Habitat Type			
Habitat Types			
Heathland and shrub - Blackthorn scrub **Heathland and shrub - Gorse scrub** **Heathland and shrub - Hawthorn scrub** **Heathland and shrub - Hazel scrub** **Heathland and shrub - Mixed scrub** **Heathland and shrub - Dunes with sea buckthorn (H2160)** **Heathland and shrub - Willow scrub**			
Habitat Description			
For Dunes with sea buckthorn see:	Dunes with sea-buckthorn (Dunes with Hippophae rhamnoides) - Special Areas of Conservation (jncc.gov.uk)		
For other scrub types see:	ukhab – UK Habitat Classification		
On-site or off-site, site name and location	Elan Valley Visitor Centre	**Survey date and Surveyor name**	24th June 2024 Alan Cowlishaw
Limitations (if applicable)		**Survey reference (if relating to a wider survey)**	
Grid reference	SN9280964645	**Habitat parcel reference**	6

	Condition Assessment Criteria	Criterion passed (Yes or No)	Notes (such as justification)
A	The parcel represents a good example of its habitat type - the appearance and composition of the vegetation closely matches its UKHab description (where in its natural range).[1] - At least 80% of scrub is native, - There are at least three native woody species[2], - No single species comprises more than 75% of the cover (except hazel *Corylus avellana*, common juniper *Juniperus communis*, sea buckthorn *Hippophae rhamnoides* (only in its restricted native range), or box *Buxus sempervirens*, which can be up to 100% cover).	no	
B	Seedlings, saplings, young shrubs and mature (or ancient or veteran[3]) shrubs are all present.	no	
C	There is an absence of invasive non-native plant species[4] (as listed on Schedule 9 of WCA[5]) and species indicative of suboptimal condition[6] make up less than 5% of ground cover.	yes	
D	The scrub has a well-developed edge with scattered scrub and tall grassland and or forbs present between the scrub and adjacent habitat.	no	
E	There are clearings, glades or rides present within the scrub, providing sheltered edges.	no	
	Number of criteria passed	1	

Condition Assessment Result (out of 5 criteria)	Condition Assessment Score	Score Achieved ×/✓
Passes 5 criteria	Good (3)	
Passes 3 or 4 criteria	Moderate (2)	
Passes 2 or fewer criteria	Poor (1)	yes

Suggested enhancement interventions to improve condition score

Footnotes

Footnote 1 – Professional judgement should be used alongside the UKHab description.

Footnote 2 – Native woody species as defined and listed in the Hedgerow Survey Handbook: DEFRA (2007) *Hedgerow Survey Handbook: A standard procedure for local surveys in the UK.* 2nd ed. [online]. Defra, London. PB1195. Available from: Hedgerow Survey Handbook (publishing.service.gov.uk).

Footnote 3 – See gov.uk standing advice on ancient and veteran species. Available from:

Keepers of time: ancient and native woodland and trees policy in England (publishing.service.gov.uk) and

Ancient woodland, ancient trees and veteran trees: advice for making planning decisions - GOV.UK (www.gov.uk)

Footnote 4 – Assess this for each distinct habitat parcel. If the distribution of invasive non-native species varies across the habitat, split into parcels accordingly, applying a buffer zone around the invasive non-native species with a size relative to its risk of spread into adjacent habitat, using professional judgement.

Footnote 5 – Wildlife and Countryside Act 1981 (as amended).

Footnote 6 – Species indicative of suboptimal condition for this habitat type may include: non-native conifers, tree-of-heaven *Alianthus altissima*, holm oak *Quercus ilex*, European turkey oak *Quercus cerris*, cherry laurel *Prunus laurocerasus*, snowberry *Symphoricarpos* spp., shallon *Gaultheria shallon*, American skunk cabbage *Lysichiton americanus*, buddleia *Buddleja* spp., cotoneaster *Cotoneaster* spp., Spanish bluebell *Hyacinthoides hispanica* and hybrid bluebells *Hyacinthoides x massartiana*. There may be additional relevant species local to the region and or site.

Condition Sheet: WOODLAND Habitat Type																
UK Habitat Classification (UKHab) Habitat Types																
Woodland and forest - Lowland beech and yew woodland **Woodland and forest - Lowland mixed deciduous woodland** **Woodland and forest - Native pine woodlands** **Woodland and forest - Other coniferous woodland** **Woodland and forest - Other Scot's pine woodland** **Woodland and forest - Other woodland; broadleaved** **Woodland and forest - Other woodland; mixed** **Woodland and forest - Upland birchwoods** **Woodland and forest - Upland mixed ashwoods** **Woodland and forest - Upland oakwood** **Woodland and forest - Wet woodland**																
Habitat Description																
Ukhab – UK Habitat Classification																
This condition sheet is based on the England Woodland Biodiversity Group (EWBG) Woodland Condition Survey Method, available here:																
Woodland Wildlife Toolkit (ryhaorg.uk)																
IMPORTANT: This biodiversity metric woodland condition assessment must be used to assess woodland being input into the biodiversity metric. The outputs of this condition assessment are not equivalent to, nor are they comparable with the scores from the EWBG condition assessment, because the EWBG assessment has been adapted for the biodiversity metric, including the removal of EWBG Indicator 7 (Proportion of favourable land cover around woodland) and Indicator 14 (Size of woodland), and minor changes to other indicators.																
On-site or off-site, site name and location	Elan Valley Lakes	**Survey date and Surveyor name**	24th June 2024 Alan Cowlishaw	**Habitat parcel reference**	7	8	9	10								
Limitations (if applicable)		**Survey reference (if relating to a wider survey)**		**Grid reference**	SN92 76264 615	SN928 53646 69	SN928 43646 43	SN92 85764 628								
Condition Assessment Criteria																
Indicator		**Good (3 points)**	**Moderate (2 points)**	**Poor (1 point)**	**Score per indicator**											**Notes (such as justification)**
A	**Age distribution of trees**	Three age-classes[1] present.	Two age-classes[1] present.	One age-class[1] present.	1	1	1	1								
B	**Wild, domestic and feral herbivore damage**	No significant browsing damage evident in woodland[2].	Evidence of significant browsing pressure is present in less than 40% of whole woodland[2].	Evidence of significant browsing pressure is present in 40% or more of whole woodland[2].	1	1	1	1								
C	**Invasive plant species**	No invasive species[3] present in woodland.	Rhododendron *Rhododendron ponticum* or cherry laurel *Prunus laurocerasus* not present, and other invasive species[3] <10% cover.	Rhododendron or cherry laurel present, or other invasive species[3] ≥10% cover.	3	3	3	3								
D	**Number of native tree species**	Five or more native tree or shrub species[4] found across woodland parcel.	Three to four native tree or shrub species[4] found across woodland parcel.	Two or less native tree or shrub species[4] across woodland parcel.	2	2	2	2								
E	**Cover of native tree and shrub species**	>80% of canopy trees and >80% of understory shrubs are native[5].	50 - 80% of canopy trees and 50 - 80% of understory shrubs are native[5].	<50% of canopy trees and <50% of understory shrubs are native[5].	3	3	3	3								
F	**Open space within woodland**	10 - 20% of woodland has areas of temporary open space[6]. Unless woodland is <10ha, in which case 0 - 20% temporary open space is permitted[7].	21 - 40% of woodland has areas of temporary open space[6].	<10% or >40% of woodland has areas of temporary open space[6]. But if woodland <10ha has <10% temporary open space, please see 'Good category'[7].	1	1	1	1								
G	**Woodland regeneration**	All three classes present in woodland[8]; trees 4 - 7 cm Diameter at Breast Height (DBH), saplings and seedlings or advanced coppice regrowth.	One or two classes only present in woodland[8].	No classes or coppice regrowth present in woodland[8].	2	2	2	2								
H	**Tree health**	Tree mortality 10% or less, no pests or diseases and no crown dieback[9].	11% to 25% tree mortality and or crown dieback or low-risk pest or disease present[9].	Greater than 25% tree mortality and or any high-risk pest or disease present[9].	3	3	3	3								
I	**Vegetation and ground flora**	Recognisable NVC plant community[10] at ground layer present, strongly characterised by ancient woodland flora specialists.	Recognisable woodland NVC plant community[10] at ground layer present.	No recognisable woodland NVC plant community[10] at ground layer present.	1	1	1	1								
J	**Woodland vertical structure**	Three or more storeys across all survey plots, or a complex woodland[11].	Two storeys across all survey plots[11].	One or less storey across all survey plots[11].	1	1	1	1								
K	**Veteran trees**	Two or more veteran trees[12] per hectare.	One veteran tree[12] per hectare.	No veteran trees[12] present in woodland.	1	1	1	1								
L	**Amount of deadwood**	50% of all survey plots within the woodland parcel have deadwood, such as standing and fallen deadwood, large dead branches and or stems, branch stubs and stumps, or an abundance of small cavities[13].	Between 25% and 50% of all survey plots within the woodland parcel have deadwood, such as standing and fallen deadwood, large dead branches and or stems, stubs and stumps, or an abundance of small cavities[13].	Less than 25% of all survey plots within the woodland parcel have deadwood, such as standing and fallen deadwood, large dead branches and or stems, stubs and stumps, or an abundance of small cavities[13].	1	1	1	1								
M	**Woodland disturbance**	No nutrient enrichment or damaged ground evident[14].	Less than 1 hectare in total of nutrient enrichment across woodland area, and or less than 20% of woodland area has damaged ground[14].	1 hectare or more of nutrient enrichment, and or 20% or more of woodland area has damaged ground[14].	1	1	1	1								
			Total Score (out of a possible 39)		21	21	21	21								
Condition Assessment Result		**Condition Assessment Score**		**Result Achieved**												
Total score >32 (33 to 39)		Good (3)														
Total score 26 to 32		Moderate (2)														
Total score <26 (13 to 25)		Poor (1)			1	1	1	1								
Suggested enhancement intervention to improve condition score																
Exclude grazers to allow the development of understory vegetation.																
Footnotes																

Footnotes below refer to the EWBG woodland condition assessment details: EWBG (No date). *Assessing your Woodland's Condition* [online]. Available from:
Woodland Wildlife Toolkit (ryhaorg.uk)
The woodland condition assessment survey methodology is outlined in the EWBG toolkit. However the criteria on this sheet are those specific to the Statutory Biodiversity Metric and must be used when assessing woodland condition.

Footnote 1 - See EWBG method INDICATOR 1 for more information. If tree species is not a birch *Betula* sp., cherry *Prunus* sp. or *Sorbus* sp.: 0 - 20 years (Young); 21 - 150 years (Intermediate); and >150 years (Old). For birch, cherry or *Sorbus* species; 0 - 20 years = Young, 21 - 60 years =Intermediate, >60 years = Old. A recognisable age-class should be a consistent recognisable layer across the woodland or stand being assessed. Presence of a few saplings would not indicate that the woodland has an 'age-class' of young trees.

Footnote 2 - See EWBG method INDICATOR 2 for more information. Browsing pressure is considered to be significant where >20% of vegetation visible within each survey plot shows damage from any type of browsing pressure listed.

Footnote 3 - See EWBG method INDICATOR 3 for more information. Assess this for each distinct habitat parcel. If the distribution of invasive non-native species varies across the habitat, split into parcels accordingly.

Check for the presence of all plant species listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended), particularly the following invasive non-native species: American skunk cabbage *Lysichiton americanus* ; Himalayan balsam *Impatiens glandulifera* ; Japanese knotweed *Reynoutria japonica* ; cherry laurel *Prunus laurocerasus* ; shallon *Gaultheria shallon* ; snowberry *Symphoricarpos albus* ; variegated yellow archangel *Lamiastrum galeobdolon subsp. argentatum* ; rhododendron *Rhododendron ponticum* ; and tree of-heaven *Ailanthus altissima*.

Footnote 4 - See EWBG method INDICATOR 4 and Table 2 for more information. The number of different native tree or shrub species including young trees and shrubs. A list of commonly found native tree and shrub species is provided in Table 2. Not all species listed are native to all parts of the UK. Note a list of commonly found non-native tree species are also included and should be recorded if present.

Footnote 5 - See EWBG method INDICATOR 5 and for more information. The abundance of native tree species in upper (>5 m) and understorey (up to 5 m) layers including young trees and shrubs.

Footnote 6 - See EWBG method INDICATOR 6 for more information. Open space within woodland in this context is temporary open space in which trees can be expected to regenerate (for example, glades, rides, footpaths, areas of clear-fell). This differs from permanent open space where tree regeneration is not possible or desirable (for example, tarmac, buildings, rivers). Area is at least 10 m wide with less than 20% covered by shrubs or trees.

Footnote 7 – Given the increased ratio of edge habitat to woodland where the woodland is <10ha.

Footnote 8 - See EWBG method INDICATOR 8 for more information. This indicator measures regeneration potential of the woodland by considering three classes: seedlings; saplings; and young trees of 4-7 cm DBH. All three classes would fall in the 'young' category of the 'age distribution of trees' indicator, but the regeneration indicator gathers additional information by considering regeneration potential - if seedlings, saplings and young trees are all present that means natural regeneration processes are happening.

Footnote 9 - See EWBG method INDICATOR 9 for more information and Table 3 for a list of diseases and pests and their risk level.

Footnote 10 - See EWBG method INDICATOR 10 directing to NVC key for more information. The 'UKHab to NVC translation table' in the UK Habitat Classification resources may also be useful to assess this.

Footnote 11 – This criterion looks at structural diversity and is useful to understand in conjunction with the age of trees in a woodland. Vertical structure is defined as the number of canopy storeys present. Possible storey values are: 1) Upper; 2) Complex: recorded when the stand is composed of multiple tree heights that cannot easily be stratified into broad height bands (such as upper, middle or lower); 3) Middle; 4) Lower; and 5) Shrub layer. There might be no storeys where the woodland has been felled. See EWBG INDICATOR 11 for more information.

Footnote 12 - See gov.uk standing advice on ancient and veteran trees. Available from:
Keepers of time: ancient and native woodland and trees policy in England (publishing.service.gov.uk
and
Ancient woodland, ancient trees and veteran trees: advice for making planning decisions - GOV.UK (www.gov.uk)
EWBG INDICATOR 12 is the relevant indicator.

Footnote 13 – See EWBG method INDICATOR 13 for more information. This includes logs, large dead branches on the forest floor and stumps (<1 m tall) >20 cm diameter at narrowest point and >50 cm long. Also includes standing dead trees (>1 m tall) and also deadwood on standing live trees. Diameter is measured at the narrowest point on the stem. Minimum diameter of 20 cm.

Footnote 14 - See EWBG method INDICATOR 15 for more information. Examples of disturbance are: significant nutrient enrichment; soil compaction from trampling, machinery, animal poaching or litter.