5 Ecology

5.1 Introduction

Andrew McCarthy Associates Ltd. (AMA) was commissioned by Peak Cycle Links (PDNPA) to undertake ecology surveys and assessments of the proposed Monsal Trail Cycle Route, Peak District National Park. This assessment includes the proposed Woo Dale to Wye Dale Link. Two reports have been made available to be included in this report:

- Ecological Impact Assessment and Report to Inform an Appropriate Assessment – Monsal Trail Cycle Route – July 2010, Revison 00. **See Appendix C.**
- Ecology Technical Appendix – Monsal Trail, Peak District National Park – 14th July 2010, Revision 01. **See Appendix D.**

The full version of the Ecological Impact Assessment and Report has been provided in Draft format by the PDNPA, the entire report is included in the Appendix B. The full version of the Ecology Technical Appendix inclusive of figures has been included in Appendix C.

This Ecology Chapter summarises this assessment without further survey work or impact evaluation. Overall, enough ecological information is provided to assess the impacts of the project. Key impacts risks are mostly associated with construction activity and the strategy is to control these risks through a Construction Management Plan that will be formally agreed with Natural England and the Environment Agency in advance of any works taking place on site. The proposed mitigation measures for the construction phase of the path have been incorporated into the construction methodology, see section 3.3.

5.2 Scope of Assessment

AMA (part of the SLR group) was commissioned by Peak District National Park Authority (PDNPA) to undertake ecology surveys and assessments of the proposed Monsal Trail Cycle Route, Peak District National Park. The scope of the ecological assessment:

- Identifies statutory designated areas within or adjacent to the site;
- Identifies any rare, notable or protected species or habitats within or adjacent to the site;
- Considers the potential for effects on valued receptors (including Natura 2000 Sites) arising from the Development within and adjacent to the site;
- Describes mitigation of adverse effects within or adjacent to the site; and
- Identifies residual effects taking into account the above assessment.

The principal issues are as follows:

- Direct habitat loss due to land take by the cycle track;
- Indirect disturbance effects, i.e. the displacement of species as a consequence of construction work, or due to the operational phase of the cycle route; and

- The effect of increased public recreation.

5.3 Assessment Approach

5.3.1 Legislation

Ecological features are protected under various UK and European legislative instruments principally consisting of:

- Wildlife and Countryside Act (WCA) 1981, as amended in quinquennial review and by the Countryside and Rights of Way (CRoW) Act 2000;
- The Conservation of Habitat and Species Regulations 2010;
- Protection of Badgers Act 1992;
- Hedgerow Regulations 1997;
- Environmental Impact Assessment Regulations 1999; and
- Natural Environment and Rural Communities Act 2006.

5.3.2 Guidance and Policy

Full planning policy relevant to the development will be summarised in the Planning Policy Context of the ES document. Other relevant documents are:

- The UK Biodiversity Action Plan (BAP);
- Planning Policy Statement 9: Biodiversity and Geological Conservation (PPS9);
- The revised version of the ODPM Circular 06/2005 Defra Circular 01/2005 document; and
- The Peak District Biodiversity Action Plan: A Living Landscape.

5.4 Determining Magnitude of a Potential Effect

The assessment methodology used by AMA for this document is based on the Institute for Ecology and Environmental Management (IEEM) guidelines (2006), and is followed by assigning value to a site or feature of interest and in assessing the magnitude of the potential effect. The IEEM guidelines have no legal standing and are not a substitute for professional judgment and interpretation. However, they are well established and recognised guidelines which are utilised throughout the industry.

The IEEM guidelines set out the following process for assessment involving:

- Determining the nature conservation value of the ecology present within the site and adjacent areas that may be affected by the development, and the level of sensitivity of the receptor to the development;
- Identifying potential effects based on the nature of the construction, operation and decommissioning of the development;
- Determining the magnitude of the potential effects, i.e., the size of the change in the population / status of the receptor as a result of the development. Where

the receptor is a species of fauna this includes consideration of the behavioural sensitivity of the receptor and the duration and reversibility of the potential effect;

- Determining the significance of the effects based on the interaction between the magnitude of the effect and the nature conservation value of the receptor likely to be affected;
- Identifying mitigation and compensation measures proposed to avoid, reduce or remedy significant adverse effects; and
- Determining the residual effect significance after the proposed mitigation measures have been implemented, including a description of any legal and policy consequences.

It is impractical for an assessment of the ecological effects of a development to consider every species and habitat that may be affected; instead it focuses on 'valued ecological receptors'. Such receptors are species and habitats that are valued in some way, and could be affected by the proposed development; other valued ecological receptors may occur on or in the vicinity of the site of the proposed development but are not considered because there is no potential for them to be significantly affected.

The value of species populations and habitats is assessed with reference to:

- Their importance in terms of 'biodiversity conservation' value (which relates to the need to conserve representative areas of different habitats and the genetic diversity of species populations);
- Any social benefits that species and habitats deliver; and
- Any economic benefits that they provide.

5.5 Baseline Conditions

5.5.1 Desk Study

AMA conducted a desk study in March 2010 to search for records of statutory sites for nature conservation, protected species, or priority habitats and species for nature conservation listed in biodiversity action plans. In addition, a web-based data search was conducted using the Magic Interactive Map and National Biodiversity Network Gateway websites. Detailed results can be found within the associated Ecology Technical Appendix (Appendix C, AMA, 2010).

5.5.2 Statutory Sites

There are seven statutory sites within 2 km of the development. These are:

- The Peak District Dales SAC (within Application Site);
- The Wye Valley SSSI (SK 154722) (within Application Site)
- Topley Pike and Deepdale SSSI (SO 099717) (20m south of the Woo Dale, separated from the site by the A6 trunk road);

- Calton Hill SSSI (SK 119715);
- Monks Dale SSSI (SK 135745);
- Cressbrook Dale SSSI (SK 173738); and
- Longstone Moor SSSI (SK 195735).

The location of the Peak District SAC and the Wye Valley SSSI in comparison the proposed cycle route can be viewed on Figures 004a-g and 005a-g found within the Ecology Technical Appendix (Appendix C, AMA, 2010).

5.5.3 Protected and Notable Species within 2km

The 'Protected Species' database holds current records of water vole (*Arvicola terrestris*) and historic records of otter (*Lutra lutra*) and white-clawed crayfish (*Austropotamobius pallipes*) within the River Wye. All species of common reptile including common lizard (*Zootoca vivpara*), grass snake (*Natrix natrix*), slow worm (*Anguis fragilis*) and adder (*Vipera beris*) are recorded along the cycle route and great crested newt populations are also recorded. The PDNPA also have information that indicates that bullhead (*Cottus gobio*) are also recorded within the River.

There are numerous botanical records of uncommon flora along the cycle route but these are connected with the wider environment rather than being found within the proposed cycle track corridor.

5.5.4 Habitats

The Peak District Biodiversity Action Plan identifies habitats and species deemed to be of significance in the region. Criteria used to determine significance include the rarity of a species or habitat on the national or local scale and whether or not the species or habitat is declining. However, some species that are not rare or declining are included within the Local BAP because they are indicative of a particular habitat or are valued by the public.

Species and habitats relevant to the site, for which action plans have been prepared within the Peak District Biodiversity Action Plan (LBAP) are listed below:

- Upland Ashwood;
- Parkland/Veteran trees;
- Limestone Dales;
- Hay Meadows;
- Unimproved Grassland;
- Rough Grazing;
- Rush Pasture;

- River Corridor Habitats;
- Ponds;
- Limestone Heath;
- Water Vole;
- Curlew, lapwing and twite; and
- White-clawed crayfish.

5.6 Field Survey

Field surveys were carried out between April and June 2010 and comprised an 'extended' Phase 1 Habitat Survey of the whole proposed cycle route and National Vegetation Classification (NVC) surveys of the Woo Dale route. Detailed surveys were undertaken for water vole, otter, bullhead and white-clawed crayfish.

5.6.1 General Overview

The study area is dominated by hard-standing and bare ground of existing tracks, paths and roads and is lined by semi-improved habitats including grassland, tall herb communities, woodland and scrub. There are limited areas containing communities with greater interest including those rocky habitats associated with the former railway cuttings and those surrounding Woo Dale which include calcareous and flower-rich grassland.

The River Wye is adjacent to the trail for a short section in the Woo Dale and there are several shallow ditches alongside the disused railway, with low botanical diversity, dense shading and limited capacity to support associated fauna.

5.6.2 Badger

No main or outlier setts were identified along the Woo Dale proposed cycle route although there was evidence of badgers foraging in the area across the whole route.

5.6.3 Water Vole and Otter

The River Wye is considered suitable for both water vole and otter. However, no otter activity was recorded at the site of the proposed bridge crossing or for 200m in either direction. Several disused water vole burrows were recorded approximately 20m east of the proposed bridge crossing and no other activity was recorded. No direct (construction) impacts are considered for this species as it is absent from the impact area, however wider environmental effects are considered to populations which have been identified in the desk study as being present further downstream.

5.6.4 Reptiles

No reptiles were noted during the surveys within the Woo Dale site but the grassland, scrub and bare earth areas provide suitable habitat while the stone walls provide potential refugia.

5.6.5 Great Crested Newt

The ponds within the wider environment provide suitable aquatic and breeding habitat for great crested newts but there are no ponds within 250m of the proposed route. The areas of grassland and scrub offer good potential as terrestrial habitat.

5.6.6 White-clawed Crayfish, Brook Lamprey & Bullhead

The River Wye is suitable for bullhead and for white-clawed crayfish especially at the faster flowing pool/riffle sections of the river. The presence of bullhead was confirmed during the surveys but no white-clawed crayfish were recorded.

Therefore, it is considered likely that this species has become extinct in this river and is not considered within this assessment. It is also considered that the River Wye contains suitable habitat for brook lamprey although no records have been gained either during desk study or field survey.

5.7 Impact Assessment

In this section, potential impacts that may affect the ecological interests within the survey area are summarised from the AMA assessment together with their evaluation of significance. The impacts are described in the absence of any mitigation.

5.7.1 Potential Impacts During Construction

Refurbish Existing Tracks

Several areas will require water-proofing using asphalt or bitumen. These include the River We Viaduct and the bridleway between the A6 and Blackwell Mill in the Woo Dale. Refurbishing the existing hard-standing would have minimal impact on the ecological features of the area due to hard-standing being of negligible ecological importance.

Reconstruct Existing Tracks

The farm track will require reconstructing to allow for a 2.5m wide track. This will involve clearing the organic material to the stone base, adding new stone to form a 3m wide base and laying a sealed surface (bitumen) up to 2.5m wide. A similar process would be used for the Cowlow route on the track leading from the Central Lime Works tunnel to the disused railway track.

For the Woo Dale route, the track beside the A6 would require widening to 2.5m and Church Lane would require organic material cleared to reveal to stone base and balustrades will need to be installed in areas where safety could be comprised.

This process would involve removing the vegetation currently present on the existing tracks to enable the reconstruction. For the majority this is species poor semi-improved grassland. There would be an amount of habitat loss including semi-improved grassland and flower rich areas.

Construct New Tracks

Approximately 0.5km of new track would need to be constructed adjacent to the River Wye. This would be achieved via a combination of excavation and fill using stone excavated from elsewhere on the route.

The construction would result in habitat loss of species-poor semi-improved and small areas of species rich semi-improved grassland and butterbur communities along the River Wye.

Construct of Footpath over River Wye

A 10m span 2m wide footpath bridge over the River Wye requires construction which would include creating a stone abutment on either bank to support the bridge where there is existing rough stonework. The bridge is anticipated to be 1.7m above the existing water level.

The modifications to the bank may cause environmental effects such as pollution incidents and sediment release which could impact on habitats and all animals within the water course.

There is potential for environmental effects, such as increased sediment in water courses, pollution incidents, water-runoff and dust deposition, to affect the surrounding habitats and species especially where works are adjacent to sensitive habitats such as the River Wye. Any dust deposition or pollution events including sediment could affect white-clawed crayfish and bullhead within the River.

Stone Wall Management

Stone walls along the route which are in a defunct state will be repaired or re-built providing habitat for bryophytes and shelter for reptiles, amphibians and small mammals.

5.7.2 Potential Impacts During the Operational Phase

Recreation

The route will lead to an increased amount of recreation to the area which could result in disturbance of both habitats and species within the area.

Land-Use Change

Where the route would divide grazing fields, especially along Woo Dale potentially with the use of fencing, there may be some compartmentalisation of the valley leading changing grazing regimes and a consequent modification of vegetation communities.

5.7.3 Decommissioning Phase

There would be no detrimental impacts anticipated at this stage due to the track gradually deteriorating and being colonised by surrounding vegetation over time.

5.7.4 Potential Cumulative Impacts

There are no other similar operations in the area. Therefore, no cumulative impacts on ecological interests are predicted to occur.

5.7.5 Summary of Effects on Ecology prior to Mitigation

The effects of the proposals are identified as:

- Direct habitat loss due to land take by the cycle track within the Peak District Special Area of Conservation (SAC) and Wye Valley Site of Special Scientific Interest (SSSI);
- Indirect disturbance effects, i.e. the displacement of species as a consequence of construction work, or due to the operational phase of the cycle route; and
- The effect of increased public recreation once constructed.

The Woo Dale route is mainly restricted to existing tracks, paths or roads. Where there are no tracks, the habitat consists of semi-improved mesotrophic grassland.

Habitats in the wider environment consist of semi-improved, improved and unimproved grassland, tall ruderal vegetation, woodland and scrub. Of particular interest are the calcareous grassland communities which surround the Woo Dale valley and the woodland which is adjacent to the River Wye. Both are listed as an Annex I features of The Wye Valley Special Area of Conservation (SAC).

5.7.6 Mitigating Ecological Effects

In order to minimise the potential ecological effects of the scheme, the following mitigation measures are proposed:

- The proposed cycle route follows existing tracks and paths where possible to minimise the footprint of the works, habitat loss and disturbance.
- Important flower-rich, butterbur or calcareous communities adjacent to the route will be marked out (and fenced where appropriate) to enable construction works to minimise land take of these areas.
- Where flower-rich grassland is to be removed, it will be removed as turves and stored adjacent to the track. Once the track is reconstructed, the grassland will be replaced as the verge aiming to retain the habitat as far as possible. Seed harvesting would also be considered to enable the re-creation of representative communities where appropriate.
- Important habitat areas through woodland will also be marked by fencing where appropriate to prevent construction machinery or equipment being placed in these sensitive areas.
- Construction will be controlled to reduce the risk of siltation from surface water flows causing pollution to the River Wye;

- Where equipment is required to be stored on site, areas of low botanical diversity will be used.
- Where rocky outcrops require stabilisation, efforts will be made to minimise the extent of disturbance to bryophytes and alpine vegetation placing rock anchors in areas of least vegetation coverage. Where the majority of the vegetation covering the rock face will be affected, an ecologist will survey the area prior to works and remove all important plants for storage and re-planting following works. Seed harvesting would also be considered. A method statement for these works will be compiled and agreed with Natural England prior to works.
- An Ecological Management Plan detailing the protective mitigation measures and ongoing enhancements will be implemented.

5.7.7 Residual Effects

The proposals are considered by AMA not to affect the integrity of the qualifying features for the designated sites (Peak District Dales SAC and the Wye Valley SSSI).

The development will result in limited losses of mainly hard-surfaced and semi-improved habitats which are widespread and common within the wider environment. Where more diverse habitats are to be affected, losses will be minimised and enhancements installed where possible. Mitigation will seek to prevent any adverse effect on species present throughout the cycle route and maintain populations in a favourable conservation status, and it is recommended that such proposals are secured by condition of the planning consent. A condition pertaining to the requirement for an ecological component to the Construction Management Plan detailing the protective mitigation measures and ongoing enhancements as well as monitoring protocols should also be secured by condition.