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ECOLOGICAL CONSULTANTS
Limited Liability Partnership

Alton Towers
Extended Phase 1 Habitat Survey

November 2008

Final

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Limited Liability Partnership

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Job Name	Alton Towers Rollercoaster
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	Signed	**Name**	**Position**	**Date**
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Report Contents

1 Introduction

1.1 Site Description

The study site is located to the south of Alton Towers between the villages of Alton and Farley, in Staffordshire at Ordnance Survey grid reference SK 072 429. The site consists of an area of mixed woodland, a disused rollercoaster and other ride structure.

1.2 Proposed Works

Alton Towers Resort wishes to construct a new rollercoaster to replace the existing rollercoaster (the Corkscrew). The scheme will involve the construction of a proportion of the new rollercoaster within an area of oak and pine woodland. It is understood that the majority of mature trees will be retained as part of the landscaping scheme, but there will be loss of some of the shrub layer and ground flora under the route of the ride track. In addition, and not as a direct result of the proposed project a number of trees will be felled, because of safety reasons, following an ongoing site woodland management plan.

1.3 Aims of Study

Baker Shepherd Gillespie were commissioned by Alton Towers Resort to carry out an ecological survey of the site in order to provide a preliminary ecological appraisal, to identify habitats or species that may affect the proposed development. The aims of the study were to:

- Identify the existing habitats within and adjoining the site;
- Check for evidence of protected species within and adjoining the site;
- Assess the potential for protected species to be present in the area;
- Identify requirements for further survey;
- Propose mitigation measures to avoid and reduce ecological impacts.

2 Methodology

2.1 Desk Study

A desktop study was carried out to determine:

- The known presence of any commonly encountered protected, or notable species, or habitats on or in the vicinity of the site.
- The presence within or in the vicinity of the site of designated conservation sites such as statutory Sites of Special Scientific Interest (SSSI) or non-statutory Sites of Importance for Nature Conservation (SINCs).

The Staffordshire Ecological Records Centre (SERC) was contacted to supply this information.

2.2 Field Survey

Senior Ecologist Paul Howden-Leach MIEEM carried out an extended Phase 1 Habitat survey[1] of the site on the 2nd September 2008. The habitats within the study site were walked over, mapped and features of particular interest were target noted. A check for signs of protected species, such as badger *Meles meles* was made throughout the sites. Habitats and features were assessed for their suitability for protected species, such as nesting birds and roosting bats.

The weather during the survey was warm and overcast.

[1] JNCC, 1993. Handbook for Phase 1 Habitat Survey, Peterborough.

3 Results

3.1 Desk Study

The desk study is summarised below. Full details are set out in Appendix 1.

3.1.1 Designated Sites

The data trawl revealed that the study site is located within Abbey Wood, which is a non-statutory designated site (a Site of Biological Importance): The data trawl also revealed the presence of two statutory designated sites and fourteen non-statutory designated sites within a 2km radius of the study site.

Statutory designated sites include two Sites of Special Scientific Interest (SSSI) including:

- Dimmingsdale SSSI is located to the west of the study site and at its closest point is approximately 1km from the study site.
- Saltersford Lane Meadows SSSI is located to the south of the study site and at its closest point is approximately 1km from the study site.

Non-statutory designated sites include fourteen Sites of Biological Importance (SBI) including:

- Churnet Valley Railway
- Rakes Dale
- Rainroach Rock
- Lord's Bridge (north of)
- Barbary Gutter
- Jeffreymeadow (south of)
- Castle Wood
- Orrils Wood & Basin Wood
- Saltersford Lane
- Alton Park
- Crump Wood
- Crumpwood Fields, Caldon Canal and Park Banks Meadow
- The Sprink

3.1.2 Protected Species

A full list of all notable species and their locations can be found in Appendix 1 of this report.

3.1.2.1 Bats

The data trawl revealed the presence of soprano pipistrelle *Pipistrellus pygmaeus*, common pipistrelle *Pipistrellus pipistrellus*, Daubenton's bat *myotis daubentonii*, brown long-eared bat *Plecotus auritus*, Leisler's bat *Nyctalus leisleri* and a Myotid bat species within 2km of the proposed development. However, only common pipistrelle has been confirmed as roosting within the search area.

3.1.2.2 Badgers

Fourteen individual badger records were provided by SERC. However, the desk based study, did not identify the presence of any badger setts within the search area.

3.1.2.3 Reptiles

The data trawl revealed the presence of grass snake *Natrix natrix* located approximately 250m, to the east and south of the proposed development site.

3.1.2.4 Birds

SERC holds records for barn owl *Tyto alba*, brambling *Fringilla montifringella*, crossbill *Loxia curvirostra*, goshawk *Acciiter gentilis*, hobby *Falco subbuteo*, kingfisher *Alcedo atthis*, merlin

Falco columbarius, peregrine *Falco peregrinus*, redwing *Turdus iliacus*, herring gull *Larus argentatus*, house sparrow *Passer domesticus*, lapwing *Vanellus vanellus*, lesser *redpoll Carduelis cabaret*, lesser spotted woodpecker *Dendrocopus minor*, bullfinch *Pyrrhula pyrrhula*, spotted flycatcher *Muscicapa striata*, tree pipit *Anthus trivalis*, willow tit *Poecile montanus*, wood warbler *Phylloscopus sibilatrix*, marsh tit *Peocile palistris*, reed bunting *Emberiza schoeniclus* and song thrush *Turdus philomelos* within a 2km radius of the site.

3.1.2.5 Amphibians

The data trawl revealed the presence of common toad *Bufo bufo* located within 1km of the proposed development site.

3.2 Field Survey

3.2.1 Habitat Description

This section should be read in conjunction with the Phase 1 Habitat Plan in Appendix 2, which shows the locations of the habitats.

The study site supports mixed plantation woodland that has a dense understorey, which is dominated by rhododendron *Rhododendron ponticum*. The woodland habitat is located next to overgrown, former gardens and areas of amenity grassland. Also included within the study site is the existing roller-coaster which is located on an area of un-vegetated hard-standing.

Target Note 1 Plantation Mixed Woodland
This is an area of plantation woodland which has developed a more natural structure, due non-intervention in recent years (see Figure 1). However, routes through the undergrowth are evident in places within the woodland, which are used for maintenance purposes. In addition the undergrowth has been cut back to expose the proposed route of the new ride for access and assessment reasons. The canopy tree species include pedunculate oak *Quercus robur*, ash *Fraxinus excelsior*, sycamore *Acer pseudoplatanus*, silver birch *betual pendula*, Scots pine *Pinus sylvaticus*, European larch *Larix deciduas*, and yew *Taxus baccata*. The floristic diversity of the shrub and field layers is poor and includes a number on non-native species such as rhodendron (Figure 2), Himalayan balsam *Impatiens glandulifera* (Figure 3) and Japanese knotweed *Fallopia japonica* (see Target note 3).

Below the rhododendron-dominated shrub layer, bare ground is abundant, but where clearings in the canopy or shrub layer occur, the ground flora is more diverse and supports a range of species including Yorkshire fog *Holcus lanatus*, bramble *Rubus fruticosus* agg., herb Robert *Geranium robertianum*, common nettle *Urtica dioica*, creeping buttercup *Ranunculus repens*, wood avens *Geum urbanum*, raspberry *Rubus idaeus*, dandelion *Taraxacum* agg., climbing ivy *Hedera helix*, common sorrel *Rumex acetosa*, greater willowherb *Epilobium hirsutum*, hogweed *Heracleum sphondylium*, common ragwort *Senecio jacobaea*, false oat-grass *Arrhenatherum elatius*, ground ivy *Glechoma hederacea*, curled dock *Rumex crispus*, perennial sow-thistle *Sonchus arvensis*, soft rush *Juncus effuses*, male fern *Dryopteris filix-mas*, bracken *Pteridium aquilinum*, wavy hair-grass *Deschampsia fexuosa* and field horsetail *Equisetum arvense*.

Figure 1: Photograph of Target Note 1 (mixed semi-natural woodland)

Figure 2: Photograph of rhododendron infestation

Target Note 2 Amenity-managed Grassland / Scattered Mixed Woodland

This is an area of amenity-managed grassland that is surrounded by trees (Figure 4). Many of the trees are non-native and in the past, would have formed part of a manorial garden. Grassland species within this area include common mouse-ear *Cerastium fontanum*, false oat-grass, common bent *Agrostis capillaris*, ragwort, creeping buttercup, colt's-foot *Tussilago farfara*, soft rush, common sorrel, Yorkshire fog, and selfheal *Prunella vulgaris*. The trees are mature and species include common yew, Scots pine, European larch, giant redwood *Sequoiadendron giganticum* and a laurel *Prunus* sp.

Figure 3: Photograph of Himalayan balsam infestation

Figure 4: Photograph of Target Note 2 (amenity grassland)

Target Note 3

The ground below the existing roller-coaster consists of hard standing and is devoid of vegetation (see Figure 5)

Target Note 4

This is a small area of Japanese knotweed re-growth, within a recently cleared patch of rhododendron scrub (Figure 6). Without intervention, it is likely that Japanese knotweed will rapidly expand.

Figure 5: Photograph of Target Note 3 (bare ground)

Figure 6: Photograph of Target Note 4 (Japanese knotweed re-growth.

3.2.2 Protected Species

3.2.2.1 Bats

Nine mature trees were located during the survey, which are considered to have potential to support roosting bats, see Table 1 for details (tree numbers used are those found on the trees and/or within the tree report).

Table 1: Bat survey of trees to be removed.

Tree Number	Species	Notes	Bat Roost Potential	Further Survey Work
2063	Beech	Due to proximity of neighbouring trees, it was not possible to survey from the ground.	Unknown	Tree climbing survey.
2085	Sycamore	Due to proximity of neighbouring trees, it was not possible to survey from the ground.	Unknown	Tree climbing survey.
2098	Scots pine	Due to proximity of neighbouring trees, it was not possible to survey from the ground.	Unknown	Tree climbing survey.
2113	Oak	Due to proximity of neighbouring trees, it was not possible to survey from the ground.	Medium	Tree climbing survey.
2209	Sycamore	Multi-stem tree with patches of loose bark	Medium	Tree climbing survey.
2237	Sycamore	Small cavity close to the top of the tree	Low-Medium	Tree climbing survey.
2238	Oak	Very thin tree, with some minor cavities	Low-Medium	Tree climbing survey.
2265	Sycamore	Thin tree with loose bark on stem.	Low-Medium	Tree climbing survey.
2279	Sycamore	Due to proximity of neighbouring trees, it was not possible to survey from the ground.	Unknown	Tree climbing survey.

In addition eleven trees (see Table 2) that are located in close proximity to the route of the new rollercoaster, have been identified as having the potential to support rooting bats. If roosting bats are present in any of the trees, then there is an increased risk of disturbance.

Table 2: Trees with the potential to support roosting bats

Tree Number	Species	Notes	Bat Roost Potential	Further Survey Work
2092	Scots pine	A number of rotten patches of bark	Medium	Tree climbing survey.
2062	Oak	Broken branches giving potential bat habitat	Medium	Tree climbing survey.
2054	Oak	Major dead wood in tree. Tree also covered in ivy.	High	Tree climbing survey.
2189	Oak	Cavities in branch and within main stem	Medium-High	Tree climbing survey.
2220	Oak	Dead wood within canopy and cavities in stem	Medium-High	Tree climbing survey.
2205	Oak	Cavities in branch and within main stem	Medium-High	Tree climbing survey.
2219	Oak	Cavities in branch and within main stem	Medium-High	Tree climbing survey.
2234	Oak	Cavities in branch and within main stem	Medium-High	Tree climbing survey.
2239	Oak	Major cavity in stem of tree	Medium-High	Tree climbing survey.
2244	Scots Pine	Dead wood and cavities in stem	Medium	Tree climbing survey.
2207	Atlas cedar	No obvious signs of decay although due to the size of the tree a ground assessment may not be conclusive.	Unknown	Tree climbing survey.

3.2.2.2 Nesting Birds

During the site survey, no nesting birds were located and a comprehensive bird survey was not carried out. However, four bird species were recorded by casual observation, either within, or flying over the site. Species include, wood-pigeon *Columba palumbus*, magpie *Pica pica*, blackbird *Turdus merula*, and wren *Troglodytes troglodytes*. The dense scrub and woodland habitats located within the study site provide nesting opportunities for all of the birds observed during the site surveys.

3.2.2.3 Badgers

No evidence of badger such as setts, footprints, latrines and snuffle holes were recorded during the survey.

3.2.2.4 Reptiles

No evidence of reptiles was recorded during the survey. However, a number of informal compost heaps within woodland habitat, were located to the east and west of the study site. Compost heaps have the potential to support grass snake.

4 Assessment

4.1 Constraints on Study Information

All areas of the study site were visited with the exception of patches of dense rhododendron scrub, which was impenetrable. Sufficient plant material was present to enable classification of all habitats present and the timing of the survey was favourable to detect signs of protected species such as bats, badger, amphibians and reptiles. However, the timing of the survey was not favourable for locating nesting birds.

4.2 Potential Impacts

4.2.1 Designated Sites

PPS9 states that designated sites are a material consideration in any planning decision related to the proposed development. Local Plans should develop criteria based policies within local plans against which development proposals affecting local sites can be judged. Guidance has subsequently been produced by Defra on the identification, selection and management of local sites[2].

Two SSSIs including Dimmingsdale and the Ranger, and Salterford Lane Meadow are located within 2km of the proposed development. However, it is considered that the distance between the study site and the SSSIs is sufficient to reduce the potential for an adverse impact on the nature conservation interest of the SSSIs.

A part of the Abbey Wood SBI is located within the area of the proposed development. The site is designated for its broad-leaved, mixed yew woodland. Impacts arising from the construction phase and the noise and vibration of the rollercoaster during the operational phase, will need to be assessed through detailed policy assessment.

4.2.2 Habitats

There will be a significant, localised impact on the woodland habitat within the study site, during the operational phase, because of habitat loss, as a consequence of site clearance work. Disturbance through vibration during the operational phase could have an adverse impact on the health of trees and shrubs in close proximity to the proposed roller-coaster.

Lowland Mixed Deciduous Woodland is listed as UK Biodiversity Action Plan priority habitat, for which an action plan has been prepared. There is a general presumption against loss of woodland cover.

In addition, Lowland Mixed Deciduous Woodland is also listed as a Habitat of Principal Importance under the provisions of Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006. Planning Policy Statement 9 (PPS9[3]) gives guidance on the treatment of such features and states that, through policies in plans, local authorities should conserve these habitats and identify opportunities to enhance and add to them.

4.2.3 Protected Species

4.2.3.1 Bats

Bats are protected under the Wildlife and Countryside Act 1981 (as amended by the Crow Act 2000) and under the Conservation (Natural Habitats, &c.) (Amendment) Regulations 2007. Taken together, these make it an offence to:

[2] DEFRA, 2006. Local Sites Guidance on their Identification, Selection & Management. HMSO.
[3] Planning Policy Statement 9: Biodiversity and Geological Conservation. ODPM, 2005.

a. Deliberately capture or intentionally take a bat
b. Deliberately or intentionally kill or injure a bat
c. To be in possession or control of any live or dead wild bat or any part of, or anything derived from a wild bat
d. Damage or destroy a breeding site or resting place of a bat
e. Intentionally or recklessly obstruct access to any place that a bat uses for shelter or protection
f. Intentionally or recklessly disturb a bat while it is occupying a structure or place that it uses for shelter or protection
g. Deliberately disturb any bat in such a way as to be likely significantly to affect;
    (i) the ability of any significant group of animals of that species to survive, breed or rear or nurture their young; or
    (ii) the local distribution or abundance of that species.

Seven bat species are on the UK Biodiversity Action Plan and are listed as Species of Principal Importance under the provisions of the NERC Act 2006. PPS9 gives guidance on the treatment of Species of Principal Importance and states that local authorities should ensure that they are protected from the adverse effects of development, where appropriate, by using planning conditions or obligations.

Although, no bats were located during the survey, it is considered that the proposed development has the potential to have an adverse impact on bats without appropriate mitigation and precautionary measures. The data trawl identified the presence of bats in the local area and some of the larger trees that are scheduled for felling have potential to support roosting bats. In addition, the proximity of the proposed development to large trees could potentially disturb a roost during the operation phase. In order to avoid any conflicts with the legislation further survey work is proposed as set out in Section 5.1.2 of this report.

4.2.3.2 Birds

All nesting birds are protected under the Wildlife and Countryside Act 1981, which makes it an offence to intentionally kill, injure or take any wild bird or take, damage or destroy its nest whilst in use or being built, or take or destroy its eggs. In addition to this, for some rarer species (listed on Schedule 1 of the Act), it is an offence to intentionally or recklessly disturb them while they are nest building or at or near a nest with eggs or young, or to disturb the dependent young of such a bird.

A number of bird species are also listed as Species of Principal Importance under the provisions of Section 41 of the NERC Act 2006. PPS9 gives guidance on the treatment of such species and states that local authorities should take measures to protect the habitats of these species from further decline through policies in local development documents and should ensure that they are protected from the adverse effects of development, where appropriate, by using planning conditions or obligations.

The proposed development will result in the loss of habitats which currently provide opportunities for nesting birds, including areas of scrub and woodland. The proposed development could have an adverse impact on nesting birds if works affecting these habitats are carried out during the breeding bird season. As such further survey work will be undertaken, see Section 5.1.1 of this report.

4.2.3.3 Badgers

Badgers are protected under the Badgers Act 1992. This makes it an offence to wilfully kill, injure, take, possess or cruelly ill-treat a badger, or to attempt to do so; or to intentionally or recklessly interfere with a sett. Sett interference includes disturbing badgers whilst they are occupying a sett, as well as damaging or destroying a sett or obstructing access to it. A badger

sett is defined in the legislation as "a structure or place, which displays signs indicating current use by a badger".

No badger setts have been recorded on or near to the proposed development. It is likely that badgers will use this area of the woodland, especially as it is close to bins containing food waste. However, it is unlikely that the construction or operational phase of the proposed development will have any impact on badgers using the site, because construction and recreational activity will be carried out during the day time.

4.2.3.4 Grass Snake

All British reptiles are protected under the Wildlife and Countryside Act 1981 (as amended by the CRoW Act 2000). Grass snake, slow worm, common lizard and adder are protected against intentional killing or injury and against sale. In addition, all British reptiles are UKBAP priority species and are listed as Species of Principal Importance under the provisions of the NERC Act 2006.

Although grass snakes have been recorded within the vicinity of the proposed development, it is considered that the woodland habitat within the study site is sub-optimal for grass snakes. Much of the site is covered by dense rhododendron and bare ground that provides poor habitat for amphibians, which are a major part of the grass snake's diet and suitable basking opportunities are limited. Parts of the woodland (outside of the development site) such as the compost heaps located to the east and west of the site could be used by grass snakes as hibernacula. However, it is anticipated that the compost heaps will not be disturbed as a consequence of the proposed development and, therefore an adverse impact on grass snake is unlikely to occur.

4.2.3.5 Invasive species

Japanese knotweed is listed in Schedule 9 (Part 2) of the Wildlife and Countryside Act 1981, which makes it an offence to plant or cause this introduced invasive plant to grow in the wild, effectively making it illegal to spread the plant during development operations. The plant has an extensive root system that can penetrate concrete, tarmac and masonry structures. It can regenerate from fragments of less than 1g and hence needs to be treated comprehensively to prevent potential future problems to development areas. Control measures can include chemical treatment, cutting or complete removal of all root and shoot material.

Material containing Japanese knotweed is classified as controlled waste there are strict guidelines relating to its disposal. Guidance can be found in the "Environment Agency code of practice for the management, destruction and disposal of Japanese knotweed".

The shrub and field layer flora within the woodland largely consists of non-native species such as Himalayan balsam, *rhododendron ponticum* and Japanese knotweed. All of these species are highly invasive and will rapidly colonise areas of bare ground, at the expense of native species and botanical diversity.

5 Recommendations

5.1 Further Survey

This Phase 1 survey has provided a baseline of ecological information to describe the main characteristics of the proposed development site. The field and desk-top surveys suggest that the site has potential to support roosting bats and breeding birds. Therefore, further surveys of breeding bird and bat activity are recommended (see sections 5.1.1 and 5.1.2), in order to gain a better understanding of the development's ecological effects and devise appropriate mitigation strategies.

In addition to the recommended field surveys, a more detailed data trawl from the local bat group will be undertaken and will form part of the additional field survey highlighted in section 5.1.2 of this report.

5.1.1 Birds

Discussion with the Staffordshire Moorland District Council resulted in the decision that a survey of nesting birds could be undertaken in the summer months after initial clearance works had been undertaken.

In order to enhance the surrounding woodland for nesting birds it is recommended that a breeding bird survey is carried out, in order to fully determine the bird interest within the surrounding woodland. A breeding bird survey (Common Bird Census[4]) would require a minimum of three visits between March and July, in order to identify the abundance and distribution of nesting birds within the area. As the mapping of individual territory boundaries is not required for this level of assessment, three visits would be undertaken (one each in April, May and June), instead of the prescribed ten.

5.1.2 Bats

Discussion with the Staffordshire Moorland District Council resulted in the decision that a tree climbing survey for bats should be undertaken during the winter months.

To locate the presence of roosting bats, more detailed checks of those trees listed in Tables 1 and 2 will be required. This will involve a detailed survey of each tree by a suitably qualified ecologist. Each tree will be climbed using tree climbing equipment and all potential roosting opportunities within the trees will be inspected using high powered torches and endoscopes. If bats are present within the trees then other surveys may be required such as a dawn or dusk surveys to determine the species and number of bats present.

A bat activity survey within the proposed development area would provide evidence of bat feeding areas and important flight routes in the site. If required, the results of the survey will inform the development of mitigation strategies. The surveys would be undertaken in the period between May and September by walking transects with bat detectors, as described in the Bat Workers' Manual[5].

5.1.3 Invasive species

Alton Towers Resort is aware of invasive species on site and further survey work will be undertaken to determine the location and extent of Japanese knotweed within the area of the proposed development, and establish a method for removal prior to construction.

5.2 Mitigation Measures

5.2.1 Designated sites

There are two SBIs located within, and adjacent to the development area. Given the distance between Alton Park SBI and the study site, it is considered that adverse ecological impacts are unlikely to occur, as a consequence of the proposed development.

Part of Abbey Wood SBI is included within the proposed development area. The proposed development will cause habitat loss and disturbance and therefore, mitigation measures may be required to reduce the level of these impacts. Mitigation measures could include timing of works and habitat management/enhancement of the wider landscape. Further to this a review of the local plan and policies will be undertaken in order to ascertain the likely impacts on the SBI.

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[4] British Trust for Ornithology (1983) Common Bird Census: Instructions. BTO.
[5] Mitchell-Jones, A.J. & McLeish, A.P. (1999). The Bat Workers' Manual. JNCC

Measures for ecological mitigation will include the following:

- Retention of habitats of nature conservation value wherever possible.
- Creation of new habitat within the grounds of Alton Towers for ecological compensation e.g. bat and bird boxes.
- Vegetation removal outside of the breeding season to prevent impacts on breeding birds.
- Active management of the site and surrounding areas for nature conservation.

5.2.2 Bats

Further survey work is proposed during the winter months to comprehensively determine the bat roosting opportunities within the proposed development area (prior to operational development commencing). The results of more detailed surveys will inform the development of detailed mitigation strategies should they be required. If bats are located, then a European Protected Species Licence may be required from Natural England, before any potentially damaging operations such as tree felling or construction close to trees could take place. The licensing process includes the development of detailed mitigation measures. As a guide, this would be likely to include exclusion of bats prior to felling, retention of existing roost sites where possible and replacement roosts in bat boxes.

Additional roosting opportunities are recommended within the surrounding woodland, regardless of bats being present within the study site. These can be in the form of bat boxes on trees. It is recommended that both summer and winter bat boxes are installed to provide a wider range of roosting opportunities. Recommended bat boxes to be used are the Scwelger 2FN, 2F and 1FS summer bat boxes (a mix of 15 bat boxes in total), as well as three Schwelger 1FW Hibernation bat boxes. Alton towers are willing to accept planning conditions requiring the installation of summer and winter bat boxes, and post development monitoring.

5.2.3 Birds

In order to avoid harm to nesting birds, clearance work or works affecting suitable nesting habitats, under the proposed track, will, where possible be carried out between September and March. If work has to be carried out during the bird nesting seasons, then detailed checks will be carried out before work begins. There is no licensing procedure that allows the destruction of active bird nests and if nesting birds are located, work would have to stop immediately and commence following the cessation of nesting activity.

As it is intended that scrub clearance works are undertaken in January 2009, nest boxes should be installed within the surrounding woodland as soon as possible to provide alternative nesting opportunities in the spring of 2009. Nest box types will include large and small hole bird boxes, to accommodate woodpeckers and tit species as well as specialist species boxes including wren roundhouses, treecreeper boxes, tawny owl boxes and wagtail boxes. Alton towers are willing to accept planning conditions requiring the installation of bird boxes boxes, and post development monitoring.

5.2.4 Invasive Species

The removal of Japanese knotweed from the site will be undertaken prior to development by a specialist contractor. Areas already known to contain Japanese knotweed will be cordoned off to reduce the chance of vehicular movements over these areas. Japanese knotweed will be removed in accordance with established good practice.

Removal of some of the stands of Himalayan balsam and rhododendron within the woodland would encourage native shrub and ground flora to develop. Any clearance work will be undertaken as part of a formal management scheme.

6 Summary

- A desk based study and phase 1 habitat survey was undertaken on land associated with the proposed replacement of an existing rollercoaster (the Corkscrew).

- The findings of the data trawl and field work identified a number of non-native species within the study sites. Trees within the survey area have the potential to support roosting bats, although many of the trees with bat potential are to remain within the scope of the proposed development. The majority of the study site is suitable for nesting birds, especially the dense rhododendron scrub and some of the larger trees.

- Further survey work for protected species such as bats and birds is proposed for mitigation purposes.

- Mitigation will include the erection of bat and bird boxes within the surrounding woodland. A wide range of box types are proposed, in order to accommodate a diverse range of species. Non-native species will be controlled where appropriate, and the woodland as a whole will continue to be managed for nature conservation.

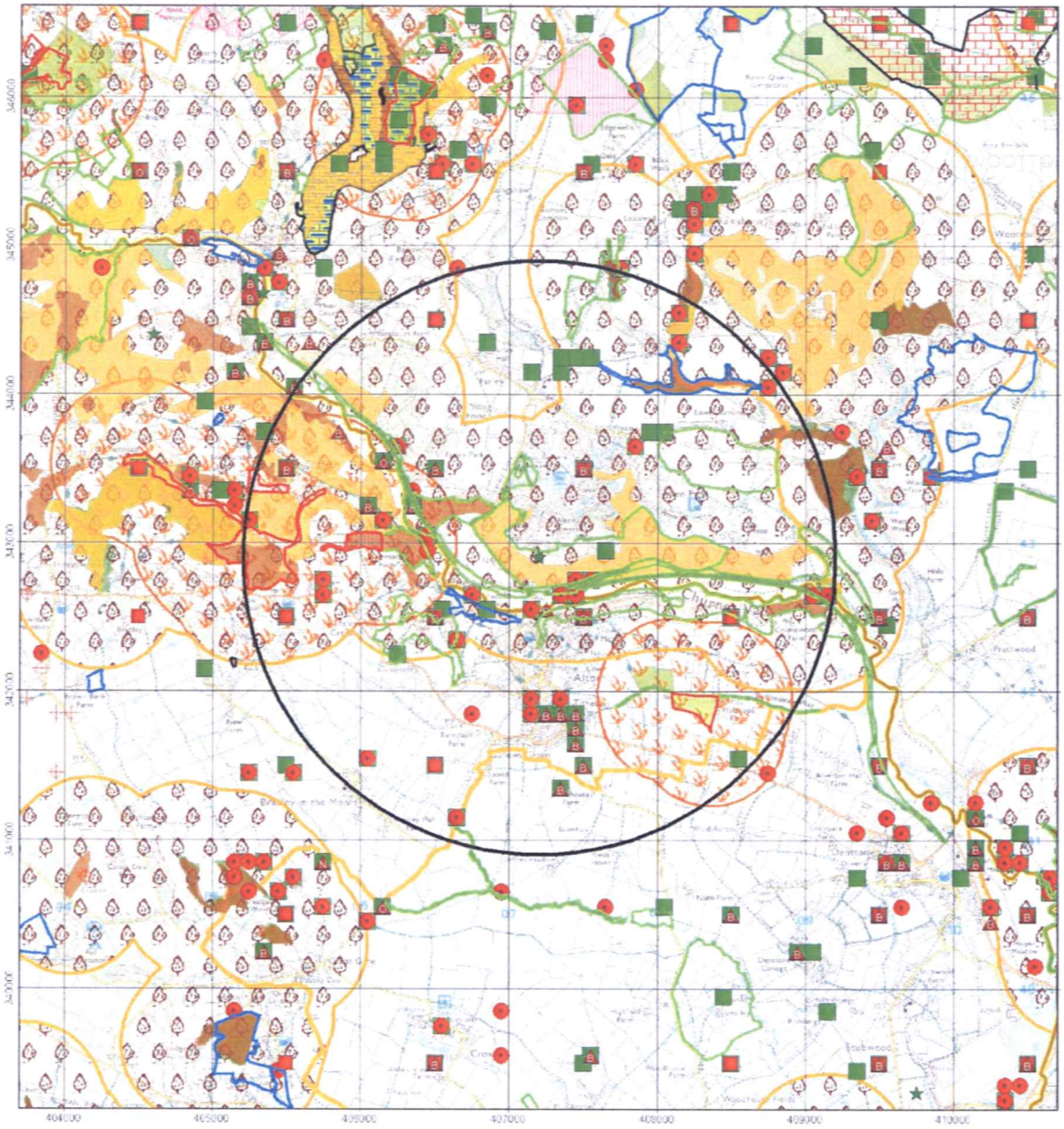
- Monitoring the bird and bat boxes will be undertaken, during and after the proposed development has been completed

- As a consequence of the proposed mitigation and habitat enhancement/management programme within the woodland surrounding the new installation, it is anticipated that the overall impact on the nature conservation interest will be positive on the existing woodland habitat and associated protected species.

Table 3: Assessment of residual impacts of the proposed development

Habitat/ Species	Impact Prior to mitigation	Proposed mitigation	Residual Impacts
Habitat	Potential disturbance to wildlife during the construction and operational phases	Active management of the surrounding woodland for nature conservation.	Continued management of the surrounding woodland will provide a positive impact to the woodland habitat.
Bats	Potential disturbance to roosting site	Detailed survey of all potential roosting opportunities. Replacement habitat in the form of bat boxes within the surrounding woodland.	Additional roosting opportunities will provide a positive impact on bats within the wider landscape.
Birds	Potential disturbance to nesting and feeding areas	Retention of habitat where possible. Additional nesting habitat installed in the form of general and specialised nest boxes within the surrounding woodland. All clearance works will be undertaken during the winter months to avoid disturbance to nesting birds.	Additional nesting opportunities and further woodland management will provide a positive impact to birds.
Invasive species	Dominance of native species within the ground and shrub layer	The continued eradication and management of invasive and non-native plants within the woodland.	The removal of non-native species and replacement with native species will provide a positive impact.

7 Appendix 1: Data Trawl Results



Sites and Species records 2Km of SK072, 429, Alton Towers for BSG

Buffer_of_Point_Searches
Centre Point of Radius Search
Sites of Special Scientific Interest
Grade 1 SBIs
Regionally Important Geological/Geomorphological Sites (RIGS)
Biodiversity Alert Sites

All ancient woodlands

STATUS

ASNW
PAWS
Natural England Heathland Inventory Sites
Natural England Grassland Inventory Sites
Staffordshire Wildlife Trust Nature Reserves
Waterway known to support the passage of otters
Waterway known to support water vole colonies

European Protected Species

COMMONNAME

Great Crested Newt
Bat (All species)
Otter
Floating Water-plantain
Common Dormouse
Natterjack Toad

Other Protected Species

1Km Accuracy
100m Accuracy
10m Accuracy
Section 74 & SBAP Species

County and District Boundaries
SSSI 500m Consultation Zone
500m FC Consultation zone for New Build

PRIHABTXT

Fens
Lowland beech and yew woodland
Lowland calcareous grassland
Lowland dry acid grassland
Lowland heathland
Lowland mixed deciduous woodland
Purple moor grass and rush pasture
Undetermined grassland
Undetermined woodland
Upland oakwoods
Wet woodland

Date: 02/09/2008 Scale at A3: 1:25,000

02 September 2008

SER Reference: EC6020/SM/AL
Your Reference: 3797 (B0354)

Dear Ms Mellor,

Sites and Species Biological Records 2Km SK072, 429, Alton Towers for BSG

Thank you for your recent request for biological records, 2Km about SK072, 429, dated 28 August 2008.

Your 2Km search area intersects with or encloses parts of Dimmingsdale and the Ranger SSSI and Saltersford Lane Meadows SSSI. The search area also encloses or intersects with sixteen non-statutorily Protected (Local) sites which include 14 Sites of Biological Importance (SBIs):

SBIs 2Km SK072, 429, Alton Towers for BSG

SITEID	SITENAME
04/53/99	Churnet Valley Railway
04/62/45	Rakes Dale
04/63/30	Rainroach Rock
04/63/33	Lord's Bridge (north of)
04/63/52	Barbary Gutter
04/70/65	Jeffreymeadow (south of)
04/72/69	Abbey Wood
04/72/96	Castle Wood
04/74/57	Orrils Wood & Basin Wood
04/82/00	Saltersford Lane
04/83/55	Alton Park
04/92/06	Crump Wood
04/92/17	Crumpwood Fields, Caldon Canal and Park Banks Meadow
04/92/38	The Sprink

and 2 Biodiversity Alert Sites (BAS), 04/62/85 Toothill Wood, 04/84/00 Hazelhurst Brook. The seach area also intersects with or encloses the Natural England Heathland Inventory Site, the Ranger, more information about which is held by Staffordshire County Council in Heathland Sites File, No. 75, also there are 2 Natural England Grassland Inventory sites, ST/SK04/C05 Crumpwood Fields and ST/SK04/S01 Saltersford Lane Meadows.

In addition I have records for the following BAP, Section 74 and Protected Species. These data comprise three lists. The protected species list comprises all local records for all European protected species (EPS) (These are shown on the accompanying plan as a red triangle upon which is superimposed a white character denoting the species or species group. The "other protected species" list includes all protected species except EPS or those species which are protected from sale only. The BAP & Section 74 list comprises all local records for BAP species recorded on the UK BAP list 1, in Section 74 Countryside and Rights of Way Act (2000)(When a replacement list has been published under Section 41 of the NERC Act 2006, this will be used) and Staffordshire BAP. It is important to realise that there is significant duplication in these lists as several species are both protected and subject to BAP targets. For the purposes of mapping the protected species have been placed above BAP species and so red symbols may obscure green ones below.

Please note that we now include on our location plans, indicative locations for BAP habitats; these are all derived from data sets compiled by Natural England and has not been obtained by primary survey conducted on behalf of SER and so SER cannot guarantee its accuracy.

The following records comprise a comprehensive list of all reports received by SER, but they are not to be seen as being a comprehensive statement of the total presence or absence of a protected or biodiversity target species. In particular, Great Crested Newts(GCN) are both

widespread and relatively common in Staffordshire and so any cluster of ponds or pools should be viewed as having breeding potential. This is especially true at the edges of your search area, where an aggregation of potential breeding habitat may be only a short distance from records which your search missed. SER recommends, therefore, that you scrutinise ponds or pools at the edge of your search area very carefully for GCN potential.

EPS 2Km of SK 072, 429, Alton Towers for BSG

COMMON NAME	Status at Site	GRID REF	DATE
45kHz Pipistrelle	1 Adult Feeding	SK061435	21 Jun 2006
45kHz Pipistrelle	1 Adult Feeding	SK063432	21 Jun 2006
a bat	possible roost	SK0642	05 MAY 1994
a bat species	possible roost	SK0642	05 MAY 1994
a Myotid bat	1 Adult Feeding	SK058437	21 Jun 2006
a Myotid bat	1 Adult Feeding	SK061435	21 Jun 2006
Brown Long-eared Bat	1 immature male	SK074417	17 OCT 1988
Brown Long-eared Bat	possible roost	SK06084320	14 AUG 1990
Brown Long-eared Bat	1 adult	SK0743	03 OCT 1996
Brown Long-eared Bat	1 adult	SK0743	13 SEP 1996
Brown Long-eared Bat	1 juvenile male, dying/moribund	SK0742	14 AUG 1982
Daubenton's Bat	1 Adult Feeding	SK063432	21 Jun 2006
Daubenton's Bat	adult Present, in flight	SK0643	04 OCT 1990
Daubenton's Bat	in flight	SK0543	04 OCT 1990
Leisler's Bat	1 Adult	SK072425	01 Jul 2006
Leisler's Bat	in flight	SK0543	04 OCT 1990
Otter		SK062436	11 JAN 2002
Otter	1 Adult	SK061435	29 Oct 2001
Otter	1 Adult	SK061435	21 Sep 2002
Pipistrelle	262 roosting, Breeding possible	SK072418	09 JUL 1989
Pipistrelle	roosting, Breeding possible	SK072418	23 MAR 1990
Pipistrelle	colony	SK073418	22 JUN 1993
Pipistrelle	1 male	SK074418	04 OCT 1993
Pipistrelle	25 nursery colony	SK073413	22 JUL 1998
Pipistrelle	320 roosting, Breeding possible	SK072418	14 JUN 1990
Pipistrelle	1 male, dying/moribund	SK074416	22 JUN 1984
Pipistrelle	1 Adult Feeding	SK061435	21 Jun 2006
Pipistrelle	1 Adult Feeding	SK063432	21 Jun 2006
Pipistrelle	possible roost	SK0742	28 JUL 1989
Pipistrelle	3 roosting	SK0742	29 NOV 1989
Pipistrelle	roosting 10-50	SK0742	04 JUL 1990
Pipistrelle	adult Present, in flight	SK0643	04 OCT 1990
Pipistrelle	in flight	SK0543	04 OCT 1990
Pipistrelle	297 colony	SK0741	05 JUL 1989
Pipistrelle	199 colony	SK0741	11 JUL 1989
Pipistrelle	nursery colony 10-50	SK0743	21 AUG 1986
Soprano Pipistrelle	Adult Feeding	SK061435	21 Jun 2006
Soprano Pipistrelle	Adult Feeding	SK063432	21 Jun 2006

UK Protected Species 2Km SK072, 429, Alton Towers for BSG

COMMON NAME	Status at Site	GRID REF	DATE
Badger	present	SK090426	10 MAY 2000
Badger	1 Adult	SK057426	22 Jan 2007
Badger	1 Adult	SK064429	05 Jul 2004
Badger	1 Adult	SK063433	19 Dec 2006
Badger	1 Adult	SK067418	12 Sep 2007
Badger	1 Adult	SK0743	08 Jun 2003
Badger	1 Adult	SK0743	05 Jul 2004
Badger	1 Adult	SK0743	30 Jul 2000
Badger	1 Adult	SK0743	30 Jul 2000
Badger	1 Adult	SK0743	30 Jul 2000
Badger	1 Adult	SK0743	31 Jul 2000
Badger	1 Adult	SK0743	15 Nov 2005
Badger	1 Adult	SK0641	16 Dec 2006

UK Protected Species 2Km SK072, 429, Alton Towers for BSG

COMMON NAME	Status at Site	GRID REF	DATE
Badger	1 Adult	SK0743	24 Feb 2007
Barn Owl	proved breeding	SK057427	2001
Barn Owl	1 in flight	SK066423	FEB 2002
Barn Owl	1 in flight	SK066411	OCT 2001
Barn Owl	1 in flight	SK060415	OCT 2001
Barn Owl	1 in flight	SK064430	APR 2002
Barn Owl	1 dead	SK0542	NOV 2001
Barn Owl	1	SK0742	15 Jan 2004
Barn Owl	1	SK0543	24 Apr 2005
Brambling	4	SK0842	01 Dec 2004
Brambling	1	SK0543	Nov 2002
Crossbill	2	SK0842	22 Aug 2002
Freshwater Crayfish	12 presents	SK061431	04 OCT 1990
Freshwater Crayfish		SK052431	JUL 1977
Freshwater Crayfish	1 dead	SK062436	11 JAN 2002
Goshawk	1 Breeding (possible)	SK0842	07 Feb 2004
Goshawk	1 m	SK0842	16 Oct 2000
Goshawk	1 m	SK0842	10 Sep 2000
Grass Snake	2 adults	SK074427	08 JUL 1996
Grass Snake	1 sunbathing	SK071418	13 MAY 2001
Grass Snake	1 sunbathing	SK067426	27 SEP 2003
Grass Snake	sunbathing several	SK073419	Summer 2003
Grass Snake	2 adults	SK071419	MAY 2002
Grass Snake	1 dead	SK064430	SEP 1994
Grass Snake		SK087440	JUL 1986
Grass Snake		SK078436	SEP 1978
Grass Snake		SK081445	APR 1982
Grass Snake		SK081445	APR 1982
Grass Snake		SK081443	JUL 1984
Grass Snake		SK075427	20 JUL 1987
Grass Snake	1 present	SK0742	12 JUN 2001
Grass Snake	1 present	SK0742	28 MAY 2001
Grass Snake	1 sunbathing	SK0742	13 MAY 2000
Grass Snake		SK0742	1970 - 1975
Grass Snake		SK0742	1959
Grass Snake		SK0543	1973 - 1977
Grass Snake		SK0742	03 JUN 1931
Grass Snake	1 adult	SK0742	1926
Grass Snake		SK0742	04 APR 1926
Grass Snake		SK0543	OCT 1889
Grass Snake		SK0642	12 AUG 1982
Grass Snake		SK0543	1892
Grass Snake		SK0742	20 JUL 1987
Grass Snake		SK0743	20 AUG 1975
Grass Snake	1 adult	SK0742	05 MAY 1995
Hobby	4	SK0842	30 Sep 2003
Hobby	1	SK0644	30 Apr 2005
Kingfisher	1	SK0842	21 Nov 2003
Kingfisher	1	SK0842	18 Sep 2003
Kingfisher	1	SK0842	19 Aug 2005
Kingfisher	1 Breeding (possible)	SK0842	14 May 2005
Kingfisher	1	SK0842	24 Feb 2006
Kingfisher	1	SK0842	02 Aug 2005
Kingfisher	1	SK0842	28 Mar 2005
Kingfisher	Breeding (probable)	SK0842	2002
Kingfisher	2	SK0543	10 Jun 2007
Merlin	1	SK0842	08 Jan 2003
Peregrine	1	SK0842	12 Nov 2000
Peregrine	1	SK0742	17 Dec 2006
Redwing	25	SK0842	27 Oct 2006
Redwing		SK0742	Mar 2000

UK Protected Species 2Km SK072, 429, Alton Towers for BSG

COMMON NAME	Status at Site	GRID REF	DATE
Redwing		SK0842	Mar 2000
Redwing	2	SK0842	17 Oct 2003
Redwing	2	SK0842	04 Apr 2005
Redwing	53	SK0842	21 Dec 2004
Redwing	6	SK0842	28 Feb 2004
Redwing	1	SK0842	01 Mar 2004
Redwing		SK0842	Mar 2000
Redwing	30	SK0543	15 Oct 2005
Redwing	100	SK0543	27 Sep 2007
Slow-worm		SK091426	1980 -
Slow-worm		SK0543	06 AUG 1888
Water Vole		SK071425	19 AUG 1997
Water Vole	colony	SK073426	19 AUG 1997
Water Vole	colony Present	SK074426	07 JUL 1997

Section 74, BAP1 & SBAP Species 2Km SK072, 429, Alton Towers for BSG

COMMON NAME	Status at Site	GRID REF	DATE
45kHz Pipistrelle	1 Adult Feeding	SK061435	21 Jun 2006
45kHz Pipistrelle	1 Adult Feeding	SK063432	21 Jun 2006
Barn Owl	proved breeding	SK057427	2001
Barn Owl	1 in flight	SK066423	FEB 2002
Barn Owl	1 in flight	SK066411	OCT 2001
Barn Owl	1 in flight	SK060415	OCT 2001
Barn Owl	1 in flight	SK064430	APR 2002
Barn Owl	1 dead	SK0542	NOV 2001
Barn Owl	1	SK0742	15 Jan 2004
Barn Owl	1	SK0543	24 Apr 2005
Brown Hare	1 Adult	SK057426	17 Jul 2003
Brown Hare	1 Adult	SK0743	30 Jul 2000
Brown Hare	1 Adult	SK0641	16 Dec 2006
Brown Long-eared Bat	1 immature male	SK074417	17 OCT 1988
Brown Long-eared Bat	possible roost	SK06084320	14 AUG 1990
Brown Long-eared Bat	1 adult	SK0743	03 OCT 1996
Brown Long-eared Bat	1 adult	SK0743	13 SEP 1996
Brown Long-eared Bat	1 juvenile male, dying/moribund	SK0742	14 AUG 1982
Bullfinch	1	SK0842	27 Oct 2006
Bullfinch	2	SK0842	04 Nov 2006
Bullfinch	1	SK0842	26 Aug 2006
Bullfinch	1	SK0842	21 Jun 2006
Bullfinch	2	SK0842	02 Mar 2006
Bullfinch		SK0742	2001
Bullfinch	2	SK0742	29 Oct 2003
Bullfinch		SK0842	2000
Bullfinch		SK0842	2001
Bullfinch	2	SK0842	08 Mar 2003
Bullfinch	4	SK0842	26 Jan 2003
Bullfinch	2	SK0842	02 Jan 2003
Bullfinch	3	SK0842	04 Nov 2003
Bullfinch	6	SK0842	21 Oct 2003
Bullfinch	4	SK0842	18 Sep 2003
Bullfinch	2	SK0842	30 Aug 2003
Bullfinch	4	SK0842	16 Aug 2003
Bullfinch	4	SK0842	29 Jul 2003
Bullfinch	1	SK0842	02 Apr 2003
Bullfinch	1 m	SK0842	27 Aug 2004
Bullfinch	1 f	SK0842	10 Jan 2004
Bullfinch	3	SK0842	19 Feb 2004
Bullfinch	1 m	SK0842	02 Apr 2004
Bullfinch	2	SK0842	10 Dec 2004
Bullfinch	2	SK0842	01 Oct 2004

Section 74, BAP1 & SBAP Species 2Km SK072, 429, Alton Towers for BSG

COMMON NAME	Status at Site	GRID REF	DATE
Bullfinch	1 m	SK0842	07 Sep 2004
Bullfinch	12	SK0842	07 Oct 2000
Bullfinch	4	SK0842	15 Mar 2005
Bullfinch	2	SK0842	08 Nov 2005
Bullfinch	2	SK0842	14 Sep 2005
Bullfinch	4	SK0842	01 May 2005
Bullfinch	12	SK0842	20 Jan 2005
Bullfinch	8	SK0842	14 Jan 2005
Bullfinch	2	SK0842	03 Jan 2005
Bullfinch	2	SK0842	05 Jun 2003
Bullfinch	1	SK0842	24 May 2003
Bullfinch	2	SK0543	17 Jan 2003
Bullfinch	2	SK0543	26 Apr 2004
Bullfinch	1	SK0644	02 Feb 2003
Common Toad	1 dead	SK080437	AUG 1985
Common Toad		SK073441	JUL 1984
Common Toad		SK073442	OCT 1983
Dusky Thorn		SK065425	Aug 1998
Freshwater Crayfish	12 presents	SK061431	04 OCT 1990
Freshwater Crayfish		SK052431	JUL 1977
Freshwater Crayfish	1 dead	SK062436	11 JAN 2002
Grass Snake	2 adults	SK074427	08 JUL 1996
Grass Snake	1 sunbathing	SK071418	13 MAY 2001
Grass Snake	1 sunbathing	SK067426	27 SEP 2003
Grass Snake	sunbathing several	SK073419	Summer 2003
Grass Snake	2 adults	SK071419	MAY 2002
Grass Snake	1 dead	SK064430	SEP 1994
Grass Snake		SK087440	JUL 1986
Grass Snake		SK078436	SEP 1978
Grass Snake		SK081445	APR 1982
Grass Snake		SK081445	APR 1982
Grass Snake		SK081443	JUL 1984
Grass Snake		SK075427	20 JUL 1987
Grass Snake	1 present	SK0742	12 JUN 2001
Grass Snake	1 present	SK0742	28 MAY 2001
Grass Snake	1 sunbathing	SK0742	13 MAY 2000
Grass Snake		SK0742	1970 - 1975
Grass Snake		SK0742	1959
Grass Snake		SK0543	1973 - 1977
Grass Snake		SK0742	03 JUN 1931
Grass Snake	1 adult	SK0742	1926
Grass Snake		SK0742	04 APR 1926
Grass Snake		SK0543	OCT 1889
Grass Snake		SK0642	12 AUG 1982
Grass Snake		SK0543	1892
Grass Snake		SK0742	20 JUL 1987
Grass Snake		SK0743	20 AUG 1975
Grass Snake	1 adult	SK0742	05 MAY 1995
Hedgehog	1 dead	SK074442	JUL 1983
Hedgehog	1 dead	SK075442	JUN 1984
Hedgehog	1 dead	SK079437	OCT 1985
Hedgehog	1 dead	SK071441	OCT 1986
Hedgehog	1 Adult	SK071441	29 Sep 2005
Hedgehog	1 Adult	SK068443	17 Aug 2001
Herring Gull	2	SK0842	03 Jan 2005
House Sparrow		SK0742	25 Apr 2004
Knot Grass	present rare	SK090426	06 OCT 2006
Lapwing	2 Breeding (probable)	SK0543	01 May 2003
Lapwing	4 Breeding (confirmed)	SK0743	2000
Lesser Redpoll	22	SK0842	03 Dec 2003
Lesser Redpoll	10	SK0842	30 Sep 2003

Section 74, BAP1 & SBAP Species 2Km SK072, 429, Alton Towers for BSG

COMMON NAME	Status at Site	GRID REF	DATE
Lesser Redpoll	2	SK0842	04 Nov 2003
Lesser Redpoll	4	SK0842	27 Dec 2003
Lesser Redpoll	2	SK0842	02 Mar 2003
Lesser Redpoll	4	SK0842	19 Feb 2004
Lesser Redpoll	200	SK0842	10 Jan 2004
Lesser Redpoll	2	SK0842	27 Feb 2004
Lesser Redpoll	12	SK0842	28 Dec 2004
Lesser Redpoll	4	SK0842	25 Nov 2005
Lesser Redpoll	4	SK0842	26 Apr 2005
Lesser Redpoll	2	SK0842	02 Feb 2005
Lesser Redpoll	6	SK0842	03 Jan 2005
Lesser Redpoll	12	SK0842	30 Nov 2002
Lesser Redpoll	40	SK0644	02 Jan 2006
Lesser Redpoll	40	SK0644	Dec 2005
Lesser Spotted Woodpecker	1	SK0842	30 Mar 2006
Lesser Spotted Woodpecker	1	SK0842	28 Mar 2005
Lesser Spotted Woodpecker	1	SK0842	02 Aug 2005
Lesser Spotted Woodpecker		SK0842	2002
Lesser Spotted Woodpecker	1	SK0842	30 May 2004
Lesser Spotted Woodpecker	2	SK0842	02 Apr 2004
Lesser Spotted Woodpecker	1	SK0842	18 Apr 2006
Lesser Spotted Woodpecker	1	SK0842	04 Nov 2003
Lesser Spotted Woodpecker	1	SK0842	23 Mar 2003
Marsh Stitchwort		SK0543	NOV 1967
Marsh Tit	1	SK0842	2001
Marsh Tit	1	SK0842	20 Feb 2003
Marsh Tit	1	SK0842	2002
Marsh Tit	1	SK0543	2002
Mouse Moth		SK065425	Aug 1998
Oak Hook-tip		SK065425	Aug 1998
Otter		SK062436	11 JAN 2002
Otter	1 Adult	SK061435	29 Oct 2001
Otter	1 Adult	SK061435	21 Sep 2002
Pipistrelle	262 roosting, Breeding possible	SK072418	09 JUL 1989
Pipistrelle	roosting, Breeding possible	SK072418	23 MAR 1990
Pipistrelle	colony	SK073418	22 JUN 1993
Pipistrelle	1 male	SK074418	04 OCT 1993
Pipistrelle	25 nursery colony	SK073413	22 JUL 1998
Pipistrelle	320 roosting, Breeding possible	SK072418	14 JUN 1990
Pipistrelle	1 male, dying/moribund	SK074416	22 JUN 1984
Pipistrelle	1 Adult Feeding	SK061435	21 Jun 2006
Pipistrelle	1 Adult Feeding	SK063432	21 Jun 2006
Pipistrelle	possible roost	SK0742	28 JUL 1989
Pipistrelle	3 roosting	SK0742	29 NOV 1989
Pipistrelle	roosting 10-50	SK0742	04 JUL 1990
Pipistrelle	adult Present, in flight	SK0643	04 OCT 1990
Pipistrelle	in flight	SK0543	04 OCT 1990
Pipistrelle	297 colony	SK0741	05 JUL 1989
Pipistrelle	199 colony	SK0741	11 JUL 1989
Pipistrelle	nursery colony 10-50	SK0743	21 AUG 1986
Polecat	female Present, adult	SK085415	16 JUL 1994
Polecat	1 Adult	SK062422	23 Sep 2007

Section 74, BAP1 & SBAP Species 2Km SK072, 429, Alton Towers for BSG

COMMON NAME	Status at Site	GRID REF	DATE
Polecat	adult Present	SK0543	02 SEP 1993
Polecat	1 Adult	SK0743	29 Jul 2000
Reed Bunting	1 f	SK0842	18 Feb 2000
September Thorn		SK065425	Aug 1998
Slow-worm		SK091426	1980 -
Slow-worm		SK0543	06 AUG 1888
Small Phoenix		SK065425	Aug 1998
Small Square-spot		SK065425	Aug 1998
Song Thrush	present	SK076429	08 MAY 2000
Song Thrush	3	SK0842	09 Mar 2006
Song Thrush	3	SK0842	26 Dec 2006
Song Thrush	1	SK0842	13 Mar 2004
Song Thrush	4 m Breeding (possible)	SK0842	2000
Song Thrush	1	SK0842	25 Nov 2005
Song Thrush	2 m	SK0842	18 Jun 2005
Song Thrush	1	SK0842	16 Jul 2005
Song Thrush	1	SK0842	03 Jan 2005
Song Thrush	5 m	SK0842	22 Apr 2004
Song Thrush	1	SK0842	23 Mar 2004
Song Thrush	4 m Breeding (possible)	SK0842	2000
Song Thrush	1 Breeding (possible)	SK0842	2002
Song Thrush	1	SK0842	14 Nov 2006
Song Thrush	10	SK0543	26 May 2007
Soprano Pipistrelle	Adult Feeding	SK061435	21 Jun 2006
Soprano Pipistrelle	Adult Feeding	SK063432	21 Jun 2006
Spotted Flycatcher	6 Breeding (confirmed)	SK0842	07 Jul 2006
Spotted Flycatcher	2	SK0842	20 May 2006
Spotted Flycatcher	1 Breeding (confirmed)	SK0842	01 Jun 2006
Spotted Flycatcher	2 Breeding (possible)	SK0742	15 Jun 2003
Spotted Flycatcher	1	SK0742	24 Jun 2004
Spotted Flycatcher	Breeding (confirmed)	SK0842	2005
Spotted Flycatcher	1	SK0842	17 Jul 2004
Spotted Flycatcher	1 f Breeding (confirmed)	SK0842	23 Jun 2004
Spotted Flycatcher	2 Breeding (confirmed)	SK0842	16 Jun 2004
Spotted Flycatcher	5 Breeding (confirmed)	SK0842	05 Jul 2003
Spotted Flycatcher	2 Breeding (confirmed)	SK0842	28 Jun 2003
Spotted Flycatcher	1	SK0842	05 Sep 2003
Spotted Flycatcher	Breeding (possible)	SK0842	2002
Spotted Flycatcher	Breeding (possible)	SK0543	2001
Spotted Flycatcher	2	SK0543	18 Jun 2004
Spotted Flycatcher	1	SK0543	20 Jun 2003
Spotted Flycatcher	1	SK0543	05 May 2006
Tree Pipit	1	SK0643	24 Apr 2004
Tree Pipit	1	SK0543	08 May 2006
Water Vole		SK071425	19 AUG 1997
Water Vole	colony	SK073426	19 AUG 1997
Water Vole	colony Present	SK074426	07 JUL 1997
Willow Tit	1	SK0842	21 Jan 2006
Willow Tit	1	SK0842	03 Nov 2004
Willow Tit	1	SK0842	10 Jan 2004
Willow Tit	1	SK0842	17 May 2003
Willow Tit	1	SK0842	27 Dec 2003
Willow Tit	1	SK0842	04 Nov 2003
Willow Tit	1	SK0842	26 Apr 2003
Willow Tit	1	SK0842	08 Jan 2003
Willow Tit	1	SK0842	02 Jan 2003
Willow Tit	2	SK0842	04 Nov 2003
Willow Tit	1	SK0842	29 May 2005
Willow Tit	3	SK0842	12 Apr 2005
Willow Tit	2	SK0842	17 Feb 2005
Willow Tit	1	SK0842	08 Feb 2005

Section 74, BAP1 & SBAP Species 2Km SK072, 429, Alton Towers for BSG

COMMON NAME	Status at Site	GRID REF	DATE
Willow Tit	1	SK0842	14 Jan 2005
Willow Tit	1	SK0842	02 Jan 2005
Willow Tit	1	SK0842	14 Aug 2004
Willow Tit	1	SK0842	23 Oct 2004
Willow Tit	1	SK0842	28 Dec 2004
Willow Tit	2	SK0842	2002
Willow Tit	1	SK0842	22 Nov 2006
Willow Tit	2	SK0842	19 Mar 2003
Willow Tit	2	SK0842	29 Oct 2003
Wood Warbler	singing/mating calls	SK06804255	21 JUN 1979
Wood Warbler		SK0742	24 Apr 2000
Wood Warbler	Breeding (confirmed)	SK0842	2002
Wood Warbler	1	SK0842	14 Aug 2002
Wood Warbler	2	SK0842	17 May 2003
Wood Warbler	1	SK0842	13 Jun 2003
Wood Warbler	1	SK0842	21 Jun 2003
Wood Warbler	3	SK0543	20 Jun 2003
Wood Warbler	1	SK0543	01 Jun 2003
Wood Warbler	1 m Breeding (possible)	SK0543	08 May 2000
Wood Warbler	1	SK0543	18 Jun 2004
Wood Warbler	Breeding (confirmed)	SK0543	2002
Wood Warbler	1	SK0543	17 Apr 2006
Wood Warbler	2	SK0543	05 May 2006
Wood Warbler	1	SK0543	27 Apr 2006
Wood Warbler	5	SK0543	27 May 2006
Wood Warbler	1	SK0543	05 May 2007

I trust that this answers your inquiry, if you have any questions, please do not hesitate to contact me. Please be aware that Staffordshire Wildlife Trust will shortly raise an invoice for £150.00+VAT to cover the cost of processing this inquiry.

Yours sincerely,

Andy Leak,
Principal Environmental Information Officer,
on behalf of Staffordshire Ecological Record.

Staffordshire Ecological Record SBI Report

Staffordshire Ecological Record

04/72/69

Site Name: **Abbey Wood, Farley**

Locality Type: **Broadleaved, mixed and yew woodland {B}**

Grid Ref.: SK076429

GB Vice-County: Staffordshire

Civil Parish: Farley (Staffordshire Moorlands, Staffordshire, England)

Keywords

Keyword	Details	Date
Original Recorder Code	250209	no date

Biotopes (Habitats)

Code	Habitat	Area
A111	Woodland: broadleaved, semi-natural	38.54
A112	Woodland: broadleaved, plantation	7.42
B22	Grassland: neutral, semi-improved	0.44
G2	Open water: running water	
I111	Rock: Natural exposure, inland cliff, acid/neutral	

Dimensions

Dimension	Value/units
altitude	99-183m
area	46.4ha

Contacts

Role	Date	Contact
field surveyor	2000	Stanford, Miss Sally
field surveyor	2000	Jukes, Mr Andy
field surveyor	2000	Smith, Mr John R.
landowner	2000	Alton Towers
manager	2000	Brown, Mr Alan
field surveyor	1993	Langford, Mr Mark A.
field surveyor	1982	Hayes, Mr Colin J.
field surveyor	1982	Hopkins, Mr Ian J.

Site Description

Source: **Smith, Jukes & Stanford, 2000**

Summary: Abbey Wood is a large expanse of woodland surrounding the Alton Towers Leisure Park. The woodland bounds the southern side of the park and is 1.5km in length. The north western section and the far eastern section are sycamore plantation with the main core of woodland being semi-natural. Within the semi-natural woodland there is evidence of some planting but the antiquity of the site is represented by the good age structure of trees in particular the frequent mature beech, yew and maturing oak. Larch and silver birch are occasional with ash, common lime, Scot's pine and sweet chestnut also present.

The woodland is listed on English Nature's Ancient woodland Inventory as ancient replanted woodland.

There is very little understorey structure with only occasionally recorded species such as elder, rowan, goat willow and holly. Ornamentals such as box and cherry laurel are also recorded.

The ground flora is very sparse for most of the woodland due to the total dominance of rhododendron and where this subsides bracken is abundant.

There are however some ancient woodland indicators, these include; locally frequent dog's mercury, yellow archangel, bluebells and herb robert. Ramsons, male fern, enchanter's nightshade, red campion and wood sorrel are occasional.

There are several species that reflect the wet nature of the woodland particularly in the lower reaches of the woodland. Opposite-leaved golden-saxifrage and yellow pimpernel are locally frequent with occasional lesser celandine, lords-and-ladies, raspberry, tufted hair-grass, cuckooflower, creeping buttercup, moschatel and floating sweet-grass. Remote sedge, wood club-rush and hartstongue are rare to the woodland, the later two are uncommon in the County.

Source: **Hayes & Hopkins, 1982**

Summary: Very similar in many ways to adjacent Park Banks (q.v.). Rhododendron is generally less dense, but tends to be replaced by bracken as dominant. Oaks are mature and contribute probably just over 50% tree canopy. Sycamore and beech are common while rowan, holly and birch are seen only occasionally.

Conifers are less in evidence.

Bibliography

described **SWT (2000)**
The SBI Resurvey of Staffordshire Moorlands 1998 - 2000 (Sites Surveyed in 2000); Staffordshire Wildlife Trust, Sandon, Stafford

field note **SWT (1989-93 checking) (1993)**
Re-checking of SBI conditions; Staffordshire Wildlife Trust, Sandon, Stafford

described **SNCT (County Survey) (1984)**
The Phase 1 Survey of Staffordshire - 1978-1984; Staffordshire Nature Conservation Trust, Sandon, Staffs.

Subsites

04/72/17 **Abbey Wood (grassland)**

Species List

Staffordshire Ecological Record SBI Species List

Staffordshire Ecological Record

Species List for Abbey Wood (Farley)

Abbey Wood (Farley)

Woodland: broadleaved, semi-natural

Smith, Mr J.R. (08 MAY 2000)

Birds (Chordata: Aves)		
Turdus philomelos	Song Thrush	
Vascular Plants (Tracheophyta)		
Pteridium aquilinum	Bracken	locally abundant
Phyllitis scolopendrium	Hart's-tongue	rare
Dryopteris filix-mas agg.		occasional
Larix decidua	European Larch	occasional
Pinus sylvestris	Scots Pine	rare
Taxus baccata	Yew	locally frequent
Ranunculus ficaria	Lesser Celandine	occasional
Ranunculus repens	Creeping Buttercup	frequent
Castanea sativa	Sweet Chestnut	rare
Fagus sylvatica	Beech	frequent
Quercus robur	Pedunculate Oak	frequent
Cerastium fontanum	Common Mouse-ear	rare
Silene dioica	Red Campion	occasional
Rumex crispus	Curled Dock	rare
Rumex obtusifolius	Broad-leaved Dock	occasional
Tilia x europaea	Lime	rare
Urtica dioica	Common Nettle	occasional
Viola riviniana	Common Dog-violet	rare
Salix caprea	Goat Willow	occasional
Alliaria petiolata	Garlic Mustard	rare
Cardamine flexuosa	Wavy Bitter-cress	frequent
Cardamine pratensis	Cuckooflower	occasional
Rhododendron ponticum	Rhododendron	dominant
Lysimachia nemorum	Yellow Pimpernel	locally frequent
Geum urbanum	Wood Avens	occasional
Potentilla reptans	Creeping Cinquefoil	rare
Prunus laurocerasus	Cherry Laurel	occasional
Rubus fruticosus agg.	Bramble	abundant
Rubus idaeus	Raspberry	occasional
Sorbus aucuparia	Rowan	occasional
Chrysosplenium oppositifolium	Opposite-leaved Golden-saxifrage	occasional
Chamerion angustifolium	Rosebay Willowherb	occasional
Circaea lutetiana	Enchanter's-nightshade	locally frequent
Epilobium hirsutum	Great Willowherb	rare
Epilobium montanum	Broad-leaved Willowherb	rare
Ilex aquifolium	Holly	frequent
Buxus sempervirens	Box	
Mercurialis perennis	Dog's Mercury	locally frequent

Acer pseudoplatanus	Sycamore	locally abundant
Geranium robertianum	Herb-Robert	locally frequent
Oxalis acetosella	Wood-sorrel	occasional
Impatiens glandulifera	Indian Balsam	occasional
Hedera helix	Ivy	locally frequent
Aegopodium podagraria	Ground-elder	rare
Heracleum sphondylium	Hogweed	occasional
Fraxinus excelsior	Ash	rare
Calystegia sepium	Hedge Bindweed	rare
Myosotis		rare
Galeopsis tetrahit agg. sensu lato		rare
Glechoma hederacea	Ground-ivy	rare
Lamiastrum galeobdolon	Yellow Archangel	locally frequent
Digitalis purpurea	Foxglove	occasional
Scrophularia nodosa	Common Figwort	rare
Veronica chamaedrys	Germander Speedwell	occasional
Veronica montana	Wood Speedwell	rare
Galium aparine	Cleavers	occasional
Adoxa moschatellina	Moschatel	rare
Lonicera periclymenum	Honeysuckle	occasional
Sambucus nigra	Elder	occasional
Arctium minus	Lesser Burdock	rare
Bellis perennis	Daisy	occasional
Cirsium vulgare	Spear Thistle	rare
Senecio jacobaea	Common Ragwort	rare
Taraxacum aggregate		locally frequent
Deschampsia cespitosa	Tufted Hair-Grass	occasional
Festuca ovina agg.		rare
Glyceria fluitans	Floating Sweet-grass	rare
Holcus lanatus	Yorkshire-fog	frequent
Poa annua	Annual Meadow-grass	occasional
Carex remota	Remote Sedge	rare
Scirpus sylvaticus	Wood Club-rush	rare
Arum maculatum	Lords-and-Ladies	occasional
Allium ursinum	Ramsons	rare
Hyacinthoides non-scripta	Bluebell	locally frequent
Mosses & Liverworts (Bryophyta)		
Polytrichaceae		
Mnium hornum	Swan's-neck Thyme-moss	

Staffordshire Ecological Record SBI Report

Staffordshire Ecological Record

04/72/17

Site Name: **Abbey Wood (grassland)**

Parent Site: Abbey Wood, Farley (04/72/69)

Locality Type: **Neutral grassland {B}**

Grid Ref.:

GB Vice-County: Staffordshire

Civil Parish: Farley (Staffordshire Moorlands, Staffordshire, England)

Keywords

Keyword	Details	Date
Original Recorder Code	250209/1	no date

Biotopes (Habitats)

Code	Habitat	Area
B12	Grassland: acid, semi-improved	
B22	Grassland: neutral, semi-improved	

Contacts

Role	Date	Contact
field surveyor	2000	Smith, Mr John R.
field surveyor	2000	Jukes, Mr Andy
field surveyor	2000	Stanford, Miss Sally
landowner	2000	Alton Towers

Site Description

Source: **Smith, Jukes & Stanford, 2000**

Summary: The grassland is located at the back of the old lodge at the bottom of Farley lane. The south-facing slope is surrounded by broad-leaved woodland to the north, south and east . The western side is bordered by a path and ruderal zone grading into woodland again.

The grassland is predominantly of neutral character with some a few acidic species in patches across the sub-site. The dominant species that make up the basis of the grassland include common sorrel, field wood-rush, sweet vernal-grass, Yorkshire-fog and common bent.

Other occasional species include pignut, yarrow, broad-leaved dock, and germander speedwell.

Locally frequent heath bedstraw and wavy hair-grass indicate more acidic areas. Other locally frequent species are sheep`s fescue, creeping buttercup cow parsley.

Soft rush and meadow buttercup are rare for the grassland.

Bibliography

described **SWT (2000)**
The SBI Resurvey of Staffordshire Moorlands 1998 - 2000 (Sites Surveyed in 2000); Staffordshire Wildlife Trust, Sandon, Stafford

8 Appendix 2: Phase 1 Habitat Map of Alton Towers