



**CARAVAN CLUB ECOLOGICAL
SITE APPRAISAL**



Blackwall Plantation
Caravan Club Site
Kirk Ireton
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General Information

Site Name and County: Blackwall Plantation Caravan Club Site, Derbyshire

Grid Reference: SK 249 497

Area: 10.12 hectares

Date: 25/08/05

Recorder: Jon Mellings, Just Ecology

Weather Conditions: Sunny, cool, breezy, 20% cloud. Becoming rainy

Site Description

The site comprises a narrow strip of mature, ex-plantation coniferous woodland running west to east along the crest of a low ridge (former quarry) overlooking Carsington Reservoir. The topography of the site is rugged with ridges, banks and dips; this is particularly pronounced towards the eastern end of the site where a near vertical, south facing vegetated escarpment skirts the site's northwest border. The site's 128 pitches are mainly on hard standing surrounded by mown amenity grassland and are arranged in a series of wooded glades on either side of the main metalled track, running through the site from west to east. A woodland walk /dog walk traverses the entire length of the site's northern boundary, looping back along the easternmost half of the southern edge of the site.

Context

The site lies in hill country close to the southern edge of the Derbyshire Peak District National Park, a landscape ranging from valley pasture to upland heather moorland habitat. Man made lakes such as Carsington Reservoir are another feature of the landscape, providing habitat for water birds and other wetland wildlife. Despite being dominated by conifer ex-plantation woodland, the site includes areas of acid grassland, a habitat characteristic of upland grasslands and heaths which has declined in the UK due to agricultural improvement. The close proximity to the extensive areas of moorland and acid grassland habitat of the Peak District gives the site potential to be colonised by plant and animal species typical of these habitats, as well as woodland birds and other flora and fauna associated with conifer plantations and woodland habitats.



Habitat Information

Broad Habitats Present: Scots Pine plantation, broad-leaved woodland

BAP Priority Habitats Present: Lowland Dry Acid Grassland (National Vegetation Classification (NVC) affinities: U4 *Festuca ovina*-*Agrostis capillaris*-*Galium saxatile* grassland

Subsidiary Habitats Present: Standing and fallen deadwood, bare ground, ex-quarry exposed rock, mature Hawthorns at edge of site

Plant Communities Present:

Grassland Communities:

As already discussed, much of the site's more ecologically interesting grassland habitat occurred within the context of woodland ground-flora. The remaining grassland on the site comprised the mown sward habitat in and around the caravan pitches throughout the site. The sward here was largely improved amenity grassland dominated by Perennial Rye Grass *Lolium perenne* with other grasses including Smooth Meadow Grass *Poa pratensis*, Annual Meadow Grass, Common Bent Grass, Yorkshire Fog and herbs such as Daisy *Bellis perennis*, Creeping Buttercup, Greater

Plantain *Plantago major*, Procumbent Pearlwort *Sagina procumbens*, with species such as Selfheal *Prunella vulgaris* and Wavy Bitter-cress *Cardamine flexuosa* occurring occasionally.

More interesting was the grassland occupying the numerous banks at the woodland grassland interface at the edges of the clearings. The grassland here more closely resembled the acid grassland of the northern woodland border in composition but is kept short by a combination of mowing and rabbit grazing. Species recorded in this habitat included Common Bent Grass *Agrostis capillaris*, Sweet Vernal Grass *Anthoxanthum odoratum*, Sheep's Fescue *Festuca ovina*, Selfheal and Heath Bedstraw *Galium saxatile* as well as the more commonplace Daisy, Creeping Buttercup, Procumbent Pearlwort, Smooth Meadow Grass and Greater Plantain. Taller species such as Black Knapweed also occurred locally.

Woodland:

Scots Pine *Pinus sylvestris* dominated ex-plantation woodland characterised the site, occupying virtually the entire area with exception of the grassy clearings accommodating the main campsite areas and some small patches of acid grassland at the site's northern boundary. The area of woodland traversing the entirety of the northern boundary occupied strongly undulating terrain with steep hummocks and ditches resulting from former quarrying activities on the site. This was most apparent in the far north east of the site, where a steep, vegetated precipice occurred within the woodland.

Despite being primarily planted with conifers, the woodland supported some characteristic woodland plants. Of the species recorded, five are considered to be indicators of ancient woodland habitat. These indicator species are denoted in the text with an asterisk.

The entire woodland canopy, with the exception of a very small area of broadleaved woodland just south of the site entrance, was dominated by Scots Pine, the only other planted conifer recorded was European Larch *Larix decidua*, recorded only rarely towards the west of the site. The Scots Pine was generally planted at a moderate density over the site as a whole, thus allowing at least some light to penetrate through to the ground layer. The only other canopy tree was Pedunculate Oak *Quercus robur*, which occurred occasionally, especially close to the northern boundary of the site.

Smaller amounts of mature and sapling Pedunculate Oak also occurred in the understorey, the understorey being most noticeable at the edges of the wood, diminishing further into the interior. Mature to ancient Hawthorn *Crataegus monogyna* were a distinct feature of the site's northern boundary, defining the woodland boundary, less mature Hawthorn specimens also persisted beneath the canopy alongside other native species such as *Holly *Ilex aquilinum*, Elder *Sambucus nigra*, Silver Birch *Betula pendula* and Rowan *Sorbus aucuparia*. Grey Willow *Salix cinerea* was a locally abundant understorey component on and around the steep escarpment in the north east of the site, occurring infrequently elsewhere; Goat Willow *Salix caprea* was also occasionally recorded on the site. The only other tree species recorded in the understorey were Beech *Fagus sylvatica*, Sycamore *Acer pseudoplatanus* and Ash *Fraxinus excelsior*, however, these species were rare on the site.

Several species contributed to an intermittent scrub layer, dominated by Bramble *Rubus fruticosus* agg., which frequently formed extensive low patches, in between more extensive, sparsely vegetated areas. Other scrub species included Raspberry *Rubus idaeus*, European Gorse *Ulex europaeus* and Honeysuckle *Lonicera periclymenum*.

In some places, the boundary between the beginning and of the woodland ground flora and start of the grassland edge habitat was somewhat indistinct with the more open areas at the woodland edge on the northern boundary of the site having partially wooded grassy clearings penetrating into the typically poorly vegetated woodland interior (Figure 1).



Figure 1: Rabbit grazed woodland edge grassland

Dominant grassland species persisting here included Common Bent Grass and *Creeping Soft Grass *Holcus mollis* (increasingly dominant beneath the forest canopy). Other frequently occurring grasses included Sheep's Fescue, Sweet Vernal Grass, Annual Meadow Grass *Poa annua* and Cock's-foot *Dactylis glomerata* with herbs such as Sorrel *Rumex acetosa*, Creeping Buttercup *Ranunculus repens*, Tormentil *Potentilla erecta*, Heath Bedstraw, a Horsetail *Equisetum* sp. Ribwort Plantain *Plantago lanceolata*, Common Mouse-ear *Cerastium fontanum* and Creeping Thistle *Cirsium arvense*. Soft Rush *Juncus effusus* and Compact Rush *Juncus conglomeratus* and a species of Horsetail *Equisetum* sp. also occurred in the damper areas.

Further into the woodland, native woodland species became more prevalent with ferns such as Broad Buckler Fern *Dryopteris dilatata* and Lady Fern *Athyrium filix-femina* became increasingly abundant, with herbs including *Bluebell *Hyacinthoides non-scripta*, *Wood Sorrel *Oxalis acetosa*, Foxglove *Digitalis purpurea* and Red Campion *Silene dioica*, Climbing Corydalis *Corydalis claviculata*, Wavy Bitter-cress

Cardamine flexuosa and Wood Dock *Rumex sanguineus* and grasses such as Tufted Hair Grass *Deschampsia caespitosa* and *Bearded Couch Grass *Elymus canina*. Tall ruderal species often occurred in the more densely vegetated patches where Bramble scrub prevailed. These stands commonly comprised Rosebay Willowherb *Chamaenerion angustifolium* and Stinging Nettle *Urtica dioica* with Common Hempnettle *Galeopsis tetrahit* occurring less extensively. Bracken *Pteridium aquilinum* was very locally distributed, occurring as a dominant in the field layer only towards the northeast corner of the site. Mosses were abundant in certain parts of the site, but were not recorded to species level.

The woodland edges of the caravan park clearings often supported tall ruderal species typical of hedgerows. Besides the universal Bramble scrub with Rosebay Willowherb and Stinging Nettle, species recorded included Hedge Woundwort *Stachys sylvatica*, Broad-leaved Dock *Rumex obtusifolius*, Hogweed *Heracleum sphondylium*, Black Knapweed *Centaurea nigra*, Groundsel *Senecio vulgaris* and Chickweed *Stellaria media* were recorded. These habitat conditions provided important resources for nectaring invertebrate species such as hoverflies (Syrphidae) and bees (Apoidea).

The occurrence of Pedunculate Oak alongside Silver Birch and Rowan with characteristic ancient woodland ground flora species such as Wood Sorrel and Bearded Couch Grass and calcifuges such as Wavy Hair Grass, Heath Bedstraw and Tormentil, suggest that the site may have once been occupied by a habitat akin to upland oak woodland. No doubt, however, the complex history of quarrying and plantation woodland has considerably altered the complexion of the habitat.

To the southwest of the site, just south of the entrance gate was a small area of broad leaved woodland. Pedunculate Oak and Sweet Chestnut *Castanea sativa*. Hazel *Corylus avellana* also occurred here in a habitat reminiscent of ancient oak woodland.

Other:

The woodland habitat included an abundant resource of standing and fallen dead/decaying wood, frequently with standing pine stumps, in well lit situations favourable to decaying wood invertebrates. The numerous unvegetated sandy banks in and around the woodland edge also provided excellent potential for ground nesting insects such as solitary bees and wasps.



Habitat Evaluation

Historically, conifer plantations were often deliberately located in areas of poor-soil in inaccessible terrain of negligible agricultural / commercial value. These areas often originally supported nutrient-poor habitat such as heathland or slow growing or less productive broadleaved woodland, habitats that are valued most highly, in the modern landscape for their biodiversity value. Consequently, conifer plantations are often considered by the conservation establishment to be habitats of rather low ecological value occupying potentially important wildlife habitats.

However, in the wooded parts of the site Scots Pine, whilst being the dominant species, is fairly well spaced allowing sunlight to penetrate the forest canopy to ground level. In addition, a number of trees are mature and in certain instances remain

only as standing dead wood posts, a metre or two in height. Both the spacing of the trees and the presence of these mature and dead trees provide favourable conditions for wildlife, which to a certain extent offsets the negative values placed on plantation woodland by the conservation establishment. Decaying pine stumps (Figure 2) can provide habitat for a number of insect species, which live only in dead wood habitats. Also, several native birds favour coniferous trees above broad-leaved woodland habitat.



Figure 2: Deadwood habitat

Other than quarrying activity on the site, the historic, pre-plantation land use of the site was not clear. The five species considered to be indicators of ancient woodland that were recorded on the site, provide insufficient evidence that the site formerly supported ancient woodland. In addition, many of the banks and ditches on the site, often indicative of the boundaries of old woodland habitat, may be artefacts of the quarrying activities on the site, rather than being remnants of ancient woodland hedge banks.

Despite the planting of conifers, historic quarrying activities and current use as a Caravan Club site, Blackwall Plantation still supports some remnants of old acid grassland characteristic of unimproved upland habitat where it often occurs in mosaic with heather moorland communities. The acid grassland habitat conforms closely in species composition to U4 *Festuca ovina-Agrostis capillaris-Galium saxatile* grassland as classified by National Vegetation Classification (NVC). U4 grasslands

are classified as ‘priority habitat’ under the UK Biodiversity Action Plan (BAP). Future management should, consequently, aim to maintain and enhance the extent and condition of this habitat on the site.

Besides the species composition of the site, the rugged topography and areas of exposed bare earth created a range of microhabitats beneficial to a diversity of species. Such conditions are particularly favourable to invertebrates, which in turn provide food for insectivorous birds.

Future management of the site for wildlife in the long term presents something of a dilemma. The bulk of the site could be managed as woodland, perhaps with the ultimate aim of it reverting to native broadleaved woodland, the pines gradually being replaced by broadleaved trees such as native oaks, birch, Rowan and other trees characteristic of upland woodland on more acid soils. Another alternative might be to gradually phase out the conifer plantation allowing a more open acid grassland habitat to develop.

At the time of survey although many of the pines recorded were mature; younger pine trees, either self seeded or planted were colonising some areas of the site, creating shade and perpetuating the dominance of this tree species at the expense of more naturally occurring broadleaved trees and grassland habitats. The most beneficial management in the short term would be to thin the denser, recently colonised woodland by selectively felling a proportion of the younger pines. Whatever woodland management approach is favoured, priority should be given to preventing the encroachment of woodland and scrub onto the acid grassland habitats occurring predominately along the site’s northern boundary.



Species Information

BAP Species Seen: None

BAP Species Potential: Barn Owl *Tyto alba* has been recorded on the site. Bats are known to frequent the shores of the nearby Carsington reservoir.

Other Noteworthy Species: Bluebell *Hyacinthoides non-scripta*, Wood Sorrel *Oxalis acetosa*, Bearded Couch-grass *Elymus canina*, a solitary wasp (*Sphecidae* sp.), Goldcrest *Regulus regulus*, Garden Warbler *Sylvia borin*, Great Spotted Woodpecker *Dendrocopus major*, Stoat *Mustela erminea*, Badger *Meles meles*

Flora:

The site’s flora was more interesting in community terms than for the rarity of any particular species. The woodland habitat supported several characteristic woodland species such as Bluebell, Wood Sorrel and Bearded Couch Grass with species such as Climbing Corydalis, Common Hemp-nettle and Hedge Woundwort (Figure 3) occurring at the woodland edge. The key species of the more acid grassland habitat included Common Bent Grass, Sheep’s Fescue and Sweet Vernal Grass alongside typical acid grassland herbs such as Tormentil *Potentilla erecta* and Heath Bedstraw.

NB: The survey was conducted rather late in the season to record many of the more ephemeral woodland ground flora species. Further surveys conducted between April and May may reveal a greater range of woodland ground flora species.



Figure 3: Hedge Woundwort, a typical woodland edge and hedgerow species

Avifauna:

The mature and over-mature pine trees on the site provides a good foraging resource and cover for insectivorous and seed-eating birds. Species recorded feeding in the woodland canopy during the survey included Goldcrest *Regulus regulus*, Coal Tit *Parus ater*, Blue Tit *Parus caeruleus*, Great Tit *Parus major* and Garden Warbler *Sylvia borin* spotted in more deciduous understorey habitat close to the site's northwest entrance. Other species recorded throughout the woodland included Chaffinch *Fringilla coelebs*, Wren *Troglodytes troglodytes* which frequented the scrub, Robin *Erithacus rubecula*, Dunnock *Prunella modularis* and Wood Pigeon *Columba palumbus*.

Other species recorded by the warden at the site included Great Spotted Woodpecker *Dendrocopus major* and Barn Owl *Tyto alba*. The site supported plenty of suitable foraging habitat and potential nesting habitat for woodpeckers and other woodland birds.

Invertebrates:

The site supported excellent potential invertebrate habitat resources. These included the resource of bare earth and sparsely vegetated banks in sunny, sheltered conditions, woodland edge nectar resources with flowering plants provided by Bramble blossom and flowers of species such as umbellifers, willowherbs and composites such as Black Knapweed. The abundant Hawthorn at the woodland edge undoubtedly provides a valuable early summer nectar resource for many species including ground-nesting

solitary bees and wasps, beetles, flies and bugs. There was plenty of standing and fallen decaying wood on the site, the stumps of conifers were frequently found in fairly open conditions often with evidence of utilisation by wood boring beetles including bark beetles, as well as larger species, possibly longhorn beetles. A solitary wasp was seen entering a hole bored in the trunk of a mature pine along the site's southern boundary.

The weather conditions at the time of survey were sub-optimal for recording invertebrates, being somewhat cool and showery. Due to this and as invertebrate surveying was rather peripheral to the survey's main aim, which was to assess habitat from a more botanical perspective, few invertebrates were recorded.

In the sunny woodland edge and more open woodland interior several common species of hoverfly (Syrphidae) were recorded, these included a species of the genus *Xylota*, hoverflies characteristic of woodland habitats, as well as more generalist species such as the Marmalade Hoverfly *Episyrphus balteatus*, the hoverfly *Syrphus ribesii* and Droneflies *Eristalis* spp. Hoverflies and other warmth loving and nectar feeding invertebrate assemblages occurred wherever there were suitable food resources in sunny conditions. Common bumblebees including Buff-tailed Bumblebee *Bombus terrestris* and Common Carder Bee *Bombus pascuorum* were recorded frequently in these conditions. A Common Hawker Dragonfly *Aeshna juncea* was recorded hunting on the site. This species typically breeds in upland lakes in acidic conditions such as moorland habitat. Only one species of grasshopper, the Field Grasshopper *Chorthippus brunneus* was recorded, though it is likely that at least one other species occurs here. There is plenty of suitable habitat in both the mown grassland verges and the taller grassland habitat.

Herptofauna:

No species of reptile or amphibian was recorded on the site at the time of survey. The drier woodland edge grassland habitat, however, provides suitable habitat for reptiles such as Common Lizard *Lacerta vivipara* and the Bramble scrub edge habitat in drier conditions provides potentially suitable habitat for Adder *Vipera berus* and Slow Worm *Anguis fragilis*. The habitat is also potentially suitable for Grass Snake *Natrix natrix*, this species more commonly associated with wetland habitats can also occur in drier areas on sandy soils and scrub. The close proximity to wetland habitat at the lake edge may increase the chances of this species occurring here. Furthermore, although there were no ponds on the site, the numerous hiding places in tree roots, under fallen deadwood and crevices beneath rocks and stones within the woodland habitat provide suitable refuges and hibernation sites for amphibians such as Common Toad *Bufo bufo* and newts *Triturus* spp. The chance of amphibians occurring is increased by the close proximity to the Carsington Reservoir.

Mammals:

The only mammals recorded during the survey were Rabbit *Oryctolagus cuniculus* and Grey Squirrel *Sciurus carolinensis*. Other mammals frequently recorded on the site include Fox *Vulpes vulpes*, Stoat *Mustela erminea* and Badger *Meles meles*. There appeared to be an active Badger sett in the far west of the site. Carsington Reservoir, situated about 500 metres north of the site is said to have important bat habitat, a bat group regularly convening here, however, there are no records of Bats on the site. The

wooded habitat and especially some of the steep, vegetated scarps, provide potential bat roosts and hibernacula on the site.



Species Evaluation

At the time of survey the weather conditions were suboptimal for the recording of certain animals, in particular warmth-loving fauna such as most reptiles and many invertebrates.

The types of habitat present, particularly the microhabitats created by combinations of rugged topography, shelter from trees and scrub and patches of exposed sand in sunny conditions, indicate that the site has strong potential for invertebrates.

Evidence of wood boring beetles and bark beetles, probably including species of the longhorn beetle (Cerambycidae) and bark beetle (Scolytidae) families, could be seen in some of the more decayed pine stumps. The evacuated burrows of these beetles were being utilised by solitary wasps probably of the genus *Crossocerus* or *Ectemnius* an example of which was seen entering a hole on a decaying Scots Pine trunk. Species associated with dead and dying wood have suffered decline in the UK in recent years due largely to changes in forestry management. Whilst not necessarily rare in themselves, the presence of examples from these groups indicates that the site already supports valuable invertebrate habitat. Dead wood habitat also provides important foraging and nesting habitat for woodpeckers, as well as species such as Nuthatch *Sitta europaeus* and Treecreeper *Certhia familiaris*.

The most interesting bird species recorded during the survey included Goldcrest and Garden Warbler. The Goldcrest is a species which favours pine woodland over broadleaved woodland whilst the Garden Warbler prefers more open, scrubby broadleaved woodland for breeding. Barn Owl is reputed to use the site. This BAP Priority Species is more typically associated with more open habitats, where it often nests in barns. Appropriate owl nesting boxes erected at the woodland edges away from the general camping areas may encourage owls to nest on the site.

Mammals such as Badger and Stoat add some interest to the site. The former probably occupies the sett in the far west corner of the site, the more secluded part of the site's woodland. Although no bats have been recorded on the site, a bat group apparently meets close to Carsington Reservoir and bats may well use the site for roosting or hunting. The potential of the site for bats could easily be enhanced by erecting bat boxes on trees over the site.

Management Recommendations

- Prevent further encroachment of scrub and trees such as pine and birch onto the patches of acid grassland, particularly along the western site boundary (overlooking Carsington Reservoir). Small pine trees, in particular should be felled. The stumps do not require treatment as, unlike many deciduous trees, pines do not regenerate once felled. The stumps should be left to allow

colonisation by fungi and deadwood invertebrates. Felling and scrub clearance should be conducted between October and early February, to avoid the potential risk to nesting birds.

- Selective thinning of trees: Within the woodland selective thinning of pines (especially younger trees) should be conducted particularly in heavily shaded areas to create more open conditions enabling a wider range of ground flora to persist. (timescale as above). It may also be necessary to thin some of the broadleaved species such as birch, where dense stands of saplings persist.
- At the time of the survey, the acid grassland evidently received sufficient grazing by rabbits. However, additional management would be beneficial in areas where the grassland is becoming tall and rank. An annual hay-cut (strimming or hand cutting) would ideally be conducted in September, the cut hay should be raked and removed from the site (avoid depositing piles of cuttings in the woodland area, as this causes unwanted nutrient build-up and may obstruct the development and flowering of woodland plants).
- Where possible, create and maintain wide margins of longer sward at the currently mowed woodland edges. This will promote a greater diversity of habitat structure and enable flowering hedgerow plants to flourish, providing a vital nectar resource for bees, butterflies and other insects.
- Leave at least some fallen and standing deadwood *in situ*, this provides habitat for dead wood invertebrates, which, in turn provides a valuable food resource for insectivorous woodland birds such as woodpeckers and warblers. Outside of the breeding season in spring, fallen dead wood also provides shelter for amphibians such as Great-crested Newts *Triturus cristatus* and Common Toad.
- Maintain bare earth patches in the grassland areas of the site especially on gentle slopes in sheltered sunny locations at the edges of the caravan pitches.

Further Suggestions to Enhance the Wildlife Value of the Site

- Position bird nest boxes in suitable locations both in the open caravan park and along the woodland rides, to provide nesting sites for birds and enhance the site's interest for campers.
- Consider erecting Barn Owl nesting boxes in secluded parts of the woodland edge.
- Position bat boxes within the woodland area to provide roosts (to compliment the existing roosts) and encourage bats in the woodland.
- Consider positioning bug boxes (boxes containing short lengths of bamboo. Insects such as solitary bees and wasps can use the bamboo tubes for nesting) these can be fixed onto trees in sheltered locations at the woodland edge.

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- Consider promoting the wildlife value of the site as a feature by providing interpretation material (leaflets /posters) and /or setting up a nature trail through the woodland.

Further Survey or Information Requirements

- Further invertebrate surveys, particularly to record species such as solitary bees and wasps and deadwood invertebrates are highly recommended.
- Further specialist surveys of lower plants, mosses in particular are recommended.
- Specialist bat surveys to establish the species of bat and suitability of habitat for bats on the site.
- Additional botanical survey of the woodland habitat carried out between mid April and May to establish the presence of more ephemeral ground-flora species.
- Providing a book and encouraging visitors to record incidental wildlife sightings would help to monitor the wildlife on the site, and would highlight the interest features on the site.