



*CARAVAN CLUB ECOLOGICAL
SITE APPRAISAL*



**Longleat Caravan Club Site
Warminster
BA12 7NL
England**



General Information

Site name and county: Longleat Caravan Club, Wiltshire

Grid reference: ST 806 434

Area: 5.7 hectares

Date: 29th May 2003

Recorder: Dr James Riley and Jessica Arnold, Ecologists with Just Ecology Environmental Consultancy.

Weather Conditions: Sunny and warm with a slight breeze.

Site description

The site consists of tarmac and gravel pitches surrounded by short, regularly mown grassy areas used for recreation with tarmac-surfaced roads serving the pitches. The site has thin strips of woodland around its boundaries. The Longleat railway runs along the eastern side of the site. The northern part of the site opens into an area of mature semi-natural woodland on the Longleat estate, but managed by the Caravan Club, which is used for dog walking.

Context

The caravan site is set amongst the landscaped parkland and woodland of the Longleat Estate surrounding the ancestral home of the Marquesses of Bath. The safari park and other attractions of the Estate are nearby. The wider countryside consists of farmland, both arable land and pasture and has a very rural feel.



Habitat information

Broad habitats present: Improved grassland; mixed woodland; amenity grassland.

BAP priority habitats present: Lowland beech and yew woodland, purple moor grass and rush pasture-related

Subsidiary habitats present: None.

Plant communities present

Grassland communities

Most of the grassland on site is resown and species-poor MG6 (*Lolium perenne* – *Cynosurus cristatus*), containing perennial rye grass (*Lolium perenne*), crested dog's tail (*Cynosurus cristatus*), creeping buttercup (*Ranunculus repens*), rough meadow-grass (*Poa trivialis*), cocksfoot (*Dactylis glomerata*) and daisy (*Bellis perennis*).

Woodland

The dog-walk area is a good example of W10 (*Quercus robur* – *Pteridium aquilinum* – *Rubus fruticosus*) woodland with areas of soft rush (*Juncus effusus*)-dominated M23 (*Juncus effusus/ acutiformis* – *Galium palustre*) in the wetter clearings. This latter community also includes tufted hair-grass (*Deschampsia cespitosa*), thin-spiked wood sedge (*Carex strigosa*), great willowherb (*Epilobium hirsutum*), pendulous sedge (*Carex pendula*) and a small amount of plicate sweet grass (*Glyceria plicata*).

The entrance to the dog walk has numerous large veteran oaks while the woodland itself has much pedunculate oak (*Quercus robur*) along with holly, hazel (*Corylus avellana*), elder (*Sambucus nigra*), sycamore (*Acer pseudoplatanus*), hawthorn (*Crataegus monogyna*), beech (*Fagus sylvatica*), large-leaved lime (*Tilia platyphyllos*) and brooklime (*Veronica beccabunga*). The ground flora is diverse, including ground ivy (*Glechoma hederacea*), broad-leaved dock (*Rumex obtusifolius*), bramble (*Rubus* agg.), common male fern (*Dryopteris filix-mas*), ivy (*Hedera helix*), wood avens (*Geum urbanum*), lily of the valley (*Convallaria majalis*), Yorkshire fog (*Holcus lanatus*), rough meadow grass (*Poa trivialis*), meadow foxtail (*Alopecurus pratensis*), creeping bent (*Agrostis stolonifera*), cock's foot (*Dactylis glomerata*), common bent (*Agrostis capillaris*), germander speedwell (*Veronica chamaedrys*), creeping buttercup (*Ranunculus repens*), herb robert (*Geranium robertianum*), red campion (*Silene dioica*), wood speedwell (*Veronica montana*), lords and ladies (*Arum maculatum*), white dead nettle (*Lamium album*), common figwort (*Scrophularia nodosa*), dogs mercury (*Mercurialis perennis*)

and large amounts of common nettle (*Urtica dioica*), wood anemone (*Anemone nemorosa*), bluebell (*Hyacinthoides non-scripta*) and wild garlic (*Allium ursinum*).

The dense group of trees at the north-western corner of the site proper (near to the dog walk entrance) includes blackthorn (*Prunus spinosa*), grey alder (*Alnus incana*), elder and hawthorn. There is also a small wooded area within the south-western corner of the site, containing many of the species already named along with several large-leaved limes and a small amount of aspen (*Populus tremula*). The ground flora here is of little botanical interest and includes meadow foxtail, creeping bent, cleavers (*Galium aparine*), common nettle, broad-leaved dock, black bent (*Agrostis gigantea*) and cock's foot.

Moving east from here along the northern side of the site is a wooded pathway that continues along the eastern perimeter adjacent to a small railway track. The trees here are mainly hazel, elder, aspen and grey alder. The understorey is of little botanical interest and includes wood avens, hogweed (*Heracleum sphondylium*), creeping bent, meadow foxtail, rough meadow grass and small amounts of tufted hair grass and a single patch of bugle (*Ajuga reptans*).

Outside the north-western perimeter of the site is a brook/river which is not accessible from the Caravan Club site. A wooded strip consisting mainly of alder (*Alnus glutinosa*), grey alder, hawthorn and blackthorn runs between the Caravan Club site and the river.

Hedgerows and stand-alone trees:

The hedgerows on the site are dense and consist mainly of hawthorn with a poor understorey of cleavers, bramble, Yorkshire fog, common nettle and occasional field forget-me-not (*Myosotis arvensis*) and herb robert. Near the entrance to the site there are also stand alone European lime and young pedunculate oak trees.

Across the site there are other relatively mature solitary native trees (or small groups of trees) including osier, beech, ash, lime, crab apple, blackthorn, dog rose, aspen, horse chestnut, field maple and alder, plus numerous introduced species.

Brook habitat:

A heavily shaded brook runs west-east between the dog walk area and the site proper. Its banks are densely covered mainly by hazel and beech, along with pedunculate oak, field rose (*Rosa arvensis*), holly, elder and hawthorn. The ground flora on the banks includes ground ivy, wood speedwell, bluebell, common male fern, pendulous sedge and wild garlic.



Habitat evaluation

The dog-walk area has a good mix of native tree species including several impressive oaks, an interesting ground flora including carpets of bluebells and wood anemone and areas that bear resemblance to the purple moor grass and rush pasture BAP habitat. The structure is good with trees of a range of ages, significant amounts of dead wood, and shrubs such as bramble. The rest of the site is less botanically interesting in comparison, although there is a good mix of native tree species elsewhere on the site. The grassland areas, however, are species-poor and have considerable potential for improvement.



Species information

Flora: There is good species diversity in the dog walk area, but the rest of the grassland is species poor. No rare species were found on the site.

Avifauna: The woodland and trees surrounding the stream provide a good habitat for many birds. The diversity of birds is likely to be high on this site and more time spent on site would probably yield a large list of bird species. On the day of the site visit the following species were seen: nuthatch (*Sitta europaea*), long tailed tit (*Aegithalos caedatus*), wren (*Troglodytes troglodytes*), chaffinch (*Fringilla coelebs*), blackcap (*Sylvia atricapilla*), robin (*Eritacus rubecula*), blackbird (*Turdus merula*), great tit (*Parus major*) and mistle thrush (*Turdus viscivorus*). The bird song was particularly noticeable despite the high levels of noise and activity from caravanners on the day of the site visit.

Invertebrates: No butterflies were seen on the day of the site visit although small skipper (*Thymelicus sylvestris*) could possibly breed in the dog walk area. The brook is probably too shaded to be of value as a breeding site for dragonflies.

Herpetofauna: Common frog (*Rana temporaria*) and common toad (*Bufo bufo*) may be found on site especially around the ditch area. None found at the time of the site visit.

Mammals:

Badger (Meles meles)

A badger sett was discovered in the woodland adjacent to the site. The sett is amongst the roots of an oak tree next to the fence and is located within 10 m of the caravan pitches. There is one main hole with lots of dung and bedding scraped out at the entrance. Badger hair was also found at the sett entrance. A well used trail leads behind the sett along the fence line and trails also lead underneath the fence to the ditch. Badger dung pits and snuffle holes were also found in the woody strip alongside the ditch indicating that they use this area to forage in. Badgers also seem to venture onto the caravan site itself as a dung pit was found on the grass near to a hole in the hedge on the western boundary of the site.



Badger sett within the roots of an oak tree at Longleat Caravan Site

Bats

A number of mature trees on the site were thought suitable for bats to roost in, these were mainly oaks within the woodland dog walk but also a clump of large oaks near to the exit of the site have bat roost potential. Staining which could be from bat droppings and grease from fur was seen below a hole in a large oak tree, it is possible that this tree supports a bat roost, further inspection of the tree and evening emergence surveys would be needed in order to confirm this.



Tree with hole and staining – a potential bat roost

Other

A roe deer (*Capreolus capreolus*) was seen in the woodland alongside the stream. Small mammals, such as bank vole (*Clethrionomys glareolus*) and wood mouse (*Apodemus sylvaticus*) are also likely to be present as well as rabbits (*Oryctolagus cuniculus*).

The stream running alongside the site may be used by otter (*Lutra lutra*) to travel across the countryside. Although it has wooded banks to provide shelter and is fairly secluded, the water quality seems poor and it is likely that rivers nearby (such as the Frome) would be suitable for otters to inhabit on a more permanent basis.

BAP species seen: None.

BAP species potential: Six species of bat are covered in the Wiltshire Biodiversity Action Plan. Wiltshire is a stronghold for several rare species, including greater horseshoe (*Rhinolophus ferrumequinum*) and lesser horseshoe (*Rhinolophus hipposideros*), barbastelle (*Barbastella barbastellus*) and Bechstein's (*Myotis bechsteini*). Summer and winter roosts have been located in Wiltshire (Wiltshire BAP). Although it is unlikely that these species are present on the caravan site others may be present, such as pipistrelle (*Pipistrellus pipistrellus*) and natterer's (*Myotis nattereri*).

Other notable species: None seen.



Species evaluation

The grassland on site is generally species-poor and is kept very short by frequent mowing. Most of the grassland has been improved through reseeding and nutrient enrichment. There is high species diversity amongst the established trees on site and there is a good understorey in the dog walk area.

Management recommendations

- There is considerable potential for improving the botanical value, and therefore aesthetic appeal, of the grassland away from the edges. This could be done in one of two ways:
 - The first would involve stripping the existing turf in parts of the site (in order to remove both the existing species and the topsoil layer), creating a fine seedbed and broadcasting a locally sourced wildflower seed mix (Appendix I) onto the bare ground.
 - The second would involve broadcasting of the same locally sourced wildflower seed mix into the existing sward. Harrowing of the existing turf would be required in order to create gaps for seedling germination. The sward would need to be mown quite short prior to harrowing and broadcasting and kept short for the first 10 days after broadcasting in order to reduce competition to the germinating seedlings from the established grasses. No fertilisation would be required.

The former method is the most reliable; the latter method is a less disruptive way to increase the wild flower value of the sward, but carries the risk that a greater proportion of the seed will fail to establish both due to competition from the existing grasses and to the higher fertility of the soil.

Seed rates would not need to be high – 2 to 6 grams per square metre is a typical seed rate for this form of diversification.

If a mix with low growing species is used, the sward can be maintained as a short lawn from October to April and mown infrequently (i.e. every six to eight weeks) during the growing season in order to maintain an average height of roughly 10 cm.

- Removal of grass cuttings instead of leaving them in situ. This will help to gradually reduce the fertility of the soil and coarse grass species will cease to out-compete the finer, less vigorous grasses and wildflowers.

Further suggestions to enhance the wildlife value of the site

- Placing of bat and bird boxes within the woodland area and on trees or buildings across the site.
- If possible, the water quality of the stream could be improved. This may encourage more aquatic plants to colonise and also attract dragonflies, damselflies and other aquatic invertebrates and generally improve the health of the river and associated habitats and species.
- Creation of a relatively shallow pond (certainly no smaller than 4 m² and no shallower than 2.5 feet at its deepest point), would encourage amphibians (newts, frogs and toads) and dragonflies (potentially including the azure damselfly, common darter dragonfly, blue-tailed damselfly and broad-bodied chaser dragonfly). Any pond that is constructed should:
 - Be made of natural materials as much as possible.
 - Be sheltered from the wind, but not the sun.
 - Not be overshadowed by trees, or it will fill with leaves.
 - Have tall (not closely mown) grass and some bushes surrounding it in order to provide cover for amphibians and perching sites for dragonflies.
 - Have sloping and irregular sides (rather than steep and flat ones).
 - Have a mixture of bankside, emergent and submerged aquatic plants, although the actual choice of species to plant is less important (Appendix II).
 - Not be stocked with fish (as they are major predators)
 - Part of it (no more than 25%) should be cleared of emergent and submerged vegetation in autumn/winter each year in order to retain areas of open water while at the same time maintaining some aquatic vegetation and structural variation.

Survey or further information requirements

None required.

Appendix I. Example list of low-growing wildflower species that could be sown to enhance the botanical interest of the grassland and be attractive to butterflies.

Yarrow	<i>Achillea millefolium</i>
Black medick	<i>Medicago lupulina</i>
Salad burnet	<i>Sanguisorba minor</i>
Selfheal	<i>Prunella vulgaris</i>
Birdsfoot trefoil	<i>Lotus corniculatus</i> (foodplant for dingy skipper, grizzled skipper, small blue, brown argus, pearl bordered fritillary, common blue butterflies)
Kidney vetch	<i>Anthyllis vulneraria</i> (foodplant for small blue, common blue butterflies)
Cowslip	<i>Primula veris</i>
Lady's bedstraw	<i>Galium aparine</i>
Sheep's fescue	<i>Festuca ovina</i>
Wild thyme	<i>Thymus praecox</i> (foodplant for brown argus, common blue, wall brown butterflies)
Sweet vernal grass	<i>Anthoxanthum odoratum</i>
Ribwort plantain	<i>Plantago lanceolata</i>
Devil's bit scabious	<i>Succisa pratensis</i>
Common vetch	<i>Vicia sativa</i>
Common cat's ear	<i>Hypochaeris radicata</i> (foodplant for wall butterfly)
Common sedge	<i>Carex nigra</i>
Yellow rattle	<i>Rhinanthus minor</i> (NB seed from this species must be chilled before sowing)
Quaking grass	<i>Briza media</i>
Dog violet	<i>Viola riviniana</i> (foodplant for pearl bordered fritillary)
Meadow buttercup	<i>Ranunculus acris</i>
Red clover	<i>Trifolium pratense</i> (foodplant for bees and small skipper butterfly)
Yorkshire fog	<i>Holcus lanatus</i> (foodplant for small skipper and wall butterflies)

For the edges of the grassland, which do not need to be short, taller wildflowers such as oxeye daisy (*Leucanthemum vulgare*), wild carrot (*Daucus carota*), field scabious (*Knautia arvensis*) and meadowsweet (*Filipendula ulmaria*) could be added to the mix.

Appendix II. Example list of pond plants

Because many ponds contain non-native, potentially invasive plants or non-native animals, introducing plants from another pond should be done so using extreme care making sure that they do not contain such species. It is unwise, and in the case of some species illegal, to introduce or assist the spread of non-native invasive organisms. A list of **suitable** plants include:

Submerged:

spiked water-milfoil *Myriophyllum spicatum*
whorled water-milfoil *M. verticillatum*
curled pondweed *Potamogeton crispus*
hornwort *Ceratophyllum demersum*
water starwort *Callitriche stagnalis*
common spike-rush *Eleocharis palustris*
willow moss *Fontinalis antipyretica*
maretail *Hippurus vulgaris*
water violet *Hottonia palustris*
water crowfoot *Ranunculus aquatilis*

Floating:

white water lily *Nymphaea alba*
ivy-leaved duckweed *Lemna trisulca*
frogbit *Hydrocharis morsus ranae*
water soldier *Stratiotes aloides*

Emergent:

yellow iris *Iris pseudacorus*
meadowsweet *Filipendula ulmaria*
purple loosestrife *Lythrum salicaria*
rushes *Juncus spp*
sedges *Carex spp*
greater spearwort *Ranunculus lingua*
water mint *Mentha aquatica*
water forget-me-not *Myosotis scorpioides*