



*CARAVAN CLUB ECOLOGICAL
SITE APPRAISAL*



**River Breamish Caravan Club Site
Powburn
Alnwick
Northumberland
NE66 4HY
England**



General Information

Site Name and County: River Breamish, Northumberland

Grid Reference: NU051169

Area: 4ha with adjacent 6ha nature reserve

Date: 04/08/04

Recorder: Rodney West and Harriet Whittle, Ecologists with Just Ecology Environmental Consultancy.

Weather Conditions: Overcast but warm.

Site Description

Most of the site comprises areas of mown grass with a tarmac access road. There are a few hard pitches of gravel. The site has a woodland nature reserve with two lakes at its northern edge and the River Breamish forms the northern boundary. In places the groups of pitches are interspersed with small areas of low-growing native and ornamental shrubs and patches of rough grassland.

Context

The site lies beside the River Breamish at Powburn, and the northern edge of the site is a sizeable wooded nature reserve of 6ha which visitors can access. The River Breamish forms part of the Tweed Catchment Rivers SSSI – this fast-flowing tributary of the River Tweed is notified on account of its high ecological value; particularly aquatic plant communities, otter habitat, salmon, trout and lamprey. Isolated populations of water vole occur within the catchment and abundant insect life provides feeding ground for bats. Hannah’s Hill SSSI and The Alders and Lilburn Valley Junipers SSSI are both within 6km of the site and both are notified for relics of Juniper woodland and scrub. The site is on the edge of the Northumberland National Park and within easy reach of the towns of Wooler and Alnwick. Quarryhouse Moor Ponds SSSI, situated approximately 5km north east of the site is notified for all three newt species, mature alder woodland and also heather moorland habitats.



Habitat Information

Broad Habitats Present: Amenity grassland, broadleaved woodland, wet woodland, river and lakes.

BAP Priority Habitats Present: Wet woodland, open water,

Subsidiary Habitats Present: Dead wood

Plant Communities Present:

Grassland Communities:

The grassland where pitches are sited is species poor. Perennial rye grass (*Lolium perenne*) is the dominant species with occasional annual meadow grass (*Poa annua*), white clover (*Trifolium repens*) and daisy (*Bellis perennis*). Where mown grassland meets native shrub planting, several areas of longer grass have been left to create a transition zone between habitats. Here the grassland becomes slightly more diverse with creeping thistle (*Cirsium arvense*), bent grass (*Agrostis* spp.), yarrow (*Achillea millefolium*), false oat-grass (*Arrhenatherum elatius*), yorkshire fog (*Holcus lanatus*) and occasional timothy (*Pbleum pratense*), ribwort plantain (*Plantago lanceolata*), germander speedwell (*Veronica chamaedrys*), tall fescue (*Festuca arundinacea*), common sorrell (*Rumex acetosa*) and cock’s foot (*Dactylis glomerata*).

A clearing within the native shrub planting contained; broad-leaved dock (*Rumex obtusifolius*), greater bird’s-foot trefoil (*Lotus uliginosus*), smooth tare (*Vicia tetrasperma*), rosebay willow herb (*Chamaenerion angustifolium*), hedge bindweed (*Calystegia sepium*),

meadow thistle, hop trefoil (*Trifolium dubium*), ragwort (*Senecio jacobaea*), common hemp-nettle (*Galeopsis tetraheite*), common mouse-ear (*Cerastium fontanum*) and common cat's ear (*Hypochoeris radicata*). Three rowan (*Sorbus aucuparia*) saplings had recently been planted in this area.

Native shrub planting:

Well-established native shrubs and trees have been planted between groups of pitches and also in a wide margin along the southern (roadside) boundary of the site. There were also several 'islands' of native shrub planting. Species used throughout were predominantly rowan, gorse (*Ulex europaeus*), broom (*Sarothamnus scorpioides*), hawthorn (*Crataegus monogyna*), and occasional young corsican pine (*Pinus nigra*), alder (*Alnus glutinosa*), Swedish white beam (*Sorbus intermedia*), hazel (*Corylus avellana*), field rose (*Rosa arvensis*) and hornbeam (*Carpinus betulus*). At the roadside edge of the site ash (*Fraxinus excelsior*) and sycamore (*Acer pseudoplatanus*) trees provided a taller shelter-belt which graded into lower shrubs mentioned above.

Woodland and scrub:

Woodland formed the majority of the nature reserve part of the site and was a mosaic of secondary broadleaved woodland with pockets of wet woodland close to streams and the two lakes and also several sizeable areas of scrub with a diversity of bird life.

Secondary broad-leaved woodland was predominantly Sycamore, most likely planted around 1978 when the Caravan site was established. Some ash (*Fraxinus excelsior*) and rowan was also noted in the canopy and understorey. The ground flora was scrubby with yorkshire fog (*Holcus lanatus*), nettle (*Urtica dioica*), common hemp nettle (*Galeopsis tetraheite*), cleavers (*Galium aparine*), lesser burdock (*Arctium minus*), broad-leaved dock, wood speedwell (*Veronica montana*), germander speedwell (*Veronica chamaedrys*), creeping buttercup (*Ranunculus repens*), false oat-grass (*Arrhenatherum elatius*), cock's foot, rosebay willowherb, field forget-me-not (*Myosotis arvensis*) and bramble.

Several clearings had been created within the woodland, the largest of which was kept closely mown and formed a picnic and play area. Rough grass and scrub surrounded the closely mown grass and rosebay willowherb, nettle, hawthorn, false oat-grass, hogweed, ribwort plantain (*Plantago lanceolata*), spear thistle (*Cirsium vulgare*), creeping buttercup, yorkshire fog, bramble, white clover, ragwort, yarrow (*Achillea millefolium*), wild Raspberry (*Rubus idaeus*), common mouse-ear and red dead-nettle (*Lamium purpureum*) were found.

A footpath from the play area led into a large expanse of scrub dominated by rosebay willowherb, silver birch (*Betula pendula*), gorse and broom. Wildflowers and long grass between the shrubs was made up of greater stitchwort (*Stellaria holostea*), meadow vetchling (*Lathyrus pratensis*), dog rose (*Rosa canina*), false oat-grass, knapweed (*Centaurea nigra*), soft rush (*Juncus effusus*), timothy, spear thistle, sweet vernal-grass (*Anthoxanthum odoratum*), tufted hair-grass (*Deschampsia caespitosa*), common sorrel (*Rumex acetosa*), hare's tail clover (*Trifolium arvense*), common mouse-ear, elder (*Sambucus nigra*), wood sage (*Teucreum scorodonia*), selfheal (*Prunella vulgaris*), tufted vetch (*Vicia cracca*), giant fescue (*Festuca gigantea*), lousewort (*Pedicularis sylvatica*), red bartsia (*Odontites vernus*), red campion (*Silene dioica*), yarrow and foxglove (*Digitalis purpurea*).

Wet woodland:

Small areas of wet woodland occurred within the nature reserve area. These were close to the large lake inlet/outlet and a fairly large area surrounding the small lake on the north-western part of the site.

Alder (*Alnus glutinosa*), goat willow (*Salix caprea*), crack willow (*Salix fragilis*), hedge bindweed, meadow-sweet (*Filipendula ulmaria*), greater bird's-foot trefoil, lousewort, white dead-nettle (*Lamium album*), pepper saxifrage (*Silaum silaus*), common vetch (*Vicia sativa*), rosebay willowherb, tufted hair-grass, yorkshire fog, knapweed, butter-bur (*Petasites hybridus*) and american willow-herb (*Epilobium adenocaulon*).

Open grassy areas within the wet woodland contained species such as silver-weed (*Potentilla anserina*), crosswort (*Cruciata laevipes*), creeping soft-grass (*Holcus mollis*), meadow vetchling (*Lathyrus pratensis*), sharp-flowered rush (*Juncus acutiflorus*), bush vetch (*Vicia sepium*), wood small-reed (*Calamagrostis epigeois*), water mint (*Mentha aquatica*), spear thistle, dandelion (*Taraxicum officinale* agg.) and bent grass (*Agrostis* spp.). Herb robert (*Geranium robertianum*), enchanter's nightshade (*Circaea lutetiana*), soft rush, meadowsweet, pepper saxifrage, remote sedge (*Carex remota*), nipplewort (*Lapsana commmunis*), wood speedwell (*Veronica montana*) and male fern (*Dryopteris felix-mas*), common sorrel, broad-leaved dock and marsh woundwort (*Stachys palustris*) were recorded less frequently.

Wetland:

Typical wetland vegetation surrounded the large and the small lake. Crack willow, goat willow and alder were the dominant tree species but in open areas and immediately adjacent to the lake a ground flora of bent grass, yorkshire fog, soft rush, sharp-flowered rush, reed canary grass (*Phalaris arundinacea*), wood small-reed, lesser spearwort (*Ranunculus flammula*), water mint (*Mentha aquatica*), brooklime (*Veronica beccabunga*), forget-me-not, american willow herb, horsetail (*Equisetum* spp.), common cat's ear (*Hypochoeris radicata*), white campion (*Silene alba*), yellow archangel (*Lamiastrum galeobdolon*), meadow thistle and meadow-sweet had developed.

Vegetation at the margin of the smaller lake comprised broad-leaved pond weed (*Potamogeton natans*), sharp-flowered rush, yorkshire fog, creeping buttercup, greater stitchwort, tufted hair-grass, common hemp-nettle, common mouse-ear, weld (*Reseda lutea*) and knapweed.



Lakeside vegetation viewed from the bird hide



Kingfisher (*Alcedo atthis*)



Habitat Evaluation

The site had an excellent diversity of habitats. Although the nature reserve was a great asset to the biodiversity of the site, the habitats surrounding the caravan pitches and buildings were also managed with consideration for biodiversity. Native shrub planting surrounds the site and also forms small islands and divisions between pitches. Where these border the mown grass, transition zones of longer grass have been left for the benefit of invertebrates and small mammals.

Mature trees around the site boundary and in the secondary woodland provide excellent bird nesting habitats and are also used by grey squirrels and possibly bats. Time did not permit a night time bat survey but this is likely to yield some interesting results. Likewise areas of scrub within the woodland are an excellent bird habitat and plants such as gorse and broom provide a food source for seed eating birds.

A reasonable diversity of wild flowers was recorded in grassy areas adjacent to native shrub planting. Within the woodland a good diversity of wetland plants were found adjacent to the ponds and also in clearings within the woodland.

Although not strictly part of the site, the vegetation on shingle islands within the River Breamish (northern site boundary) provides an additional habitat for insects, birds and mammals such as bats. This area and the two lakes are likely to contain dragonflies and damselflies although these were not recorded during the survey.



Species Information

BAP Species Seen: Linnet

BAP Species Potential: Various species of bats have action plans in the Northumberland LBAP, and given the adjacent riverine habitat with excellent invertebrate life, it is highly likely that bats, particularly the pipistrelle bat, are present. There is anecdotal evidence that otters use the river banks and white-clawed crayfish is also recorded along this SSSI river. Reed bunting is likely to use the reed habitat surrounding the lakes but was not seen on the day of the survey. This is a Red Listed bird species. Suitable habitat for great-crested newts is present and they are known to occur at other sites within the locality.

Other Notable Species: Kingfisher and willow warbler are on the Amber list of Birds of Conservation and the yellowhammer is Red listed. The stoat is listed as Species of Conservation Concern within the UK Biodiversity Action Plan.

Flora:

The grassland areas have species indicative of improved and re-seeded grassland such as perennial rye-grass, white clover and daisy. Where the mown grass meets native shrub planting areas of longer grass have been left to provide a refuge for small mammals and invertebrates. Wild flowers within these areas of longer grass provide a useful nectar source for butterflies and other insects. Native shrubs such as rowan, hornbeam and hawthorn provide berries for birds.

River-side, wetland and wet woodland are the most valuable habitats both on site and with in the local area. They are particularly important for birds, bats, otters and invertebrates such as dragonflies. Vegetation within these areas is likely to harbour numerous species of invertebrates, which were not recorded in detail during the survey.

Woodland on site was largely sycamore with occasional ash and rowan. Although not strictly a native species, these sycamore woodlands are a valuable asset to the biodiversity of the site providing homes for birds, small mammals and insects. Some dead wood was present and this is likely to be beneficial to a number of invertebrate species.

Avifauna:

On the day of the survey 23 species of birds were recorded using the site. These are typical woodland assemblage bird species and those associated with rivers and wetlands. Other woodland species probably also use the site, for example tawny owl (*Strix aluco*). Throughout the winter the small areas of short turf would probably attract winter visitors such as redwing, fieldfare and scandinavian blackbirds.

The scrub and alder carr area between the caravan site and the river has good potential as nesting sites for some bird species and also as roost sites especially during the winter months. The seed bearing alder trees will be attractive to a number of finches.

The mature trees on site provide sites for some nesting birds.

Bird species recorded during the survey visit were;

Blackbird (*Turdus merula*) - breeding
Blackcap (*Sylvia atricapilla*)
Blue Tit (*Parus caeruleus*)
Carrion Crow (*Corvus corone*)
Chaffinch (*Fringilla coelebs*)
Chiffchaff (*Phylloscopus collybita*)
Coal Tit (*Parus ater*)
Common Whitethroat (*Sylvia communis*)
Dipper (*Cinclus cinclus*)
Goldfinch (*Carduelis carduelis*)
Great Tit (*Parus major*)
Greenfinch (*Carduelis chloris*)
Jackdaw (*Corvus monedula*)
Kingfisher (*Alcedo atthis*)
Linnet (*Acanthis cannabina*)
Magpie (*Pica pica*)
Moorhen (*Gallinula chloropus*)
Pied wagtail (*Motacilla alba yarrelli*) - breeding
Robin (*Erithacus rubecula*)
Willow Warbler (*Phylloscopus trochilus*)
Wood Pigeon (*Columba palumbus*)
Wren (*Troglodytes troglodytes*)
Yellowhammer (*Emberiza citrinella*) - breeding

Species identified as using the site and of particular note;

Linnet is on the Red List of Birds of Conservation Concern and is therefore a species of high conservation importance in the UK. They are colonial nesters, and breeding birds are probably not far away (see Appendix 1 & 2)

Yellowhammer is also on the Red List of Birds of Conservation Concern and is another species of high conservation importance in the UK. At least three breeding pairs were recorded using the site during the survey period.

Invertebrates:

On the day of the survey weather was dull and over cast. This is probably why few invertebrates, particularly butterflies, were recorded. On a sunny day a reasonable number of species are likely to be present due to the diversity of habitats on site. Various day flying moth species were noted as was buff-tailed bumble bee (*Bombus terrestris*). The dead wood under the woodland areas provides suitable habitat for invertebrates, particularly detritivores and other litter dwellers. The small lakes are likely to harbour dragonflies and damselflies though none were recorded on the day of the site visit, probably due to the weather conditions.

Invertebrates recorded during the survey;

Small white (*Pieris rapae*)
Various day flying moths
Buff-tailed bumble bee (*Bombus terrestris*)
Two-spot Ladybird (*Adalia bipunctata*)

Herptofauna:

Only the common frog (*Rana temporaria*) was recorded in the wetland area during the survey but the common toad is also likely to be present. Great-crested newts have been recorded from Quarryhouse Moor Ponds SSSI nearby and as there is suitable habitat on site, they may be present close to the ponds. The great-crested newt is a UK Biodiversity Action Plan species and it is also listed in the Northumberland Local Biodiversity Action Plan.

Mammals:

Three mammal species were recorded during the survey visit rabbit (*Oryctolagus cuniculus*), mole (*Talpa europaea*) and stoat (*Mustela erminea*). Sedentary small mammals like long-tailed fieldmouse (*Apodemus sylvatica*) and field vole (*Microtus agrestis*) probably use the site. Both water vole (*Arvicola terrestris*) and water shrew (*Neomys fodiens*) appear not to have been recorded from 10km square that includes the Breamish site, although water vole is found on the nearby River Coquet and there are recent records for water shrew within 20km of the site. Otters (*Lutra lutra*) have been recorded from the River Breamish SSSI and there is anecdotal evidence for otters visiting the caravan site area though this would probably be in the winter months when the site is not in operation. Otter and water vole are listed as Priority Species in the UK and the Northumberland Biodiversity Action Plans.

Certain species of bats may use the site for foraging and may roost in convenient trees on the site or nearby. These will probably be pipistrelle bats (*Pipistrellus pipistrellus*), which are a UK BAP priority species and also listed in the Northumberland LBAP. Although the most abundant and widespread bat species in the UK, the pipistrelle is thought to have undergone a significant decline in numbers this century. Estimates from the National Bat Colony Survey suggest a population decline of approximately 70% between 1978 and 1993. The current pre-breeding population estimate for the UK stands at approximately 2,000,000 (see Appendix 3).

Other woodland specialists like natterer's bat (*Myotis natterii*) may use the woodland edge and daubenton's bat (*Myotis daubentonii*) who habitually feed very low over water; ponds, lakes and other smooth water surfaces.

Mammal species recorded during the survey were:

Mole (*Talpa europaea*)
Rabbit (*Oryctolagus cuniculus*)
Stoat (*Mustela erminea*)



Species Evaluation

The site was particularly notable for its high diversity of bird species. This was largely due to the range of habitats present; broadleaved woodland including some areas of wet woodland, and within the woodland gorse dominated clearings with plenty of wild

flowers are particularly valuable. Kingfisher and dipper were noted in the riverside habitats and considerable reedbed and wetland habitat around the lakes provided additional habitat diversity where species such as moorhen and willow warbler were noted.

Numbers of butterflies and other flying insects were low. This was most likely due to dull, over-cast weather as the grassland areas contained suitable wild flowers to provide a nectar source. Areas of long grass adjacent to areas of shrubs provided an excellent transition zone between the woodland edge and mown grassland. Wetland habitat surrounding the lakes is likely to contain dragonflies and damselflies although these were not recorded on the day of the survey, probably due to the poor weather conditions.

Use of the site by mammals was low on the day of the survey. It is likely that small mammals and also one or two species of bats are present, particularly along the river and around the lakes where flying insects are likely to be abundant. Amphibians such as common frog and common toad are likely to be present around the lakeside vegetation and possibly great-crested newts also.

Management Recommendations

- Some young alders could be coppiced on a rotational cycle of about seven years. This would prevent some areas from growing up into mature woodland and would create further diversity.
- Where possible try and retain the areas at present dominated by gorse and rosebay willow-herb as these flowering plants are a rich nectar source for many kinds of invertebrates. Periodic winter flooding of these lower areas is probably beneficial as it tends to keep the natural succession in check and the habitats 'young'.
- **Nestboxes** – the warden is planning to erect several bird boxes, including an owl box later this season.
- **Bird feeding stations** –Feeding stations could be added at three or four sites throughout the site. Two or three feeders at each station could hold a variety of food. One with niger seed; one with husked sunflower seed and a third with general purpose food plus fat balls. Large plastic dishes are available to place beneath feeders to catch most of the fallen debris, these can be cleaned periodically.
- **Bats and trees** - If any mature trees are marked for cutting down it is advisable to get them checked by a bat expert.
- **Dead wood and log piles** - left in-situ these will be beneficial to invertebrates, particularly if left in a sunny spot. When cutting grass or hardwood, cut and stack in 'habitat piles' in out of the way places – in sunny areas if possible. Try not to burn material.

Further surveys:

The River Breamish which is part of the River Tweed Catchment SSSI and two other waterbodies mean the site is rich in biodiversity. The present survey suggests this but a more comprehensive bird, mammal and invertebrate survey is recommended, particularly for the waterbodies and wet woodland areas.

Bats – there is anecdotal evidence of them using site

Otters – there is anecdotal evidence of them using site

Invertebrates, particularly in wetland areas and wet woodland

Appendix 1 - The Population status of the UK's Birds

The leading governmental and non-governmental conservation organisations in the UK have reviewed the population status of the birds that are regularly found in the UK.

A total of 247 species have been assessed and each placed onto one of three lists – red, amber or green. Forty species are **red-listed**, 121 are **amber-listed** and 86 are **green-listed**.



Linnet



Yellowhammer

The Criteria

Seven quantitative criteria were used to assess the population status of each species and place it onto the red, amber or green list. These criteria are listed below. The review excluded species that are not native to the UK and those that occur irregularly as vagrants or scarce migrants.

- **Red list** species are those that are Globally Threatened according to IUCN criteria; those whose population or range has declined rapidly in recent years; and those that have declined historically and not shown a substantial recent recovery.
- **Amber list** species are those with an unfavourable conservation status in Europe, those whose population or range has declined moderately in recent years; those whose population has declined historically but made a substantial recent recovery; rare breeders; and those with internationally important or localised populations.
- Species that fulfil none of the criteria are **green-listed**.

Species found at Breamish:

Yellowhammer is Red listed.

Linnet and kingfisher are Amber listed

Dipper, pied wagtail and willow warbler are Species of Conservation Concern, listed in the UK Biodiversity Action Plan

Appendix 2 - Birds of Importance at the River Breamish Site

Linnet is on the Red List of Birds of Conservation Concern and is therefore a species of high conservation importance in the UK. They are colonial nesters, and the gorse bushes found both within the site and the surrounding area probably support breeding birds. It is also a Priority Species in the UK Biodiversity Action Plan.

The linnet is common and widespread throughout the UK countryside, but there was a 56% reduction in numbers between 1968 and 1991. Most of the UK linnet population is resident and stay in the UK all year round, but some migrate to Spain and western France for the winter, and breeding birds from northern Europe spend the winter in the UK with the resident birds and could well use the site in winter.

Other farmland bird species that depend on the same diet have declined drastically at the same time as the linnet in both numbers and range. Linnets are more dependent on wildflower seeds than other seed-eaters during the breeding season, as chicks are fed exclusively on seeds rather than insects. The main cause of the linnet decline is thought to be changes in agricultural practices, including the use of herbicides and fertilisers, the reduction in farm diversity caused by intensification and farm specialisation, and the sowing of crops in the autumn rather than the spring, which results in the loss of winter stubbles, valuable sources of food for the linnet. In addition, suitable nesting habitat has been lost as a result of hedge, scrub and thicket removal, over-zealous hedge trimming and over-grazing

Yellowhammer is also on the Red List of Birds of Conservation Concern and is another species of high conservation importance in the U.K.

This species is wary, although not shy, and a high perch on a convenient tree is normally occupied whilst singing and holding territory in the breeding period. In winter, yellowhammers form flocks, often in mixed species groups with other seed-eating birds. They feed mainly on cereals and large grass seeds as well as the seeds of docks and other plants, which they typically pick from the ground

Like other species of bunting, this species, although still fairly common, has suffered following the widespread intensification of agriculture, including the large-scale removal of hedgerows and scrubland, and changes in land-use, reducing the availability of seeds in winter.

The River Breamish site probably attracts wintering flocks of finches including both Linnet and Yellowhammer and winter visitors such as; redwing, fieldfare and Scandinavian blackbirds.

Appendix 3 - Pipistrelle Bats

Certain species of bats may use the site for foraging (flying insects) and some may roost in convenient trees on the site or nearby. These will probably be pipistrelle bats (*Pipistrellus pipistrellus*).

The common pipistrelle is the smallest British bat with a wingspan of about 20cms and weighing around six grams. It is the most abundant and widespread bat in Northumberland and throughout the UK and has suffered large losses in numbers over the last twenty years.

Although it remains the most abundant and widespread bat species in the UK, the pipistrelle is thought to have undergone a significant decline in numbers this century. Estimates from the National Bat Colony Survey suggest a population decline of approximately 70% between 1978 and 1993. The current pre-breeding population estimate for the UK stands at approximately 2,000,000.

Females form maternity roosts of up to several hundred adults from May, often in house roofs but also in woodland. They give birth to a single live young in July. Males are much more solitary. Hibernation takes place from November to March. Pipistrelles forage for small insects in varied habitats but woodland edges, hedgerows and waterways are particularly important.

The pipistrelle bat is listed on Appendix III of the Bern Convention, Annex IV of the EC Habitats Directive and Appendix II of the Bonn Convention (and is included under the Agreement on the Conservation of Bats in Europe). It is protected under Schedule 2 of the Conservation (Natural Habitats, etc.) Regulations, 1994 (Regulation 38) and Schedules 5 and 6 of the WCA 1981. It is also a priority species listed in the UK, London and Bexley Biodiversity Action Plans.

Current threats to Bats:

- Exclusion from roosts by human intervention
- Destruction or damage to roosts as a result of building work/development
- Barn conversions and modifications to buildings such as security lights
- Toxic effects of remedial timber treatment in roofs and other parts of buildings
- Loss and damage to natural habitats such as woodlands and older trees with crevices and cavities.

Other bat species like natterer's bat (*Myotis natterii*) may use the woodland edge and riverside habitat surrounding the River Breamish site and daubenton's bat (*Myotis daubentoni*) may well use the open water of the lakes for feeding.