



Barnsley Natural Heritage Sites

Species Assessment Criteria

Prepared by
TEP

for

Barnsley Metropolitan Borough Council

January 2011

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(Report Ref 2481.002)

Site Selection Criteria – Species

Local wildlife sites will be selected for their floral diversity and affinity to National Vegetation Classifications (NVC) that are consistent with UKBAP and LBAP priority habitats. This will allow for the protection of the best examples of natural/semi-natural habitat within the Borough and it is likely that these will also support populations of nationally and regionally important fauna.

However there may be instances where important species or assemblages or species may be present or using the site, but the habitat quality in the locality in which the species occurs may not be sufficient to allow its designation as a Local Wildlife Site. Therefore to ensure that important, rare or unusual species assemblages are protected, a set of criteria has been developed that takes into account the species interest of the site.

These species guidelines relate principally to those species that occur naturally within the Borough and are native to it. However, species which are native to the UK and which have become established in the Borough without human intervention may also be considered, providing the species has been established within the Borough for at least five years.

With the exception of birds, the availability of data relating to the distribution of plant and animal species in Barnsley is at present is limited and with a patchy distribution, because of this it is difficult to establish what is important, scarce or unusual at the local level. These criteria will therefore reflect the national and regional priorities and those of the Barnsley Biodiversity Action Plan.

Of the limited data available we can be certain that the Borough is certainly home to a number of important species such as the water vole and great crested-newt. A comprehensive biodiversity audit for the Borough would provide a more thorough and detailed set of data with which Barnsley can adopt a more quantitative approach to site selection criteria based on faunal species to reflect the local/regional significance of the species.

Boundaries of sites should encompass all habitats at the location at which the species is recorded that are considered likely to be required to support the species through a critical life stage(s). Boundaries should follow recognisable physical features on the ground.

Sites brought forward for consideration should have data available from within the last five years, although historic data may be used to refine the assessment depending on consultation with appropriate specialists. Data used to assess a site must be from a verified or reliable source.

For groups of fauna which are mobile, it is important to establish that the species or assemblage has a stable presence within the site considered for selection. A stable presence is reflected by regular use of the habitats in which the species is recorded. Unless otherwise stated, regular use of a site is inferred if the species has been recorded in at least 3 years (not necessarily consecutive) within the past ten years, at least one recorded occurrence of which should be within the past five years.

The population present must be of the required size to qualify, but only in one out of the three records, providing the other two records confirms presence.

Reference to technical literature and available monitoring or record data should be used to determine what is considered to be a “significant population” and a “critical life stage” for a species.

(1) General Species Guidelines

The following criteria for sites based on fauna are designed to take into account the scarcity and national importance of specific species, these are generally species that appear on the following lists;

- Species identified by the UKBAP as Priority Species or Species of Conservation Concern;
- Species identified as being of conservation concern through listings such as the Red Data Book, Nationally Scarce, or similar listing for England and/or the UK;
- Species listed on an Appendix or Schedule to European or national wildlife legislation, such as the Conservation of Habitats and Species Regulations 2010, the Wildlife and Countryside Act 1981 as amended, the Countryside and Rights of Way Act 2000 as amended.

In addition to this the criteria should take into account sites that support a significant proportion of the Borough’s population of a species occurring appearing on the Barnsley BAP, or contributes significantly to that species’ range within the Borough, where its population may be at risk to due to small population sizes, recent population declines and/or habitat loss or change.

Sites that support a significant proportion of habitats which may be used by any of the species occurring on any of the lists or on the Barnsley BAP should also be considered. Sites that are critical stage of a LBAP/UKBAP species’ life cycle, for example, fields regularly used by Brown Hare for courtship and breeding are also candidate for site selection.

The Barnsley Biodiversity Action Plan lists the following species as being of particular importance for the Borough:

Hedgehog*	Skylark*
Bats*	Tree sparrow*
Water vole*	Twite*
Otter*	Great crested newt*
Grey partridge*	Salmon*
Bittern*	Bullhead
Kestrel	White-clawed crayfish*
Little ringed-plover	Glow worm
Lapwing*	Dingy skipper*
Barn owl	Bluebell

* Asterisked species are also UKBAP Species

(2) Mammals

(1) Otter

Otter breeding sites and those used for resting are protected by European and British law and otters are classed as a EPS under the EC Habitats Directive. The otter is also listed as a UKBAP priority species.

Sites will be selected for Local Wildlife Site status if they support one or more of the following:

- (a) a confirmed breeding site, through evidence such as footprints or sightings of cubs; and/or
- (b) high levels of otter activity such as spraints, remains of feeding and footprints; and/or
- (c) cover such as thick scrub and bramble and are adjacent to river/stream corridors that are subject to high levels of otter activity.

(2) Bats

All British species of bat and their resting places (bat roosts) are protected by British and European law.

The UKBAP lists a number of bat species as Priority Species. The Priority species and habitats included under the UKBAP were reviewed in 2007 and as a result the greater mouse-eared bat was removed (as a breeding population is not confirmed to be present in the UK) and the common pipistrelle bat was removed (as the population is considered stable). The soprano pipistrelle, noctule and brown long-eared bat species were added to the list. The following bat species are currently UKBAP priority species:

Barbastelle	<i>(Barbastella barbastellus)</i>
Bechstein's	<i>(Myotis bechsteini)</i>
Brown long-eared bat	<i>(Plecotus auritus)</i>
Greater horseshoe	<i>(Rhinolophus ferrumequinum)</i>
Lesser horseshoe	<i>(Rhinolophus hipposideros)</i>
Noctule	<i>(Nyctalus noctula)</i>
Soprano pipistrelle	<i>(Pipistrellus pygmaeus)</i>

Nine species of bat, just over half of the 17 species of bat present in Britain have been recorded in Barnsley; they are:

Brown Long-eared bat*	<i>(Plecotus auritus)</i>	Common/Restricted
Brandt's bat	<i>(Myotis brandtii)</i>	no data
Common pipistrelle	<i>(Pipistrellus pipistrellus)</i>	Common/Widespread
Daubenton's bat	<i>(Myotis daubentonii)</i>	Common/Widespread
Leisler's bat	<i>(Nyctalus leisleri)</i>	Rare
Natterer's bat	<i>(Myotis nattereri)</i>	Common/Restricted
Noctule*	<i>(Nyctalus noctula)</i>	Scarce
Soprano pipistrelle*	<i>(Pipistrellus pygmaeus)</i>	no data
Whiskered	<i>(Myotis mystacinus)</i>	no data

* Asterisked species are also UKBAP Priority Species

Bats occupy/use a number of different habitats both for shelter and foraging, including buildings, trees, caves, mine shafts and other man-made structures such as bridges and culverts. These habitats, though important for bats, would not merit wildlife site selection based on vegetation/habitat quality and so site selection criteria intended to support bat populations must be based on:

- the status and security of a confirmed roost; or
- the species assemblage occurring within the roost or within the habitats in which they are recorded; or
- the numbers of bats within the roost, or the numbers of bats within the habitats in which they regularly forage.

Occupied buildings (domestic and industrial) will *not* be selected for local wildlife site status, however other man-made structures will be eligible for selection should they meet the criteria. Areas that are considered to support bat populations for foraging, such as river corridors and woodlands, will also be considered for site selection.

Sites qualifying for consideration will include one or more of the following:

- (a) Any breeding roost site that regularly supports a significant colony of bats (100 or more soprano pipistrelle bats (*Pipistrellus pygmaeus*), 60 or more common pipistrelle (*Pipistrellus pipistrellus*) bats or 30 or more of any other bat species);
- (b) Any hibernation site which regularly supports at least 10 bats or 2 or more species of bat;
- (c) Any series of smaller hibernation sites which individually may not qualify as at (b) but together are considered of significance;
- (d) Any roost site which regularly supports at least 3 bat species;
- (e) Any habitat area (e.g. woodlands, river corridors, lakes/lodges/ponds) which regularly support 4 or more foraging bat species;

Where breeding sites are considered for selection, the selection may include vital flight and commuting routes to and from the roost and vital foraging areas around the roost.

The above guidelines are intended to protect the most important traditional roosts within the Borough. They are not intended to protect sites that support low numbers of bats or sites that are only intermittently used. The exception may be if the species of bat identified is known to have a restricted or threatened distribution across the Borough, or is considered to be rare within the Borough (i.e. with three or less known roosting sites in the Borough), in which case any regularly used roost site supporting a critical life stage, such as a mating roost, breeding roost or hibernation roost, may be considered for selection.

(3) *Water vole*

Water voles are protected under the Countryside and Wildlife Act 1981 amended 2008 Schedule 5. The Dearne Valley and fringes of the Western Moors are key population centres for water voles in the Barnsley area. The water vole is a UKBAP and Barnsley BAP priority species. Site will be considered for selection if they meet one of the following criteria;

- (a) Any stretch of a watercourse within which a colony has been identified following a survey (at optimum breeding time);
- (b) Any watercourse that joins two or more colonies, identified by survey, less than 1km apart;
- (c) Land between two or more colonies, identified by survey, within 500m of each other.

The site boundary should include a buffer zone along the watercourse not less than 10m, and around the colony not less than 50m

(4) *Brown hare*

The distribution of this species is not fully understood in the Barnsley area and a full survey should be carried out to identify those areas displaying high concentrations of activity. Those sites which display a comparatively high concentration of numbers should be considered for Local Wildlife Site selection.

(5) *Hedgehog*

Hedgehogs are a UKBAP and LBAP priority species and currently no data exists for their distribution in Barnsley. It is believed that the species will be widespread across the Borough and identification of particular concentrations difficult to achieve and therefore this species could only be considered as contributing factor towards the designation of a local wildlife site. However this species will benefit from land management improvements outlined in the LBAP and the selection of quality habitats area as Local Wildlife Sites.

(3) Invertebrates

(1) *Butterflies*

Sites should be considered for Local Wildlife Site status if they support:

- (a) a breeding population of the following species of butterfly identified as of conservation concern by Butterfly Conservation and/or UKBAP Priority Species;

The available records show that 35 species of butterfly have been recorded in Barnsley. The records available show that only nine species appearing on the Butterfly Conservation/UKBAP list have been recorded in Barnsley, as follows:

Dark green fritillary	(<i>Argynnis aglaja</i>)
Dingy skipper	(<i>Erynnis tages</i>)
Grayling	(<i>Hipparchia semele</i>)
Grizzled skipper	(<i>Pyrgus malvae</i>)
Silver-washed fritillary	(<i>Argynnis paphia</i>)
Small heath	(<i>Coenonympha pamphilus</i>)
Wall	(<i>Lasiommata megera</i>)
White-letter hairstreak	(<i>Tyrium w-album</i>)
Wood white	(<i>Leptidea sinapis</i>)

However should further records come to light that occur on these lists of conservation concern they should be added to the above species list.

- (b) an assemblage of 10 or more butterfly species including species that are considered not to be under threat (nationally).

Site boundaries should be determined by the extent of the habitat/plant assemblage with which the species is associated with.

(2) *Moths*

Sites should be considered for Local Wildlife Site status if they support:

- (a) a breeding population of a UKBAP Priority Species/Butterfly Conservation Threatened Species (i.e. any one of the species on the list below);

The available records show that over 100 species of moth have been recorded in Barnsley. The records available show that only 11 of these species appear on the UKBAP/Butterfly Conservation lists, as follows:

Argent and Sable	(<i>Rheumaptera hastata</i>)
Brindled Ochre	(<i>Dasypolia temple</i>)
Buff Ermine	(<i>Spilosoma luteum</i>)
Dark-barred Twin-spot Carpet	(<i>Xanthorhoe ferrugata</i>)
Ghost Moth	(<i>Hepialus humuli</i>)
Small Phoenix	(<i>Ecliptopera silaceata</i>)
Green-brindled Crescent	(<i>Allophyes oxyacanthae</i>)
Grey Dagger	(<i>Acronicta psi</i>)
Heath Rustic	(<i>Xestia agathina</i>)
Knot Grass	(<i>Acronita rumicis</i>)
Lesser-spotted Pinion	(<i>Cosmia affinis</i>)

If further records come to light for other species that also occur on these lists of conservation concern, they should be included in the list of species for which site selection may be considered.

- (b) an assemblage of 25 or more species of moth species that are not considered UKBAP Priority Species

Site boundaries should be determined by the extent of the habitat/plant assemblage with which the species is associated with.

(3) *Glow-worm*

- (a) Sites should be considered for Local Wildlife Site status if they have a record of breeding glow worms for the last 5 years.

The site boundary should extend to the extent of the habitat on which the glow worms depend. In the case of Barnsley's Glow Worms this is generally the vegetation on the limestone ballast along dismantled railway corridors, although glow worms have been found outside of this habitat including moorland and heathland in other counties.

(4) *Dragonflies and Damselflies*

As predators, dragonflies are a good indicator of the habitats quality and health of rivers, stream and standing waterbodies. The available records show that 20 species of have been recorded in Barnsley. These criteria are inline with the British Dragonfly Society guidelines for sites important for dragonflies in Yorkshire. The following species are considered important in the County of Yorkshire;

Migrant Hawker (*Aeshna mixta*)
Emperor Dragonfly (*Anax imperator*)
Broad-tailed Chaser (*Libellula depressa*)
Black-tailed Skimmer (*Orthetrum cancellatum*)

- (a) Sites where 8 or more species of Dragonflies and/or Damselflies have been recorded in the last 10 years will be considered for Local Wildlife Site status.

A dragonfly/damselfly site should include its core breeding waterbody and any outlying habitat that is used for hunting, where this area can be easily identified.

(5) *Reptiles*

Four species of reptile have been recorded in Barnsley, all of which are UKBAP Priority Species, they are;

Adder (*Vipera berus*)
Common/Viviparous lizard (*Zootoca vivipara*)
Grass snake (*Natrix natrix*)
Slow worm (*Anguis fragilis*)

Any site should be considered as wildlife sites if it:

- (a) regularly supports a population of at least 2 species of reptile;
- (b) regularly supports a good population of at least one species (Table 1);

Species	Low Population	Good Population	Exceptional Population
Adder	< 5	5 - 10	> 10
Viviparous lizard	< 5	5 - 10	> 10
Grass snake	< 5	5 - 20	> 20
Slow worm	< 5	5 - 20	> 20

- (c) does not qualify under (a)-(b) but may be considered, through consultation with appropriate specialists, as a site of Borough importance due to local rarity or supporting a critical life state e.g. a hibernation site for which no sites have yet been identified for a particular species.

Boundaries for sites should include habitats required for nesting, foraging, basking, refuge and hibernation.

Breeding sites should be surveyed between April and Mid-June and again in September. If hibernation occurs, monitoring should be extended to occur during the emergence period, usually mid-March to late April, depending on the species.

(6) Amphibians

Five species of amphibian have been recorded in Barnsley:

Common Toad	<i>(Bufo bufo)*</i>
Common Frog	<i>(Rana temporaria)</i>
Smooth Newt	<i>(Lissotriton vulgaris)</i>
Palmate Newt	<i>(Lissotriton helveticus)</i>
Great-crested Newt	<i>(Triturus cristatus)*</i>

* Asterisked species are UKBAP Priority Species

Any site should be considered for Local Wildlife Site status if it:

- (a) regularly supports a *good* population of great crested newts (Table 2);

Species	Method	Low Population Score 1	Good Population Score 2	Exceptional Population Score 3
Common toad	Estimated	< 500	500-5,000	> 5,000
	Counted	< 100	100-1,000	> 1,000
Common frog	Spawn clumps counted	< 50	50-500	> 500

Smooth newt	Netted in day	< 10	10-100	> 100
	Counted at night			
Palmate newt	Netted in day	< 10	10-100	> 100
	Counted at night			
Great crested newt	Seen/netted in day	< 5	5-50	> 50
	Counted at night	< 10	10-100	> 100

(Guidelines for the selection of Biological Sites of Special Scientific Interest, English Nature 2001)

- (b) regularly supports an assemblage of amphibian species which scores at least 6 (Table 2);
- (c) regularly supports 4 or more species of amphibian;

Site should be surveyed during the breeding season (March to June). Ponds within 250m of each should be counted as one population and the score should be totalled across all ponds.

Sites should include, to greatest extent possible, all waterbodies known to be used by amphibians that are within 250m of each other and the intervening habitats.

Sites should also include terrestrial habitat known or likely to be used by the population for foraging and/or overwintering purposes.

(7) Birds

Any site will be considered for selection as a Local Wildlife Site if it:

- (a) regularly supports a breeding or wintering population of any bird species that is included in Schedule 1 of the Wildlife and Countryside Act (1981)(as amended) (any species appearing in Table 3);

Table 3: Schedule 1 Bird Species Potentially Breeding or Wintering in Borough	
Barn owl	<i>(Tyto alba)</i>
Bearded tit	<i>(Panurus biarmicus)</i>
Bittern	<i>(Botaurus stellaris)</i>
Black redstart	<i>(Phoenicurus ochruros)</i>
Black tern	<i>(Chlidonias niger)</i>
Black-tailed godwit	<i>(Limosa limosa)</i>
Brambling	<i>(Fringilla montifringilla)</i>
Cetti's warbler	<i>(Cettia cetti)</i>
Common crossbill	<i>(Loxia curvirostra)</i>
Corncrake	<i>(Crex crex)</i>
Fieldfare	<i>(Turdus pilaris)</i>

Goshawk	(<i>Accipiter gentilis</i>)
Great black-backed gull	(<i>Larus marinus</i>)
Green sandpiper	(<i>Tringa ochropus</i>)
Greenfinch	(<i>Carduelis chloris</i>)
Greenshank	(<i>Tringa nebularia</i>)
Hen harrier	(<i>Circus cyaneus</i>)
Hobby	(<i>Falco subbuteo</i>)
Kingfisher	(<i>Alcedo atthis</i>)
Little ringed plover	(<i>Charadrius dubious</i>)
Long-tailed duck	(<i>Clangula hyemalis</i>)
Merlin	(<i>Falco columbarius</i>)
Peregrine falcon	(<i>Falco peregrinus</i>)
Quail	(<i>Coturnix coturnix</i>)
Red kite	(<i>Milvus milvus</i>)
Redwing	(<i>Turdus iliacus</i>)
Ruff	(<i>Philomachus pugnax</i>)
Woodlark	(<i>Lullula arborea</i>)

This list excludes Schedule 1 species which are considered to be summer or winter migrants species. If records determine in the future that other Schedule 1 birds not currently appearing on this list become established as regular breeders or wintering populations within Barnsley, these species should be included on the above list.

- (b) regularly supports a significant* proportion of the Borough breeding or wintering populations of 2 or more UKBAP or Barnsley LBAP bird species (any 2 species of those appearing in Table 4);

*The significance of the size of the colony should be determined with the advice of the Barnsley Bird Study Group

Bullfinch	(<i>Pyrrhula pyrrhula</i>)
Corn bunting	(<i>Emberiza calandra</i>)
Cuckoo	(<i>Cuculus canorus</i>)
Curlew	(<i>Numenius arquata</i>)
Dunnock	(<i>Prunella modularis</i>)
Grasshopper warbler	(<i>Locustella naevia</i>)
Grey partridge	(<i>Perdix perdix</i>)
Hawfinch	(<i>Coccothraustes coccothraustes</i>)
Herring gull	(<i>Larus argentatus</i>)
House sparrow	(<i>Passer domesticus</i>)
Kestrel	(<i>Falco tinniculus</i>)
Lapwing	(<i>Vanellus vanellus</i>)
Lesser spotted woodpecker	(<i>Dendrocopos minor</i>)
Linnet	(<i>Carduelis cannabina</i>)
Marsh tit	(<i>Poecile palustris</i>)
Nightjar	(<i>Caprimulgus europaeus</i>)
Red grouse	(<i>Lagopus lagopus</i>)
Redpoll	(<i>Carduelis cabaret</i>)

Reed bunting	(<i>Emberiza schoeniclus</i>)
Ring ouzel	(<i>Turdus torquatus</i>)
Song thrush	(<i>Turdus philomelos</i>)
Spotted flycatcher	(<i>Muscicapa striata</i>)
Starling	(<i>Sturnus vulgaris</i>)
Tree pipit	(<i>Anthus trivialis</i>)
Tree sparrow	(<i>Passer montanus</i>)
Turtle dove	(<i>Streptopelia turtur</i>)
Twite	(<i>Carduelis flavirostris</i>)
Willow tit	(<i>Poecile montanus</i>)
Wood warbler	(<i>Phylloscopus sibilatrix</i>)
Yellow wagtail	(<i>Motacilla flava</i>)
Yellowhammer	(<i>Emberiza citrinella</i>)

(c) supports any of the following assemblages:

- **10** or more regular breeding bird species, including at least one Schedule 1, UKBAP or Barnsley LBAP species (Tables 3 or 4); or
- **20** or more regular breeding and wintering species including at least three Sch1, UKBAP or Barnsley LBAP species (Tables 3 or 4); or
- **30** or more regular breeding, wintering and passage species including at least six Sch1, UKBAP or Barnsley LBAP species (Tables 3 or 4);

(d) supports a significant* breeding colony of heron, house martin and/or sand martin

*The significance of the size of the colony should be determined with the advice of the Barnsley Bird Study Group

(8) Fish

Both the salmon (*Salmo salar*) and the bullhead/miller's thumb (*Cottus gobio*) are Barnsley BAP Priority Species and salmon and brown trout (*Salmo trutta*) are also UKBAP Priority Species. All three of these species are good indicators of water quality which in turn support numerous other species such as the kingfisher (*Alcedo atthis*) and dipper (*Cinclus cinclus*).

Any site should be considered for Local Wildlife Site status if:

- it supports a population of bullhead and/or brown trout;
- salmon have been seen/caught along the watercourse;
- the watercourse displays evidence of salmon breeding.

(9) Crustaceans

The white-clawed crayfish (*Austropotamobius pallipes*) is a UKBAP and Barnsley LBAP Priority Species. This species is under threat from habitat loss, poor water quality and the non-native invasive North-American signal crayfish (*Pacifastacus leniusculus*).

Sites should be considered for selection as Local Wildlife Sites if white-clawed crayfish are present.