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Extended Phase 1 Habitat Survey

Summary of Recommendations

If all protected species or their habitats are absent from the site then no further survey effort needs to be performed. Otherwise, a Phase 1 Habitat Survey in which protected species or their habitats are present is not normally considered sufficient.

Taking into consideration the desk study and site survey findings, this report concludes that the proposed development of the site presents a low probability of harm to protected species or habitats.

The Company and Contact Information

Established in 2005, Arbtech Consulting Limited provides arboricultural and ecological consultancy services in respect to planning and development, throughout the UK.

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The Surveyor

The surveyor and principal author of this report is Craig Williams BSc (Hons) Msc GRADIEEM.

Protected Species Licenses

Bats

England: 20123554.

Great Crested Newts

England: CLS02760.

The Client

The client is Brian W Smith.

The Site of Proposed Development

The client is preparing a planning application to build a museum structure and associated paths on land adjacent to 'Beale Park, A329, Lower Basildon, Reading RG8 9NH'.

The Survey Brief

The client commissioned Arbtech to undertake a Phase 1 Habitat Survey; referring to a method of ecological assessment outlined in the Joint Nature Conservation Committee ("JNCC") Handbook for Phase 1 Habitat Survey a technique for environmental audit (2010).

These guidelines state that the aim of the Phase 1 Survey is to observe, map and catalogue "*the potential value of the habitat*." Since its publication the ecological

consultancy industry has adapted the survey to make recommendations for further survey work as appropriate.

Limitations

This survey provides a 'snap-shot' of the potential habitat and wildlife value of the sites at the time of survey only and may require further survey effort to provide robust, scientifically valid evidence of species absence.

Data Searches

The author's preparation of this report has been assisted by a search of the National Biodiversity Network Gateway.

A Biological data search was also requested from Thames Valley Biological Records Centre (TVERC).

Date of the Survey

5th August 2013.

Seasonality

This survey can be conducted at any time of year.

Informative

Table 1: Summary of Pertinent Legislation and Planning Policy Relevant to the Protection of Bats in the UK

Location of Site	Transposing EC Habitats Directive	Other Relevant Legislation	Planning Policy
England	Conservation of Habitats and Species Regulations 2010.	Wildlife and Countryside Act 1981 as amended. Countrywide and Rights of Way Act 2000. Natural Environment and Rural Communities Act 2006.	National Planning Policy Framework ("NPPF").
Wales	Conservation of Habitats and Species Regulations 2010.	Wildlife and Countryside Act 1981 as amended. Countrywide and Rights of Way Act 2000. Natural Environment and Rural Communities Act 2006.	Technical Advice Note ("TAN") 5.
Scotland	Conservation (Natural Habitat & c.) Regulations 1994 as amended.	Wildlife and Countryside Act 1981 as amended. The Nature conservation (Scotland) Act 2004.	National Planning Policy Guidance ("NPPG") 14 and Planning Advice Note ("PAN") 60.

A summary of legislation relevant to individual species can be found at Appendix IV.

The Survey Methodology

In order to fully assess the potential value of habitats at the site, the surveyor has observed widely accepted national standards set out in the JNCC (2010) publication Handbook for Phase 1 Habitat Survey: a technique for environmental audit.

The survey includes for a mapping exercise (found at Appendix I), in addition to a full species list and target notes (found at Appendix II.)

Inspections make use of binoculars and cameras where appropriate.

The survey is performed during daylight hours and provides an opportunity to exclude the need for further survey work, if the following species and features suitable for use by the following species can be confirmed absent from the site of proposed development:

1. Amphibians.
2. Bats.
3. Birds.
4. Reptiles.
5. Terrestrial mammals e.g. badger, dormouse and water vole.

If evidence of recent activity and or features suitable for the species cannot be confirmed absent from the site of proposed development, this report will make recommendations for further survey work and or mitigation where this is consistent with national guidelines and considered appropriate by the surveyor in the context of the proposed development.

Species Potential

Table 2: Species potential defined by integrating national guidelines e.g. Hundt 2012

Confirmed	Species are found to be present during the survey. Evidence of species' activity is found to be present during the survey.
High	Buildings, trees or other structures with features of particular significance for use by protected species e.g. nesting habitat, roosting opportunities, ponds. Habitat of high quality for foraging e.g. broadleaved woodland, tree-lined watercourses and grazed parkland. Site is connected with the wider landscape by strong linear features that would be used by commuting species e.g. river and or stream valleys and hedgerows. Site is close to known locations of records for protected species.
Medium	Several potential habitat opportunities in buildings, trees or other structures. Habitat could be used for foraging e.g. trees, shrub, grassland or water. Site is connected with the wider landscape by linear features that could be used by commuting species e.g. lines of trees and scrub or linked back gardens.
Low	A small number of less significant habitat opportunities. Isolated habitat for foraging e.g. a lone tree or patch of scrub. An isolated site not connected by prominent linear landscape features.
Negligible	No suitable habitats observed.

Table 2 (above) presents a scale continuum against which the significance of habitat value and opportunities for protected species at the site can be graded. By referring to this continuum and using their expert judgment, surveyors classify features such as habitats, buildings etc. as representing low, medium, high value or confirmed presence.

Survey Results

Table 3: Desk study results, habitats and species recorded on site

Desk Study Records

A study of data from the National Biodiversity Network Gateway for the grid square (SU67) SU618781 has informed the preparation of this report.

A Biological data search was also requested from Thames Valley Biological Records Centre (TVERC), the results of which are summarized below:

Statutory Sites:

There are no statutory sites nearby, on the Western side of the river.

Relevant Protected Species:

Common Name	Scientific Name	Year	Grid Ref	Location
Adder	Vipera berus	1992	SU61627953	Hartslock SSSI
Adder	Vipera berus	1992	SU616795	Hartslock SSSI
Adder	Vipera berus	1992	SU617794	Hartslock
Adder	Vipera berus	1992	SU617794	Hartslock SSSI
Adder	Vipera berus	1993	SU616796	Hartslock
Adder	Vipera berus	1993	SU617793	Hartslock SSSI
Adder	Vipera berus	1993	SU617794	Hartslock SSSI
Adder	Vipera berus	2000	SU617793	Hartslock Wood
Brown Long-eared Bat	Plecotus auritus	1993	SU6178	Lower Basildon
Brown Long-eared Bat	Plecotus auritus	1996	SU616796	Hartslock
Brown Long-eared Bat	Plecotus auritus	1996	SU616796	Hartslock
Brown Long-eared Bat	Plecotus auritus	1997	SU610788	The Old Stables, Lower Basildon., Out-building
Brown Long-eared Bat	Plecotus auritus	1997	SU6178	refer to BSBBG for further details
Brown Long-eared Bat	Plecotus auritus	2010	SU6081879789	Gatehampton Farmhouse,
Brown Long-eared Bat	Plecotus auritus	2010	SU6084279773	Gatehampton Farmhouse,
Brown Long-eared Bat	Plecotus auritus	2010	SU63287788	Stoneycroft, Whitchurch Hill
Brown Long-eared Bat	Plecotus auritus	2011	SU6177	refer to BSBBG for further details
Common Pipistrelle	Pipistrellus pipistrellus	1988	SU616796	Hartslock
Common Pipistrelle	Pipistrellus pipistrellus	1995	SU635773	Whitchurch
Common Pipistrelle	Pipistrellus pipistrellus	2000	SU616796	Hartslock
Common Pipistrelle	Pipistrellus pipistrellus	2000	SU616796	Hartslock
Common Pipistrelle	Pipistrellus pipistrellus	2010	SU6081879789	Gatehampton Farmhouse

		Common Pipistrelle	Pipistrellus pipistrellus	2011	SU6177	refer to BSBBG for further details	
		Common Pipistrelle	Pipistrellus pipistrellus	2011	SU6178	refer to BSBBG for further details	
		Daubenton's Bat	Myotis daubentonii	2008	SU6177	refer to BSBBG for further details	
		Daubenton's Bat	Myotis daubentonii	2011	SU6178	refer to BSBBG for further details	
		Eurasian Badger	Meles meles	1978	SU616796	Hartslock	
		Eurasian Badger	Meles meles	1978	SU617794	Hartslock	
		Eurasian Badger	Meles meles	1978	SU617794	Hartslock SSSI	
		Eurasian Badger	Meles meles	1981	SU617797	Combe Fields East	
		Eurasian Badger	Meles meles	1981	SU626784	Wheatley`s Plantation	
		Eurasian Badger	Meles meles	2000	SU616796	Hartslock	
		Eurasian Badger	Meles meles	2006	SU6179	Hartslock SSSI	
		Eurasian Badger	Meles meles	2006	SU63577746	31 Swanston Field, Whitchurch on Thames, RG8 7HP	
		Eurasian Badger	Meles meles	2006	SU63577746	31 Swanston Field, Whitchurch on Thames, RG8 7HP	
		Eurasian Badger	Meles meles	2008	SU605792	Lower Basildon	
		Eurasian Hobby	Falco subbuteo	1982	SU616796	Hartslock	
		Eurasian Hobby	Falco subbuteo	1999	SU616796	Hartslock	
		Eurasian Hobby	Falco subbuteo	2000	SU616796	Hartslock	
		Eurasian Hobby	Falco subbuteo	2000	SU616796	Hartslock	
		Eurasian Hobby	Falco subbuteo	2000	SU616796	Hartslock	
		Eurasian Hobby	Falco subbuteo	2000	SU6280	Confidential	
		Eurasian Hobby	Falco subbuteo		SU616795	Hartslock	
		Eurasian Hobby	Falco subbuteo		SU617795	Hartslock	
		Eurasian Hobby	Falco subbuteo		SU617795	Hartslock SSSI	
		European Water Vole	Arvicola amphibius	1978	SU617794	Hartslock SSSI	
		European Water Vole	Arvicola amphibius	1978	SU617794	Hartslock	
		European Water Vole	Arvicola amphibius	1978	SU617794	Hartslock	
		European Water Vole	Arvicola amphibius	1978	SU617794	Hartslock SSSI	
		European Water Vole	Arvicola amphibius	1998	SU623775	River Thames (Berkshire)	
		Grass Snake	Natrix natrix	1980	SU618795	Hartslock Nature Reserve	
		Grass Snake	Natrix natrix	1980	SU618795	Hartslock Nature Reserve	
		Grass Snake	Natrix natrix	1993	SU635775	Hardwick Road, Whitchurch-on-Thames	
		Grass Snake	Natrix natrix	1995	SU61637953	Hartslock SSSI	
		Grass Snake	Natrix natrix	1997	SU61657950	Hartslock	
		Grass Snake	Natrix natrix	2000	SU616796	Hartslock	
		Grass Snake	Natrix natrix	2001	SU610795	Gatehampton	
		Grass Snake	Natrix natrix	2001	SU615797	Bridleway, Gatehampton	
		Grass Snake	Natrix natrix	2001	SU616796	Hartslock SSSI	
		Grass Snake	Natrix natrix	2001	SU6179	Gatehampton	
		Grass Snake	Natrix natrix	2004	SU61857862	Marshland and lake at Child Beale Trust	
		Grass Snake	Natrix natrix	2006	SU61737943	Hartslock	
		Grass Snake	Natrix natrix	2008	SU613794	Church Farm, Lower Basildon	
		Hazel Dormouse	Muscardinus avellanarius	1979	SU628794	cockpit plantation	

Hazel Dormouse	Muscardinus avellanarius	1981	SU628794	Cockpit Plantation
Hazel Dormouse	Muscardinus avellanarius	1981	SU628794	cockpit plantation
Hazel Dormouse	Muscardinus avellanarius	1993	SU627794	Cockpit Plantation (Goring)
Hazel Dormouse	Muscardinus avellanarius	1993	SU627794	Cockpit Plantation (Goring)
Hazel Dormouse	Muscardinus avellanarius	1993	SU627794	Cockpit Plantation (Goring)
Hazel Dormouse	Muscardinus avellanarius	1993	SU627794	cockpit plantation
Mouse-eared Bat	Myotis	1983	SU6078	Park Wall Lane, Lower Basildon
Mouse-eared Bat	Myotis	1983	SU6377	Whitchurch On Thames
Mouse-eared Bat	Myotis	1987	SU617779	The Ridge, Lower Basildon
Pipistrelle Bat species	Pipistrellus	1991	SU637775	Hardwick Road, Whitchurch On Thames
Pipistrelle Bat species	Pipistrellus	1992	SU6377	Hardwick Road, Whitchurch On Thames
Pipistrelle Bat species	Pipistrellus	1994	SU6377	Whitchurch On Thames
Pipistrelle Bat species	Pipistrellus	1995	SU6178	Basildon Park, Basildon
Pipistrelle Bat species	Pipistrellus	1995	SU635773	High Street, Whitchurch On Thames
Slow-worm	Anguis fragilis	1995	SU61637960	Hartslock SSSI
Slow-worm	Anguis fragilis	1995	SU61657950	Hartslock
Slow-worm	Anguis fragilis	1995	SU617797	Hartslock SSSI
Slow-worm	Anguis fragilis	2000	SU616796	Hartslock
Slow-worm	Anguis fragilis	2000	SU616796	Hartslock SSSI
Slow-worm	Anguis fragilis	2000	SU616796	Hartslock
Slow-worm	Anguis fragilis	2001	SU635775	The Old Farmhouse, Hardwick Road,
Soprano Pipistrelle	Pipistrellus pygmaeus	2011	SU6177	refer to BSBBG for further details
Soprano Pipistrelle	Pipistrellus pygmaeus	2011	SU6178	refer to BSBBG for further details
West European Hedgehog	Erinaceus europaeus	2009	SU609788	Lower Basildon

Local Environment

The local area around the site is predominantly arable and pasture fields with intermittent copses, lined with hedges. The dominant landscape feature is the river Thames which passes ~100m to the East of the site and feeds the water within the survey boundary. The main road is located ~200m to the West of the site.

Weather: [at time of survey]

Temperature: 22°C

Cloud Cover: 80%

Wind: 1/8

Precipitation: None

Habitats	Description of Features	
Amenity Grass	Running through the site is a thin path of mown amenity grass, worn to bare ground in places. The dominant species is Perennial Rye Grass (*Lolium perenne*). Common weeds were present, including Hawkweed (*Hieracium spp*), Willowherb (*Ebolium spp.*), Meadow Buttercup (*Ranunculus acris*), Yellow Pimpernell (*Taenidia integerrima*) and Greater Plantain (*Plantago major*).	
Nettle Scrub	Much of the site consists of dense Nettle (*Urtica dioica*) scrub, either side of the metal fence denoting the park boundary. Inside the fence it is taller and denser, probably due to exclusion of herbivores and less shading by trees. Aside from nettles, common species include Bramble (*Rubus fruticosa*), Thistle (*Cirsium arvense*), Hogweed (*Heracleum spp.*), Common Comfrey (Symphytum officinale) and Galium (*Galium aparine*).	
Ornamental Lake	To the North of the area surveyed is a large lake, with ducks and fish present. Water plants are low in diversity and abundance.	
Hard Standing	There is a car park to the West of the site.	
Improved Grass	There is a small improved grass meadow to the North-West of the site, near the main car park.	
Scattered Trees	Around the survey site are several scattered trees, of Scots Pine, Goat Willow, Weeping Willow, Pedunculate Oak, Silver Birch, Common Ash, Hazel and Hawthorn. None are very large, and none have any cracks or crevices suitable for roosting animals.	
Species	**Species potential defined in Table 2.**	**Description of features suitable to support a population OR external habitat connectivity to the site**
Amphibian	Negligible	The lake on site is unsuitable for protected amphibians, as it is full of fish and waterfowl with few submerged plants. No protected amphibian records are found nearby.
Badger	Negligible	No badger setts were found to be present on site. No other badger evidence, e.g. latrines, runs or hair were found to be present. There are no badger records nearby, on the same side of the river.
Bat	Negligible	None of the trees on site have any crevices, holes or peeling bark suitable to be used as a bat roost. A small number of bat species are found in the local area, although this is to be expected of any rural locale.
Bird	Low	Although no nests were found on site, birds could use the trees or hedges for this in the future.
Other terrestrial mammals e.g. otter, water vole	Negligible	No evidence of any other protected mammal was found. Water voles can be found on the Eastern side of the Thames; however there are no records near the survey site.
Reptile	Low	There is no suitable habitat on the survey site for reptiles. There are reptile records in the local area, but most of these come from nearly a kilometre away to the East, over the river. There is an isolated record

		of a grass snake on the grounds of Beale park, but this is ~500m to the north of the site of the proposed development, on the other side of the lake, where habitat conditions appear more suitable.

A Phase 1 map can be found at Appendix I illustrating the habitats.

Conclusions and Recommendations

The NPPF and ODPM Circular 06/05 require that planning decisions are based on complete and timely ecological information. Further, it is required by Natural England's 'Standing Advice' that protected species information must be available before a decision can be made.

Following this guidance, it is highly unlikely that the local planning authority will defer the provision of further protected species survey work as a condition of any planning consent.

At this time we have no reason to believe the local planning authority will consider that this level of survey will provide them with inadequate information or lacks scientific rigour. On occasion though, it can become necessary to perform further surveys even after planning consent is given, where there are extenuating circumstances e.g. if protected species or habitats are found at a later date.

However, separately to mitigating and compensating for unavoidable ecological impacts, government has made it clear through the NPPF and circular 06/05 that development requires the enhancement of the quantity and quality of biodiversity and habitat.

Where the local planning authority is minded to grant consent for the proposed development, some basic and cost effective forms of ecological enhancement could be adequately secured through the use of an appropriately worded condition. Suggestions for such measures are referred to below, in Table 4.

Table 4: Conclusions and Recommendations

Species/Habitats	Species potential defined in Table 2.	Conclusions	Recommendations	Enhancements under NPPF and Circular 06/05
Habitats	Negligible	All plant species and habitats found are common and widespread, no rare or unusual plants or habitats were found. The site is not of a proximity or scale to any statuary sites to have any negative effects.	No further surveys.	
Amphibian	Negligible	The lake on site is unsuitable for protected amphibians, as it is full of fish and waterfowl with few submerged plants. No protected amphibian records are found nearby.	No further surveys.	
Badger	Negligible	No badger setts were found to be present on site. No other badger evidence, e.g. latrines, runs or hair were found to be present. There are no badger records nearby, on the same side of the river.	No further Surveys.	
Bats	Negligible	None of the trees on site have any crevices, holes or peeling bark suitable to be used as a bat roost. A small number of bat species are found in the local area, although this is to be expected of any rural locale.	No further Surveys.	
Bird	Low	Although no nests were found on site, birds could use the trees or hedges for this in the future.	Vegetation/building clearance must take place outside of March to August inclusive. If this is not possible a check of vegetation should be made before works start. Any nests found will require a 5m buffer place around the nest until the young have fledged.	
Other mammals	Negligible	No evidence of any other protected mammal was found. Water voles can be found on the Eastern side of the Thames, however there are no records near the survey site.	No further surveys.	

Reptiles	Low	There is no suitable habitat on the survey site for reptiles. There are reptile records in the local area, but most of these come from nearly a kilometre away to the East, over the river. There is an isolated record of a grass snake on the grounds of Beale park, but this is ~500m to the north of the site of the proposed development, on the other side of the lake, where habitat conditions appear more suitable.	No further surveys.	

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Tom Langton, Catherine Beckett and Jim Foster (2001). Great Crested Newt Conservation Handbook. Froglife. Suffolk.

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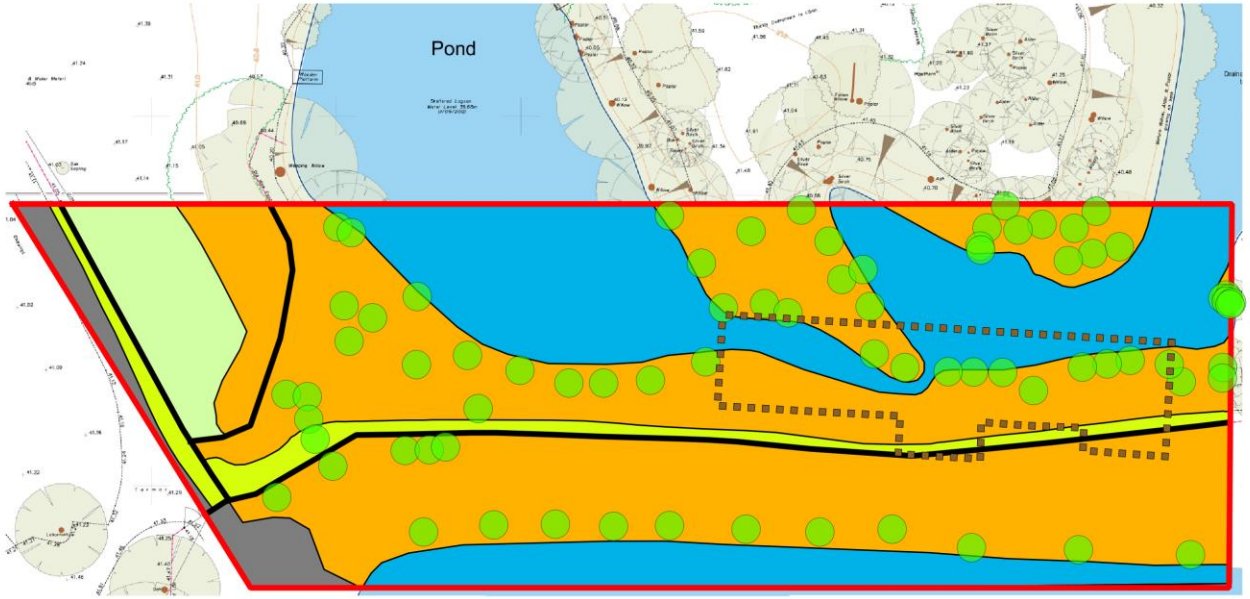
Appendix I Phase 1 Habitat Map



Legend

- Survey Boundary
- Proposed Building
- Nettle Scrub
- Amenity Grass
- Lake
- Improved Grass
- Hard Standing
- Scattered Trees
- Fence

Drawn by: CW

Scale

Not to Scale

North

ARBTECH Consulting Limited

Appendix II Species

Achillea millefolium Yarrow

Bindweed Calystegia sepium

Bluebell Hyacinthoides non – scriptus

Broad – leaved dock R. obtusifolius

Cirsium arvense Creeping thistle

Cow parsley Anthriscus sylvestris

Creeping buttercup Ranunculus repens

Creeping thistle Cirsium arvense

Dandelion Taraxacum offcinale agg

Galium aparine Common cleavers

Greater willowherb Epilobium hirsutum

Ground Ivy Glechoma hederacea

Meadow buttercup Ranunculus acris

Nettle Urtica dioica

Annual Meadow-grass Poa annua

Lolium perenne Perennial Ryegrass

Acer campestre Field maple

Beech Fagus sylvatica

Betula pendula Silver birch

Bramble Rubus fruticosus agg

Hawthorn Crategus monogyna

Hazel Corylus avellana

Hedera helix Ivy

Pedunculate Oak Quercus robur

Yew Taxus baccata

Appendix III Site Photos

Figure 1: Entrance to survey area (fences at South-West corner of habitat map)

Figure 2: Typical 'grass' path, worn down through use. Nettle scrub on both sides of the fence characteristic of the site. White tipped wooden stick marks the proposed South-East corner of the new museum structure (in reality this would be further South (to the left in this picture) but it was placed here as to be visible, and not in the dense nettles).

Figure 3: White stick marks the proposed North-East corner of the new museum structure. The lake was found to be shallow and stagnant here, with very few submerged plants and little invertebrate diversity.

Figure 4: Nettle scrub South of the fence, within the park's grounds. The slight path through the growth that can be seen to the centre of this picture was cut for the survey to allow access.

Appendix IV Summary of Legislation for Various Species

Bats

All 18 species of bat common in the U.K (17 known to be breeding) are fully protected under the Wildlife and Countryside Act 1981 as amended through inclusion in Schedule V. All bat species in the UK. are also included in Schedule II of the Habitats Regulations 2010 which transpose Annex II of the Council Directive 92/43/EEC 1992 on the Conservation of Natural Habitats and of Wild Fauna and Flora ("EC Habitats Directive") which defines European protected species of animals.

Bats species are afforded further protection by the Countryside and Rights of Way Act 2000; and the Natural Environment and Rural Communities Act 2006.

This combined legislation makes it an offence to:

1. Intentionally or deliberately kill, injure or capture bats.
2. Deliberately disturb bats, whether at roost or not.
3. Damage, destroy or obstruct access to bat roosts.
4. Possess or transport bats, unless acquired legally.
5. Sell, barter or exchange bats.

A bat roost is defined by the Bat Conservation Trust publication Bat Surveys—Good Practice Guidelines 2nd Edition as "the resting place of a bat" (BCT 2012). Generally however, the word roost is interpreted as "any structure or place, which any wild bat uses for shelter or protection."

Bats tend to re-use the same roosts; therefore legal opinion is guided by recent case law precedents[1], that a roost is protected whether or not the bats are present at the time. This can include for summer roosts, used for breeding; or winter roosts, used for hibernating.

Common Birds

All common wild birds are protected under The Wildlife and Countryside Act 1981.

This legislation makes it an offence to:

[1] Internet search for e.g. the Woolley case (R. Simon Woolley v. Cheshire East Borough Council) and see here: http://www.naturalengland.org.uk/Images/WoolleyVsCheshireEastBC_tcm6-12832.pdf

1. Kill, injure or take wild birds.
2. Take, damage or destroy the nest of wild birds while it is in use or being built.
3. Take or destroy the eggs of wild birds.

Certain rare breeding birds are listed on Schedule I of The Wildlife and Countryside Act 1981. Under this legislation they are afforded the same protection as common wild birds and are also protected against disturbance whilst building a nest or on or near a nest containing eggs and or unfledged young e.g. Barn Owl Tyto alba.

Reptiles

There are six species of reptiles in Great Britain (Edgar et al. 2010) and four of these are commonly found; the grass snake Natrix natrix, adder Viper aberus, common lizard Zootoca vivipara and slow worm Anguis fragilis ("common reptiles.")

All native British species of reptiles are legally protected through their in Schedule V of the Wildlife and Countryside Act 1981. As such, all species are protected from deliberate killing or injury. Therefore, where development is permitted, and there will be a significant change in land use, a reasonable effort must be undertaken to avoid committing an offence. The same act makes the trading of native reptile species a criminal offence without appropriate licensing.

Two species of reptile; the smooth snake Coronella austriaca and sand lizard Lacerta agilis, are further protected through their inclusion in Schedule II of the Habitats Regulations 2010 which transposes Annex II of the Council Directive 92/43/EEC 1992 on the Conservation of Natural Habitats and of Wild Fauna and Flora ("EC Habitats Directive"), which defines European protected species of animals ("rare reptiles.")

This legislation makes it an offence to:

1. Intentionally or deliberately kill, injure common and rare reptiles.
2. Deliberately disturb or capture rare reptiles.
3. Damage, destroy or obstruct access to rare reptile habitat.
4. Possess or transport a rare reptile or any part of a rare reptile, unless acquired legally.
5. Sell, barter or exchange common and rare reptiles.

Rare reptile species occupy only highly restricted ranges in the extreme south east of costal England, with isolated populations of sand lizard in e.g. costal Wales and Cornwall. Smooth snake populations are isolated to lowland heaths in e.g. Surrey, Hampshire, Dorest and West Sussex.

Badgers

Badgers Meles meles are vulnerable to baiting, hunting and the detrimental impacts of development on their habitat. Both the badger and its habitat are protected under

The Protection of Badgers Act 1992, Schedule V of the Wildlife and Countryside Act 1981, and Appendix III of the Bern Convention 1979.

This legislation makes it an offence to:

1. Kill, injure, take or possess a badger.
2. Interfere with, damage or destroy a badger sett including e.g. obstruct access to a badger sett.
3. Cruelly treat or harm a badger.
4. Disturb a badger in a sett.

Penalties for offences are documented (NE 2010) as fines of up to £5,000 and imprisonment for each illegal sett interference or damage or death to a badger.

Great Crested Newts

Populations of great crested newts Triturus cristatus declined considerably in the late twentieth century (Langton et al. 2001) due to the intensification of agriculture. They require ponds with good water quality and as they spend most of their life on land these ponds must be surrounded by high quality terrestrial habitat.

Great crested newts are listed in both Annex IV of the EC Habitats Directive and in Schedule V of the Wildlife and Countryside Act 1981.

GCN are afforded further protection by the Countryside and Rights of Way Act 2000; and the Natural Environment and Rural Communities Act 2006.

This combined legislation makes it an offence to:

1. Deliberately kill, injure or capture a great crested newt.
2. Deliberately disturb a great crested newt.
3. Damage, destroy or obstruct access to a structure used for shelter or protection by a great crested newt.
4. Possess or transport a great crested newt.