

Guide to protected species surveys



NATURAL PROGRESSION

Our consultancy

We provide consulting services to a wide range of private and public sector organisations, including infrastructure operators, local government, project consortia, property owners and developers, public and private sector utility companies and regulators. We draw on a wealth of technical expertise, specialist experience and innovation, which we combine with a friendly, professional approach.

Our services

Our approach is always carefully tailored to meet, and aspire to exceed, client expectations. Our primary focus is on the interactions between environment and development; we regularly work on land use and spatial planning matters, including ecological surveys and impact assessment, Habitats Regulations and appropriate assessment, Strategic Environmental Assessment and Sustainability Appraisal.

Our accreditations

Our consultants and associates are fully aware of current legislative requirements and hold relevant protected species licences as required. All members of the ecology team hold membership of the Chartered Institute of Ecology and Environmental Management.

Our key areas of ecological work include:

- Ecological baseline surveys such as Phase I habitat surveys and rapid ecological site screening
- Protected species surveys
- Ecological Impact Assessment
- Design and implementation of mitigation strategies, including habitat creation, species translocation and ecological enhancement
- Licence applications
- Monitoring advice
- Ecological Clerk of Works
- Environmental management plans
- Ecology chapters for Environmental Impact Assessment
- Research and policy

For more details please contact us at:

T: +44 (0) 1273 686 766 E: enquiries@ueec.co.uk

W: www.ueec.co.uk

Atlantic crayfish

Austropotamobius pallipes

- The Atlantic crayfish, also referred to as the native, freshwater or white-clawed crayfish, is the UK's only native species of crayfish.
- They inhabit aquatic habitats such as lakes, rivers, reservoirs, water-filled quarries, canals and streams where water pollution is low.
- They prefer mineral-rich, neutral to alkaline water (pH 7-9) with plenty of stones and roots for shelter.
- Central England and the north west, such as the Yorkshire Dales, are key regions for Atlantic crayfish.
- They have an olive-brown, smooth appearance with pale-coloured undersides to the claws. The dorsal surfaces are covered in a fine mat of hairs.
- They are nocturnal and omnivorous. They have many predators such as otter, mink, rats, birds and fish (especially pike and trout).

- Breeding usually takes place in the autumn (Sept-Oct), with eggs being hatched in late spring or early summer.



Atlantic crayfish conservation status

Atlantic crayfish are considered globally threatened. In the UK their numbers have undergone a significant population decline in recent decades due to fragmentation of habitats and the spread of crayfish plague, a fungal disease.

Introduced species, particularly the American signal crayfish (*Pacifastacus leniusculus*) are out-breeding and out-eating the Atlantic crayfish.

The signal crayfish is also immune to the effects of the crayfish plague, (although it does carry the disease), adding further strength to its competitive advantage over the Atlantic crayfish.



Atlantic crayfish

Length: Up to 12cm

Weight: Up to 2kg

Total UK population: 24% of the global population

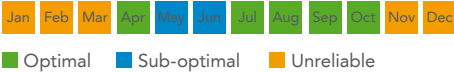
Life expectancy: 7 to 12 years

UK BAP Priority Species and European Protected



Photo by www.fotoARION.ch

Atlantic crayfish survey season:



Atlantic crayfish legislation

Atlantic crayfish and their habitats are protected by law under Schedule 5 of the Wildlife and Countryside Act 1981 (W&CA) (as amended) and as European Protected Species under the Conservation of Habitats and Species Regulations 2010.

It is an offence to, or attempt to, wilfully kill, injure or take any native crayfish; possess any dead native crayfish or part of one; possess or control a living, healthy native crayfish; intentionally or recklessly damage, destroy or obstruct access to its habitat, or disturb a native crayfish while it is occupying its habitat. The species is listed in Appendix III of the Bern Convention.

Under Schedule 14 of the W&CA it is illegal to release non-native crayfish into the wild without a licence and it is also illegal to allow non-native crayfish to escape from holding facilities. 'Reasonable steps' and 'due diligence' must be exercised to avoid escapes from holding facilities.

Atlantic crayfish surveys and mitigation

Authorities are required by law to take into account protected species in their consideration of planning applications; planning permission is usually only granted after a detailed ecological survey. Due to the protection afforded to Atlantic crayfish, all survey techniques must be conducted by a licensed individual.

Trapping and active searching beneath stones in water bodies during low flow are common crayfish survey techniques. In deep pools, night searching by torch may lead to better results, as may baited traps.

Optimal survey months are April and July to October (whilst females are not carrying eggs), although general habitat assessments can take place throughout the year.



Our team of colleagues and associates provide general and specialist surveys for a broad range of species and habitat types. We can devise ecological design and mitigation strategies, and provide habitat management and restoration advice, followed by post-development monitoring where required.

We offer a full range of ecological survey and assessment services, from simple and extended Phase 1 habitat surveys, Phase 2 surveys and protected species surveys, to preliminary ecological appraisals, Ecological Impact Assessment, Habitats Regulations Assessments and EIA ecology chapters.

Our team has carried out ecological surveys and assessments for renewable energy projects, industrial developments, retail schemes, road transport projects, and mixed use and residential developments.

Badger

Meles meles

- Badgers are found throughout the UK, although are less common in East Anglia and Scotland. They have an omnivorous diet, eating a range of plants and invertebrates.
- Badgers are territorial, but can be found in groups (clans) of around 12. Each clan has a dominant male and female that are often the only members of the clan to reproduce. Badgers have a gestation period of 7-8 weeks and give birth to 1-5 offspring (cubs).
- A clan of badgers occupies a territory that may contain several types of sett, categorised in order of significance: main setts, annexe setts, subsidiary setts and outlier setts.
- Badgers are nocturnal and normally spend daylight hours in their setts.
- Badgers prefer to inhabit well drained, grazed pastures, woodlands and field boundaries, which are free from disturbance and have high numbers of earthworms exposed.

- They dislike clay soil, which is difficult for them to uncover. They thrive best where a mosaic of habitat types are available within their territories.



Badger conservation status

In some parts of Britain, badger numbers are dropping, while elsewhere they are relatively common. The badger's lack of road sense and its sensitivity to certain diseases can combine to make it vulnerable to a range of threats.

The most serious threats to badgers are:

- road traffic
- the construction of new roads and other developments
- illegal hunting and 'pest control' activities
- disease control programmes

Traffic kills around 50,000 badgers a year in Britain.



Badger

Length: Up to 1m

Weight: 8-12kg

Total UK population: Around 300,000

Life expectancy: 5 years



Badger survey seasons:



Badger legislation

Badgers are strictly protected by law under the Protection of Badgers Act 1992 and the Wildlife and Countryside Act 1981 (as amended). The Protection of Badgers Act is a consolidation of the Badgers Act 1973, the Badgers Act 1991 and the Badgers (Further Protection) Act 1991.

It is an offence to (or attempt to) wilfully kill, injure or take any badger; possess any dead badger or part of one; possess or control a living, healthy badger; intentionally or recklessly damage, destroy, interfere or obstruct access to a sett, or disturb a badger while it is occupying a sett.

Badger surveys and mitigation

Authorities are required by law to take into account protected species in their consideration of planning applications; planning permission is usually only granted after a detailed ecological survey.

Due to the protection afforded to badgers, some survey techniques may require a licensed individual.

Areas are initially surveyed to confirm whether the habitat is suitable for badgers, followed by a more detailed survey to record evidence and levels of badger activity.

Badger surveys can be undertaken throughout the year but sett surveys are best carried out during February-April (which is also the best time for bait marking) and September to November, when badger activity is at its height.

Mitigation may involve creation of sett protection zones, construction of artificial setts, planting and management of badger habitats, design of badger corridors and supervision of work alongside occupied setts.

Any works involving the closure of an existing badger sett must be carried out under licence.



A very friendly and personal service which was efficient and thorough – all we needed.”

Andy Lambor, Director, Matsim Properties Ltd

Bats

Chiroptera

- Bats constitute one third of the UK's total number of land-based mammal species. They are found throughout the UK, although are more common in the south west.
- All our bats evolved to exploit extensive woodland. In comparison, open landscapes are considerably impoverished.
- There are 17 species of bat in the UK. The common and soprano pipistrelle are the most prevalent and widespread of all British bat species.
- All species eat insects, which they either catch in flight, from foliage or from the ground. They are the world's only winged mammal group.
- Bats roost in buildings, churches, trees and underground sites, such as abandoned mines, cellars and tunnels. Roof voids, cracks and crevices in old farm buildings are commonly used by bats for roosting as they provide an undisturbed setting that is often close

to good hunting habitats such as woodlands or wetlands.

- Female bats form nursery colonies in May and typically give birth to one pup a year, in May or June.



Bat conservation status

Bat numbers have decreased significantly in recent decades. Pipistrelle numbers fell by 60% between 1978 and 1986. Greater and lesser horseshoe bats are endangered, the barbastelle is rarely seen and the mouse-eared bat became extinct in 1991 (although a solitary individual has been roosting in the south east since 2002).

Intensified agriculture, land use changes, lighting, mobile phone masts and wind turbines all affect bats.

Urbanised settings less often provide suitable feeding places for bats and modern construction such as steel and sheet materials provide few crevices for them to occupy.



Bats

Length: 35-71mm

Weight: 3-40g

Total UK population: 4,916,600 (all species)

Life expectancy: 16-30 years

Hibernation period: October-March

Seven species of bat are UK BAP Priority Species; all species are European Protected



Bat survey seasons:



Bat legislation

All species of British bat and their roosts are protected under British law by the Wildlife and Countryside Act 1981 (as amended), which is extended by the Countryside and Rights of Way Act 2000. Bats are classified as European Protected Species under the Conservation of Habitats and Species Regulations 2010.

Together, the legislation makes it an offence to intentionally capture, kill or injure a bat; possess or control a live or dead bat, any part of a bat or anything derived from a bat; damage, destroy or obstruct access to any place that a bat uses for shelter or protection; disturb a bat while it is occupying a structure or place that it uses for shelter or protection; sell, offer or expose for sale, or possess or transport for the purpose of sale, any live or dead bat, any part of a bat, or anything derived from a bat; set and use

articles capable of catching, injuring or killing a bat (for example a trap or poison); and sell, barter or exchange bats (dead or alive) or parts of bats.

Bat surveys and mitigation

Due to the protection afforded to bats, some survey techniques will require a licensed individual.

Survey methods include: initial habitat assessments, roost inspections (including trees and structures, hibernation, maternity and summer roosts), activity surveys, dusk emergence and dawn re-entry surveys, and remote monitoring.

We offer advice on bats, mitigation and planning permission.



I instructed Urban Edge in the course of 2013 for a full ecological assessment of a redundant pair of Victorian buildings, as part of a relatively complex development proposal in Hastings. I found Nick and his team to be a pleasure to work with and they gave me clear, pragmatic advice throughout the process."

Michael Moran, Director, Moran RAC Ltd

Bird surveys

Due to the variety of birds and their habitats in the UK, bird surveying often requires bespoke techniques to assess the impact of each type of development.

Legislation

All species of bird are protected under the Wildlife and Countryside Act 1981 (W&CA) (as amended), which makes it an offence to intentionally or recklessly:

- kill, injure or take any wild bird
- take, damage or destroy the nest of any wild bird while that nest is in use or being built
- take or destroy an egg of any wild bird

Furthermore, some species such as the barn owl or black redstart are listed on Schedule 1 of the W&CA.

These species receive stricter protection, additionally making it an offence to intentionally or recklessly:

- disturb any such bird while it is building its nest, or is in or near a nest containing eggs or young
- disturb the young of such a bird

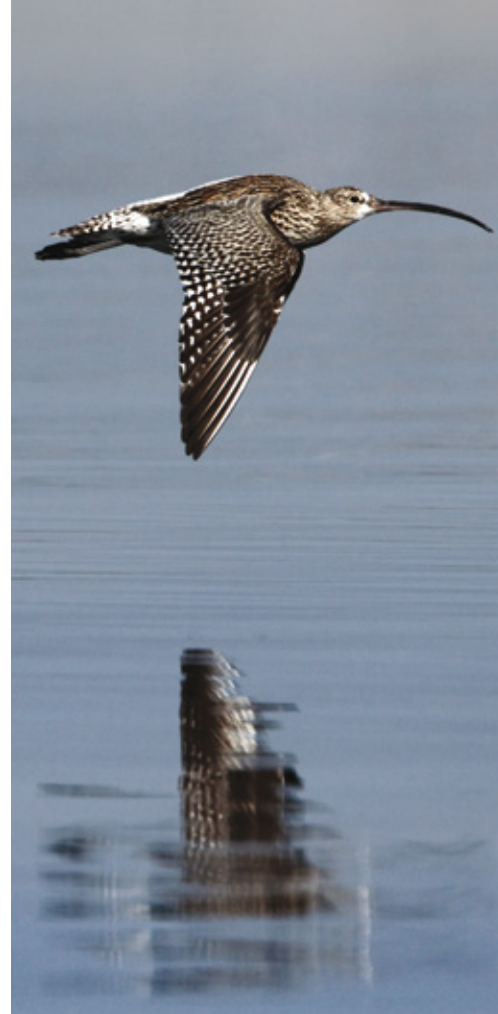
Surveys

The most common techniques are:

- breeding bird surveys
- species specific surveys
- nesting bird checks (often a requirement of planning conditions)
- vantage point surveys (e.g. for wind turbine projects)
- winter bird surveys

Breeding bird surveys

These surveys can form part of a major development proposal, particularly in areas with large amounts of good quality habitat. The survey involves detailed mapping of nests, territories and activity and is particularly useful when it is possible that rare or protected bird species are likely to be impacted by a development.



Species specific surveys

If a particular Schedule 1 species is at risk of impacts from a development, it is possible to develop a specific survey methodology to explore how the species uses the proposed development site or areas nearby. These can range from a survey of heathland to establish territory areas as part of a large housing development, to a barn owl survey for potential wind turbine impacts.

Nesting bird checks

It is ordinarily advised that any removal of vegetation that has the potential to be used by nesting birds is carried out outside the main nesting season, which runs from March to August. However, this is not always possible. If clearance is to be carried out outside these dates, vegetation must first be surveyed to identify if active nests are present and steps taken to ensure that no infringement of legislation occurs.

Vantage point surveys

This type of survey is often used to support applications for wind turbines and involves surveyors observing bird activity from fixed locations. This allows inferences to be made regarding the types of species present and the modelling of collision risks for individual species.

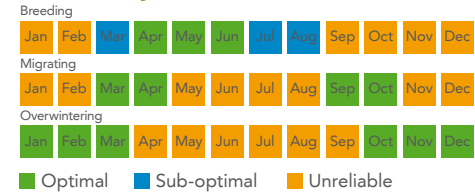
Winter bird survey

These are mostly carried out as part of an assessment into impacts on Special Protection Areas (SPA) and often involve coastal sites or inland lakes. The aim of the survey is to identify if the site is of importance to birds that overwinter in the UK such as waders, ducks and geese. The surveys are carried out using WeBS (wetland bird survey) methodology and can be used to supplement existing WeBS data.

Reports to inform Appropriate Assessment close to Special Protection Areas (SPA)

In addition to the above, UEEC have experience in compiling Appropriate Assessments for development projects. Proposals that are close to an SPA must be assessed to see whether they will have a particular impact on the species (or their habitats) for which the SPA is designated. The reports and data required vary hugely from project to project, but data analysed in the assessment can include visitor surveys, pollution impacts and habitat associations to name but a few.

Bird survey seasons:



// Committed to the profession, which is demonstrated in the high quality of work. Able to deal with a range of stakeholders with diverse views and filter out the key issues. Got to grips with the requirements quickly and understood the project's wider sensitivities and interdependencies. The reporting style was consistent, balanced and well received by stakeholders and the client team."

Bruce Collinson, Environmental Sustainability Lead,
Whitehill Bordon Eco-town

Barn owl

Tyto alba

- The barn owl is an iconic bird associated with farmland and rough grassland.
- Its diet consists almost exclusively of wild mammals; particularly field voles which make up a large proportion of its diet.
- The barn owl requires a large hunting range, estimated at between 15 and 21ha of rough grassland hunting habitat within 2km of its nest.
- Barn owls can nest at any time of year. However, they tend to only produce young between March and August when prey abundance is at its highest.
- Barn owls do not build a nest but will lay eggs on any suitable surface. They lay approximately five eggs. However it is unusual for all young to reach maturity.



Barn owl conservation status

Barn owls have undergone a steady decline in numbers in the UK. It is estimated that numbers have dropped from approximately 20,000 pairs in the early 1900s to around 4,000 pairs in the 1990s.

The main mortality factors are starvation, which accounts for around 55% of deaths and is most likely due to intensive farming methods, and habitat loss, which decreases prey availability.

Road mortality accounts for around 30% of barn owl deaths.

Other factors affecting conservation status include the loss of traditional barns, which give both nesting and indoor hunting habitat.



Barn owl

Length: Up to 35cm

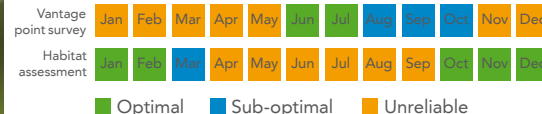
Weight: Up to 350g

Life expectancy: Between 10-12 years in the wild

Population: Approximately 4,000 breeding pairs in the UK



Barn owl survey seasons:



Barn owl legislation

Barn owls are protected under Schedules 1 and 9 of the Wildlife and Countryside Act and are an Amber listed Bird of Conservation Concern.

Nest surveys require a licence to be obtained from Natural England.

Barn owl surveys and mitigation

Habitat assessments are used to establish the general suitability of an area for barn owls, including the presence of suitable hunting habitats and nest sites. They help to set the scope for nest or activity surveys.

Nest surveys are mostly used when buildings or trees that have the potential to support barn owls are to be removed or altered. This involves a survey looking for splashing, pellets, moulted feathers or if you are lucky the owls themselves. Nest surveys should not be carried out during March, April or May as there is a high risk of nest abandonment during these months.

Activity (vantage point) surveys are more important for schemes that will result in a significant loss of foraging habitat, or impact to the birds themselves, for example wind farms.



// We use Urban Edge Environmental for ecological appraisal services for our renewable energy projects across the UK, and have always found them extremely professional and able to meet tight timescales on site visits and reporting. More importantly, they are able to unpick complex ecological issues that allow a sensible route forwards for our developments. Thanks for all your help these last few years."

Guy Manners-Spencer, York Green Renewables Ltd

Black redstart

Phoenicurus ochruros

- The black redstart is a small robin-sized bird that has adapted to live at the heart of industrial and urban centres. Its diet usually consists of insects, spiders, worms, berries and seeds.
- Areas of sparse wasteland vegetation and stony ground are necessary for feeding. Many brownfield sites adequately provide this habitat requirement.
- However, extensive areas of open brownfield are not favoured by the black redstart. It prefers an intricate site with complex structures such as high buildings, rubble piles and cranes used as high vantage singing posts, and features affording a variety of ledges or holes for nesting.
- It is more common in Britain as a bird of passage and winter visitor. Very few breed in Britain; those that do are mainly found in south-east England, East Anglia and the West Midlands. On passage it is fairly common on the east and south coasts.

- Migrant black redstarts arrive in Britain in October or November and pass on or remain to winter, returning eastward in March or April.



Black redstart conservation status

With fewer than 100 breeding pairs in Britain, black redstarts are still rarer than either the golden eagle or the osprey.

Urbanisation and regeneration pressures have had a severe effect on the availability of suitable black redstart habitats.

They can have nest sites accidentally removed and disturbed as they often nest in brownfield areas undergoing redevelopment, as well as railway-sidings and car parks.



Black redstart

Length: 13-14.5cm

Weight: 14-20g

Life expectancy: 1.5 years

Population: 27-74 breeding pairs, 500 wintering birds



Black redstart legislation

The black redstart is fully protected under Schedule 1 of the Wildlife and Countryside Act 1981 (as amended); it is a criminal offence to intentionally disturb or harm breeding adults, their nests and dependent young. The Countryside and Rights of Way Act 2000 gives further protection from 'reckless' disturbance or harm.

They also appear in the Bonn Convention on the Conservation of Migratory Species of Wild Animals and on the Birds of Conservation Concern Amber List.

Black redstart surveys and mitigation

Authorities are required by law to take into account protected species in their consideration of planning applications;

planning permission is usually only granted after a detailed ecological survey. Due to the protection afforded to the species, intrusive survey techniques must be conducted by a licensed individual.

In order to establish the presence/likely absence of black redstarts, breeding season surveys are generally conducted from mid April to June, with at least five fortnightly visits, conducted at dawn and/or in the evening. Although there is no recognised method for surveying black redstarts in winter, a single visit once a month from November to February would be considered suitable.

Mitigation measures are the inclusion of green roofs, maintenance of brownfield habitat within a site, and the installation of nesting boxes. The primary issue is the provision of suitable low nutrient substrate within the development scheme to support a variety and low-density coverage of ruderal plants.



// Isle of Wight Council Highways Team sought advice on the environmental implications of a nearly £1billion, 25 year programme of highways upgrade, maintenance and operation. Working on the Habitats Regulations Assessment (and associated Strategic Environmental Assessment), they took a very professional and knowledgeable approach to the subject and met all our tight deadlines with ease. They quickly became part of the PFI team and interacted well. The director was an asset at meetings with prospective bidders and outside bodies such as Natural England and the Environment Agency, always having the necessary information to hand. I have no hesitation in making a recommendation."

Malcolm Smith, Technical Manager,
Highways PFI Team, Isle of Wight Council

Common dormouse

Muscardinus avellanarius

- Common (or Hazel) dormice are traditionally found in deciduous, coppiced woodland and overgrown hedgerows. However, they are readily being recorded in habitats previously thought less suitable such as bramble, scrub and even reed beds.
- Their location ranges from the southern counties of Britain to scattered locations in the Lake District and mid Wales.
- They can be distinguished from other small mammals by their orange/ brown fur, and their thick bushy tails.
- Dormice are predominantly arboreal and nocturnal, spending daylight hours sleeping in tightly wound nests.
- Dormice hibernate on the ground and generally from October to April, when food is scarce and night temperatures fall. They may spend up to three quarters of their life asleep.
- They are excellent climbers and at night can be found high up in the tree canopy

searching for food, feeding on flowers, pollen, fruits, insects and nuts.

- Dormice can rear one or occasionally two litters a year, usually consisting of four young.



Dormouse conservation status

The British dormouse population fell 23% during 1993-2002, and is now thought to number just 45,000.

The main pressures on dormice are through direct human influence on their habitats, including:

- loss and fragmentation of ancient woodlands
- suspension of coppicing
- increased predation by domestic animals
- forestry clearance
- removal of hedges and undergrowth
- climatic changes



Common dormouse

Length: 55-80mm

Weight: 15-30g

Life expectancy: Around 5 years

Hibernation Period: Oct/Nov-March/April

UK BAP Priority Species and European Protected



Dormouse legislation

Common dormice are a European Protected Species listed on Appendix III of the Bern Convention and Annex IVa of the EC Habitats Directive. They are fully protected under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) and Conservation of Habitats and Species Regulations 2010.

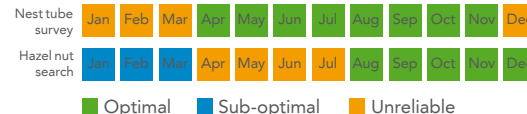
Together, these make it an offence to intentionally or deliberately disturb, kill, injure or take a dormouse; possess live or dead animals or any parts thereof; intentionally or recklessly damage, destroy or obstruct access to any place used for shelter, breeding or protection by a dormouse or to disturb it while it is using such a place; sell, offer for sale, possess or transport for the purpose of sale any live or dead animal or part thereof.

Dormouse surveys and mitigation

Presence/likelihood of dormice can be established through a combination of survey methods, including nest box/nest tube surveys, habitat assessments and gnawed hazel nut searches, following suitable methodologies. Nest box/tube surveys must be carried out by a licensed individual.

Nut searches alone cannot establish the presence or absence of dormice, and are generally conducted from mid September to December. In order to achieve a thorough survey, nest tubes should ideally be left in suitable habitat for an entire season (April to November). If development works are to affect dormice or their habitat, a licence must be obtained from Natural England, and appropriate mitigation measures implemented. It is generally expected that habitat clearance is conducted outside the breeding season and during dormouse hibernation, namely November to March.

Dormouse survey seasons:



“Nick and his team provide us with a consistent and quality service that we can rely on. They are efficient and communicative and understand the various demands within the planning system.”

Martin Landivar, Director, Landivar Architects Ltd

Great crested newt

Triturus cristatus

- Great crested newts (GCN) are Britain's largest newt species.
- They have grey/brown warty skin covered with darker coloured spots, while their undersides are orange and yellow.
- Males can be distinguished from females by the presence of a jagged crest that runs along their backs during breeding, and a silver flash to the tail.
- They are found in localised populations throughout mainland Britain, requiring a diverse, dense terrestrial habitat for shelter and food, and use corridors such as hedges and ditches to disperse from breeding ponds. Ponds should include areas of open water for displays, submerged vegetation for egg-laying, and good foraging opportunities.
- The newts are nocturnal and spend much of the year on land under logs, stones and vegetation. In spring, adults return to an aquatic environment to breed. Females can lay upwards of 300 eggs on submerged aquatic plants.

- In late summer, adult newts leave the water, although juveniles may overwinter as larvae.
- As temperatures fall, newts hibernate on land in sheltered, damp, frost-free places.



Great crested newt conservation status

The GCN is Britain's most threatened newt. The species has suffered a decline in recent years with studies in the 1980s indicating a national rate of colony loss of approximately 2% over five years.

Their population has declined as a result of the destruction, fragmentation and pollution of their breeding sites and terrestrial habitat.

The International Union for Conservation of Nature (IUCN) Red List categorises the species as 'lower risk'.



Great crested newt

Length: Up to 16cm

Weight: Up to 8.5g

Population: Uncertain, estimated to have 18,000 breeding sites

Life expectancy: 27 years

Hibernation period: October to late February

UK BAP Priority Species and European Protected



Great crested newt survey seasons:



Great crested newt surveys and mitigation

All ponds within 500m of a development site should be surveyed for Great Crested Newts.

As the GCN is largely nocturnal, surveying is conducted by a licensed individual at night, during the breeding period of mid March to mid June. Four visits are required to determine presence/likely absence, and six visits to estimate population size class. In either case, 50% of visits must take place between mid April and mid May.

A combination of techniques are used, and UEEC follows Natural England's Great Crested Newt Mitigation Guidelines.

Mitigation may comprise of changes to the timing of operations, exclusion, setting land aside, habitat creation, restoration/enhancement or a translocation.

Mitigation works will often require a Natural England licence.



// We've used Urban Edge Environmental for ecological advice on a number of development projects and have always found the services they offer to be cost-effective and timely. The advice they provide is clearly set out, justified by the findings of their on-site survey work, practical in its approach and responsive to our clients' requirements for the site."

Edward Ledwidge, Director, Blue Sky Planning Ltd

Great crested newts legislation

The great crested newt is a European Protected Species under the EC Habitats Directive 1992, implemented in the UK by the Conservation of Habitats and Species Regulations 2010.

The GCN is also listed on Schedule 5 of the Wildlife and Countryside Act 1981, making it an offence to: intentionally kill, injure or take; possess or control any live or dead specimen or anything derived from a GCN; intentionally or recklessly damage, destroy or obstruct access to any structure or place used for breeding, shelter or protection; intentionally or recklessly disturb a GCN while occupying a structure or place that it uses for that purpose; intentionally take or destroy the eggs of a GCN.

Otter

Lutra lutra

- The otter is a largely nocturnal, semi-aquatic carnivorous mammal which can be found in a range of aquatic habitats ranging from inland freshwater such as rivers and streams to coastal areas.
- Although otters hunt in water they require suitable terrestrial habitats for resting and breeding, such as vegetated river banks and islands, reedbeds and riparian woodlands.
- Otters are territorial and maintain large home ranges. A male otter can have a range of up to 40km of river and associated habitat, whereas female ranges tend to be around half this size.
- The diet of otters is predominantly fish but they will also feed on frogs, invertebrates such as crayfish, and waterbirds.

- Otters usually give birth to two or three cubs between May and August. These are born in a "holt" in a bank or between rocks or tree roots. Young are able to swim at around 3 months and will leave the protection of their mother at around 10 to 12 months.



Otter conservation status

Once widespread in the UK otter populations decreased sharply during the 1960s and 1970s due to pesticide pollution of watercourses, exacerbated by hunting and habitat loss.

At present the majority of the otter population occurs in Scotland with strong concentrations present in Wales and Ireland. The highest concentration of otters in England is found in the south west. Although the otter is still scarce the UK population is recovering and recolonising much of its former range.



Otter

Length: 1-1.5m

Weight: 7-11kg

Total UK Population: Uncertain but likely to be several thousand

Life expectancy: Up to 10 years (though on average 4 years)

UK BAP Priority Species and European Protected



Otter survey season:



■ Optimal ■ Sub-optimal ■ Unreliable

Otter legislation

The otter is a European Protected Species under the Conservation of Habitats and Species Regulations (2010).

Otters are also fully protected by the Wildlife and Countryside Act 1981 making it an offence to: deliberately capture, injure or kill a wild otter; deliberately disturb wild otters, including in particular disturbance which is likely to impair their ability to survive, to breed or reproduce, or rear or nurture their young; affect significantly the local distribution or abundance of the species; damages or destroy a breeding site or resting place of an otter; intentionally or recklessly disturb an otter whilst occupying a place of shelter or obstruct access to such a place.

Otter surveys and mitigation

Otters avoid disturbance and are largely nocturnal which makes direct observation very challenging. Otter surveys focus on field signs, primarily foot prints alongside the riverside and spraints which mark an otter's territory and can be identified by their distinctive smell. Feeding remains, particularly the exoskeletons of crustaceans can also be found in exposed areas. Non-intrusive survey techniques do not require a licence.

A Natural England mitigation licence would be required for any activity that may disturb otters. Mitigation can involve the creation of underpasses or culverts to minimise road deaths, the implementation of schemes to minimise disturbance to existing populations, or the creation of additional habitat or improvements to habitat connectivity.



// Thanks for the swift response.
I was saying to members of my team at our meeting yesterday that I will be using your company henceforth wherever and whenever I lead any future development plan preparation."

Patrick Akindude, Principal Planner (Strategy),
Fareham Borough Council

Terrestrial reptiles

There are six species of reptile native to the UK, all of which are protected under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended).

- **Adders** (Britain's only venomous snake) are light grey/brown with a black zigzag marking along the length of the back, up to 65cm long – UK BAP Priority Species.
- **Grass snake** (males 65cm, females 100-120cm) are dark green with black vertical bars, spots along their sides, and a distinctive black and yellow collar – UK BAP Priority Species.
- **Smooth snakes** (up to 60cm) are greyish with two rows of dark markings along the back – UK BAP Priority Species, European Protected.
- **Sand lizards** (18-20cm) are brown with dark blotches (males have green sides) – UK BAP Priority Species, European Protected.
- **Common/viviparous lizards** are 13-15cm long and can include shades of brown, grey and dark green – UK BAP Priority Species.
- **Slow worms** (legless lizards) can reach 40cm in length and have a polished-looking grey/brown colouration – UK BAP Priority Species.

Reptiles are found in a wide range of habitats, including brownfield sites. Dry heathlands are the best natural habitats for British reptiles, but semi-natural areas with sunny south-facing slopes and open vegetation are also suitable. The main prey of adders and smooth snakes are small mammals and other reptiles. Amphibians and fish dominate the diet of the grass snake, which is essentially an aquatic species. Invertebrates form the diet of all three lizard species. Reptiles are active early spring to late autumn, spending the winter months in hibernation.



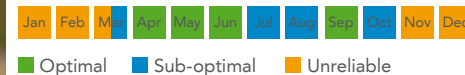
Terrestrial reptile conservation status

Reptile populations have been decimated by loss of habitat and habitat fragmentation. The destruction of sandy heathlands, conversion of land to agriculture, and housing have threatened reptile numbers. In particular, farming methods have destroyed certain habitats of the grass snake.





Terrestrial reptile survey season:



Terrestrial reptile legislation

All six native reptiles are protected in Britain under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended), extended by the Countryside and Rights of Way Act 2000. The grass snake, common lizard, slow worm and adder are partially protected under Schedule 5 of the W&CA. The legislation makes it an offence to intentionally, or recklessly, kill or injure any of the above species, and/or sell, or attempt to sell, any part of the species, alive or dead.

The sand lizard and smooth snake receive greater protection under European and UK legislation, which gives full protection to the species. It is an offence to intentionally kill, injure or take a sand lizard or smooth snake; intentionally or recklessly damage, destroy or obstruct access to any structure or place of shelter or protection; disturb a sand lizard or smooth snake while it occupies such a structure or place; keep, transport, sell or exchange; and offer for sale or advertise.

Terrestrial reptile surveys and mitigation

Licences are only required for smooth snake and sand lizard survey and mitigation.

The presence/likely absence of reptiles may be determined by walk-over surveys and the searching of natural/artificial refugia.

A minimum of seven survey visits must be conducted using artificial refugia between mid March and late June and/or between September and October during appropriate weather conditions.

Late season visits are useful in identifying whether breeding occurs on the site, as juveniles are most likely to be detected at this time.

Mitigation includes habitat creation, enhancement, fencing and/or translocation to an alternative site.



I will pass on your details to my colleagues for consideration on other projects as I am really pleased with the service provided on Brentford Lock."

Hazel Swan, Assistant Design Coordinator,
Willmott Dixon Housing Limited

Water vole

Arvicola terrestris

- Water voles are the largest British vole and are often mistaken for rats.
- They have brown fur, a round body and a long, fur-covered tail.
- Water voles are found throughout Britain but are confined mainly to lowland grassland areas near water, including the banks of ditches, dykes, lakes and slow-moving rivers and streams.
- Male voles live along approximately 130m of water bank, while females have ranges about 70m long.
- Water voles tend to be active more during the day than at night and are excellent swimmers.
- They feed mainly on grasses and other plant material.

- Water voles have up to five litters a year, depending on environmental conditions, each usually consisting of 3-7 young. Young are weaned at 14 days and leave their mother about a week later.



Water vole conservation status

Once common and widespread across mainland Britain, water voles have suffered a significant decline in numbers and distribution – by 88% during 1990-1998 – making them the fastest declining mammal species in the UK.

The main pressures on water voles include:

- loss, fragmentation, degradation and disturbance of riparian habitats
- predation by American mink
- pollution of watercourses



Water vole

Length: 12-22cm

Weight: 150-300g

Pre-breeding population: 1,200,000

Life expectancy: 2 years, but many only survive 5 months in the wild

UK BAP Priority Species



Water vole survey season:



■ Optimal ■ Sub-optimal ■ Unreliable

Water vole surveys and mitigation

Authorities are required by law to take into account protected species in their consideration of planning applications; planning permission is usually only granted after a detailed ecological survey.

As water voles are rarely seen, surveys should be based on the presence of characteristic signs such as latrines, tracks, feeding stations and burrows.

Searches should involve a close examination of all waterway and pond banks up to two metres from the water's edge. Surveys should be conducted between mid April to mid September when water voles are more active.

Mitigation measures include habitat manipulation and species exclusion, encouragement of sensitive work methods, improved land management, and habitat enhancement and creation.



Where to find us.



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Water vole legislation

Water voles are now fully protected by UK law under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended).

This makes it an offence to intentionally kill, injure or take (capture) a water vole; possess or control live or dead, or any part of, a water vole; intentionally or recklessly damage, destroy or obstruct access to any structure or place that water voles use for shelter or protection, or disturb water voles while they are using such a place.

Protected species survey seasons

Atlantic crayfish	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Badger (general)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Badger (setts & bait marking)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Bats (activity survey)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Bats (roost assessment)	●—●			Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Birds (breeding)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Birds (migrating)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Birds (overwintering)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Barn owl (vantage point survey)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Barn owl (habitat assessment)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Common dormouse (nest tube survey)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Common dormouse (hazel nut search)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Great crested newt (pond survey)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Great crested newt (terrestrial survey)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Otter	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Terrestrial reptiles	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Water vole	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec

■ Optimal

■ Sub-optimal

■ Unreliable

●—● Hibernation roosts (bats)



No standard survey season applies for aquatic and terrestrial invertebrates due to the sheer diversity of species. Surveys are instead tailored to the site and species of interest.



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NATURAL PROGRESSION