Bat mitigation strategy

TASE, Barnsley

Bowmer and Kirkland

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1 Introduction

1.1 Background

1.1.1 SWT Ecology Services was commissioned on 07 December 2021 by Bowmer and Kirkland to prepare a bat mitigation strategy of TASE Barnley, Land at Keresforth Close, Barnsley S70 6RS. On 11 November 2021 the project received notice that prior approval was not required for the demolition of existing buildings (reference number 2021/1160), subject to a number of conditions. Condition 4 states:

"*No development shall take place until a bat survey report complying with BCT Survey Guidelines 2016 is submitted to, and approved in writing, by the LPA. The recommendations/mitigation measures set out in the survey shall be adhered to throughout demolition."*

1.1.2 A Preliminary Ecological Appraisal and bat Preliminary Roost Assessment of the site were undertaken in June 2020 on behalf of the Department of Education to inform the demolition of the existing school and constructing of a new school (Waterman, 2020). The surveys comprised an assessment of the buildings' suitability for roosting bats, however did not include internal inspections due to social distancing requirements (as requested under Covid-19 government guidance). Access to the courtyard for B5 and B6 was not available therefore a precautionary approach to the suitability assessment was undertaken. A summary of the results is presented below.

Table 1: Summary of bat surveys

Building number	Bat Roosting Suitability
B1	Moderate
B2	Negligible
B3	Low
B4	Moderate
B5	Moderate
B6	Moderate
B7	Low
B8	Negligible
T1	Moderate
T2	Low
T3	Low

1.1.3 In line with best practice guidance, further surveys were advised in the form of presence/likely absence surveys to be undertaken between May and September. Trees with low roosting suitability can be removed without further survey but this would need to be undertaken under the supervision of an appropriately licensed ecologist.

1.1.4 Bowmer and Kirkland was provided with a notice to proceed with the demolition of the existing buildings and construction of the new school in October 2021, after the survey

season. They commissioned an updated bat Preliminary Roost Assessment, which was undertaken by ECUS (Bowmer and Kirkand, personal communication) and the results found a comparable roosting suitability for the buildings.

1.1.5 In order for the new school to open in September 2023, the existing buildings must be demolished and site cleared by May 2022 so that construction can commence. Delays to the project programme will adversely impact the school opening and the children, currently in temporary accommodation, will need to remain in temporary accommodation for longer. Bowmer and Kirkland has indicated that there is a high public need for the project to proceed such that the school can open in September 2023 (personal communication). The project must also comply with the legislative and planning policy framework (detailed below), and discharge condition 4 of the notice of prior approval determination.

1.1.6 Considering the presence/likely absence bat surveys were not undertaken between May and September 2021, SWT Ecology Services was commissioned to develop a bat mitigation strategy that details the measures that Bowmer and Kirkland will follow during demolition, after construction to ensure that bats will be protected at all times, and also complies with the Barnsley Local Plan.

1.2 Legislative and planning policy framework

1.2.1 In line with the legislation detailed in Appendix 1, bats are protected from deliberate capture, injury or killing; deliberate or reckless disturbance, such that it impairs their ability to breed, reproduce or rear their young, hibernate or migrate or significantly affect their local distribution or abundance; damage or destroy a breeding site or resting place (whether bats are present or not); keep, transport, sell, advertise or exchange any live, dead or part of a bat or intentionally or recklessly obstruct access to a bat roost.

1.2.2 Furthermore, seven bat species are Species of Principal Importance, covered under Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006. These are Barbastelle, Bechstein's, Noctule, Soprano Pipistrelle, Brown Long-eared, Lesser Horseshoe and Greater Horseshoe. Under Section 40 of the Act Local Authorities have a duty to have regard to the conservation of biodiversity, with specific reference to species listed under Section 41, in England whilst carrying out their normal functions.

1.2.3 A per the National Planning Policy Framework (2021) (Ministry of Housing, Communities and Local Government, 2021), the LPA has a duty to conserve biodiversity and project need to demonstrate a measurable gain for biodiversity.

1.2.4 Policy BIO 1 of the Barnsley Local Plan states that development will need to conserve and enhance biodiversity by maximising biodiversity opportunities in and around new development. Proposals will be expected to follow the mitigation hierarchy (avoid, mitigate, compensate) to evaluate impacts to biodiversity.

1.3 Scope of work

1.3.1 The scope of work includes the preparation of a bat mitigation strategy that includes methods to protect bats during demolition works and details the mitigation measures

that will need to be embedded into the project design to ensure the favourable conservation status of bats is maintained.

1.3.2 The information and data provided have been prepared in accordance with current best-practice guidance (CIEEM, 2019b), (CIEEM, 2021), (BSI, 2013) and (Collins, 2016). Our ecologists are bound by CIEEM's 'Code of Conduct' (CIEEM, 2019b).

1.4 The site

1.4.1 The site, presented in Figure 2, comprises the development boundary. It is approximately 7 hectares located at Land at Keresforth Close, Barnsley S70 6RS (central grid reference SE33480561) and is bounded by residential development to the east, a school to the north, playing fields to the west and south. The site is located in Barnsley Metropolitan Area.

2 Mitigation plan

2.1.1 SWT Ecology Services acknowledges that bat presence/likely absence surveys have not been undertaken in line with best-practice guidance. This mitigation strategy has therefore been developed to ensure:

- No bats or their roosts are adversely impacted by the works
- The loss of any potential roosting feature is adequately compensated for through the inclusion of mitigation and compensation measures into the new design.

2.1.2 If at any point during the demolition process bats or evidence of bats are recorded, **works must cease immediately and the project ecologist contacted so that Natural England can be notified. A licence will need to be applied for and surveys following best practice between May and August will need to be undertaken to inform the licence.**

2.1.3 The draft bat mitigation strategy is based on the principles outlined in the Bat Mitigation Guidelines (Mitchell-Jones, 2004). Figure 1 presents the mitigation requirements for roost of different conservation status' (modified from (Mitchell-Jones, 2004). Based on this, and using a precautionary approach, if any of the buildings did have a roost this would most likely be a roost of moderate conservation status (maternity roost for a common species such as common pipistrelle, soprano pipistrelle or brown long-eared). Day roosts for these species, or natterer's could also be present, however these would be of low conservation status.

Figure 1: Conservation status and required mitigation for roost types

Conservation significance	Type of roost	Mitigation required
Low	Feeding perch of common/rarer species Individual bats of common species Small numbers of common species (not maternity roost)	Flexibility with provision of alternative roosting locations No conditions in relation to timing No monitoring
	Feeding perch of Annex II species Small numbers of rarer species (not maternity roost)	Provide alternative roost locations suitable for species impacted Minimal timing constraints Minimal monitoring
Moderate	Hibernation site for small numbers of common/rarer species Maternity roost of common species	Like-for-like roost replacement Time to find alternative roost Timing constraints Two years of monitoring
	Maternity roost of rarer species	Like-for-like roost replacement New roost must be used Timing constraints Monitoring for at least two years
High	Significant hibernation site Sites meeting SSSi guidelines Maternity site of rarest species	Object to development or seek improved roost No destruction until significant usage demonstrated Timing constraints Monitoring for as long possible

2.1.4 Considering the above, and adopting a precautionary approach, the mitigation principles are:

- Timing considerations
- More-or-less like-for-like replacement
- Bats not to be left without a roost
- Bats to be given time to find the replacement roost
- Monitoring for two years (year 2 and year 5 post-construction)

2.1.5 This mitigation strategy has been prepared by Gabrielle Graham BSc MSc MCIEEM CEcol. Gabrielle has been working in ecological consultancy since 2008, is a named ecologist for several bat mitigation licences and holds a level 2 class bat survey licence (No 2016-24355-CLS-CLS). She has successfully delivered large-scale projects involving multi-species surveys and mitigation, and complex bat mitigation including a mitigation strategy to account for the loss of:

- Brown long-eared maternity roost
- Common pipistrelle, soprano pipistrelle, Nathusius' pipistrelle, serotine, natterer's brown long-eared day roosts
- Common pipistrelle maternity roost
- Soprano pipistrelle maternity roost

2.1.6 Gabrielle therefore has the appropriate knowledge and experience to prepare and deliver this mitigation strategy.

2.2 Method for preventing impacts to bats during demolition

Demolition works

2.2.1 The site supports eight buildings (B1 – B8). Of these, six have bat roosting suitability (B1, B3 – B7), and two have negligible bat roosting suitability (B2 and B8).

2.2.2 Demolition initially requires a soft strip that involves asbestos removal, emptying the buildings etc. Works that are not being undertaken within the lofts, on roofs or associated infrastructure (guttering, soffits etc) or impact cavity walls will not adversely impact bats, and as such **these works can occur without any bat supervision**. As a precautionary measure, a tool box talk will be provided to the workforce ahead of any demolition. The tool box talk will cover:

- Protection of bats
- Where bats roost
- What do to when bats are found
- Contact details of the ecologist

2.2.3 The second phase of the works will involve the demolition of the actual structures. For the six buildings assessed as having bat roosting suitability, the demolition of the actual structures will directly and indirectly impact potential roosting features and potentially bat roosts if these are present in the buildings. The mitigation measures for these buildings within this phase of demolition phase are detailed below.

2.2.4 Considering B2 and B8 have negligible bat roosting suitability, these can be demolished without any further supervision or constraints in relation to bats.

2.2.5 Should trees T1 to T3 require removal, the mitigation measures detailed below will also need to be implemented.

Timing of works

2.2.6 As mentioned before, in order for the new school to open the buildings need to be completely demolished by end of March 2022. In order to achieve this, the proposed programme of bat surveys and supervision will be undertaken in line with the timeframes provided in Table 2.

Table 2: Proposed timeframe of bat supervision and surveys

W/c	Mon	Tues	Wed	Thurs	Fri
10-Jan					
17-Jan					
24-Jan					
31-Jan					
07-Feb					
14-Feb					
21-Feb					
28-Feb					
07-Mar					
14-Mar					
21-Mar					

	Internal inspection and data collection (team of two ecologists)
	Check of external features (with MEWP) (team of two ecologists)
	Soft-demolition (team of two ecologists) (assuming good weather)
	Final data collection ahead of soft-demolition

Hibernation surveys

2.2.7 The aim of the surveys will be to determine whether bats are roosting in the building. Hibernation surveys will be undertaken in line with best-practice guidance and will involve (Collins, 2016):

- Deployment of static monitoring devices within the six buildings with bat roosting suitability. The monitoring would record bat activity continuously during this period. Data would be downloaded from the devices every two weeks and analysed to determine whether there is any bat activity within the buildings. A total of 10 static monitoring devices will be deployed, eight within the buildings and two across the site. White sheets will also be deployed within the lofts and checked for evidence of new droppings. The monitoring devices will be deployed on 10th January and checked fortnightly until the day before demolition of roosting features (see below).
- The hibernation survey will be complemented by a full inspection of the potential roosting features using an endoscope. These will be accessed by a Mobile Elevated Work Platform (MEWP). The inspection will be undertaken by experienced ecologists holding a Level 2 bat class survey licence, or experienced accredited agents. The survey programme will be led by Gabrielle Graham. Where the features are fully inspected and no bats or evidence of bats is recorded, Bowmer and Kirkland will immediately fill these in (using expandable foam, or any other appropriate material to fill the hole). This will ensure that not bats can use the feature again once the hibernation season is completed.
- All potential roosting features will be documented, along with inspection dates, photographs and inspection outcomes.
- Should T1 require removal, and it is safe to climb, the features will be inspected by a team of expert tree climbers led by an ecologist with a level 2 bat class survey licence with tree climbing expertise using hand torches and an endoscope. If tree T1 is retained and not adversely impacted by the proposals, this will not be required.

- The removal of T2 and T3 will be undertaken using sectional felling and under the supervision of an ecologist.
- **If at any stage of this process any bats or evidence of bats is recorded, works will not be able to proceed until the further presence/likely absence surveys are undertaken between May and September**.
- If no bats or evidence of bats is recorded during the hibernation surveys, the demolition of the features can then be undertaken under supervision, following the measures detailed below.
- Where all potential bat roosting features have been inspected and filled in for a building, this can then be demolished without supervision.

Demolition of structures under supervision

2.2.8 The demolition of potential roosting features can only occur during suitable weather conditions minimum daily temperature is 8°C on the day of the survey and 6°C thereafter, with light winds and no rain. The demolition of potential roosting features cannot occur when these criteria are met. Flexibility will therefore be required for the scheduling of the demolition of potential roosting features. These criteria were agreed with Natural England on a similar project in December 2020 when approving a mitigation licence, therefore these conditions are considered to be appropriate.

2.2.9 Once the weather conditions have been met, a final data collection ahead of demolition works will take place and a check of bat activity undertaken.

2.2.10 Provided there is no evidence of bats within any of the buildings during the hibernation surveys any features that could not be fully inspected using an endoscope during the hibernation season will need to be demolished under supervision in mid-March/April 2022. Each of the features would be fully inspected by an appropriately qualified, experienced and licenced ecologist, or an accredited agent. The feature will then be progressively removed by Bowmer and Kirkland under supervision and re-inspected as the feature is demolished. **If at <u>any</u> stage of this process any bats or evidence of bats is recorded, works will not be able to proceed until the further presence/likely absence surveys are undertaken between May and September.**

3 Enhancement plan

3.1 Replacement of potential roosting features

3.1.1 The types of potential roosting features within each building is presented in Table 3 (obtained from (Waterman, 2020)).

Table 3: Potential roosting features and replacement requirements

Building number	Type of roosting feature
B1	Missing tiles
	Missing mortar within brickwork and under tiles
	Raised and damaged ridge tiles
	Lifted and damaged facia boarding
B3	Vent providing access into loft

Building number	Type of roosting feature
	Gaps under tiles due to missing mortar
	Raised and damaged ridge tiles
B4	Gaps under tiles due to missing mortar
	Lifted and damage facia boarding
B5	Gaps under roof verge
	Hole in doorway cover
B6	Raised and damaged roof tiles
	Gaps under roof tiles
	Missing and raised tiles
	Lifted flashing
B7	Lifted and damaged facia boarding

3.1.2 In order to adequately compensate for the loss of roosting features, the project will need to ensure that alternative roosting opportunities that reflect those that will be lost as a result of the development. Important elements that need to be considered are:

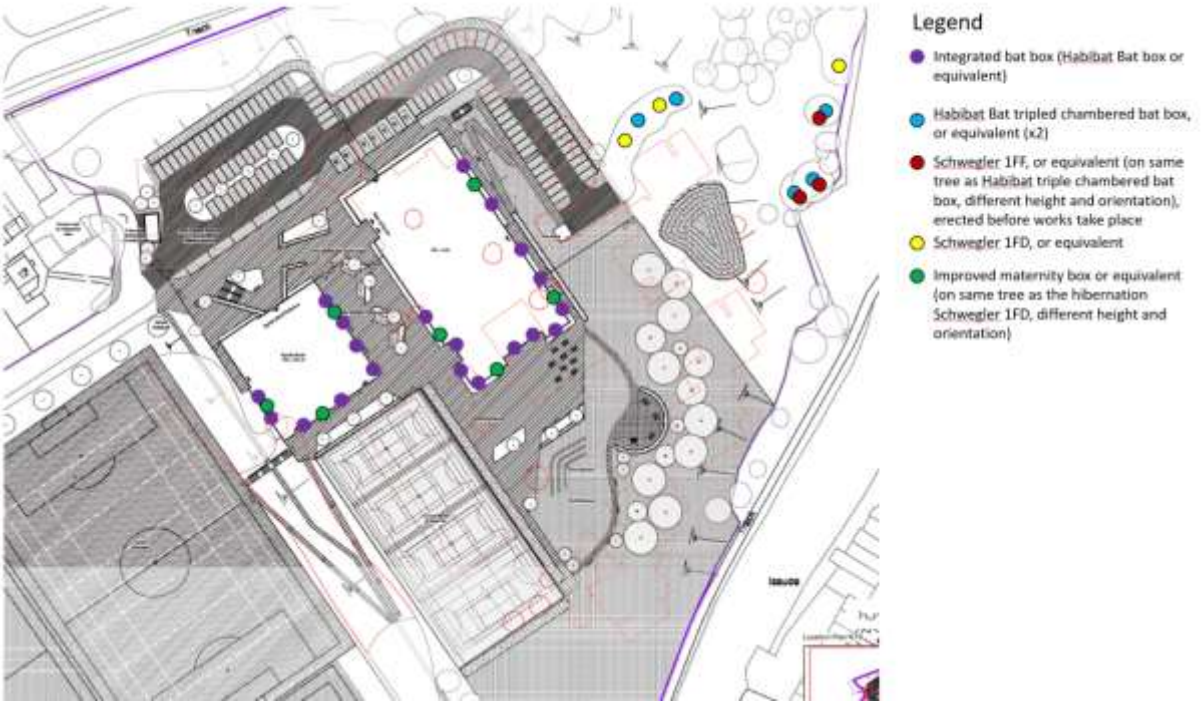
- Orientation such that the roosts receive 6 – 10 hours of sunlight a day on average, therefore the boxes should be placed on a south, south east and south west aspect.
- Height to be a minimum of 4m high, however features should be placed at different heights.
- The boxes are also as close as possible to areas with low lighting levels and connected to commuting and foraging habitat.
- Inclusion of some integrated and wall mounted bat boxes
- Ensure habitats within the landscaping scheme encourage and enhance opportunities for invertebrates, which will attract bats.

3.1.3 The proposed replacement features are detailed in Table 4 and presented in Figure 2.

Table 4: Replacement and compensation roosting features

Bat box type	Species suitability	Where to place	Number of boxes required for replacement	Number of boxes required for compensation	Total number of boxes
Habibat, or equivalent	Soprano pipistrelle Common pipistrelle Natterer's Whiskered Brandt's	Integrated bat box on the two new buildings	9 on main school building, 6 on sports hall	3 on main school building, 2 on sports hall	20
Habibat triple chambered access bat box, or equivalent	Common pipistrelle Soprano pipistrelles Brown long-eared bats (as a cool roost) Natterer's bats (as a cool roost) Noctule	Mounted on a tree	6	2	8
Schwegler 1FF, or equivalent	Common pipistrelle Soprano pipistrelle Noctule	Mounded on a tree	3	2	5
Schwegler 1FD, or equivalent	Hibernation or large colony Nathusius' pipistrelle Brown long-eared Noctule	Mounted on a tree	2	1	3
Improved maternity box or equivalent	Maternity box for common and soprano pipistrelle and barbastelle	Mounted on building façade (wall mounted)	5	2	7
Total			31	12	43

Figure 2: Location of proposed roost replacement and compensation measures



3.2 Monitoring

3.2.1 The bat boxes should be checked in year 2 (2025) and year 5 (2028) after the development is completed. The monitoring will be in the form of checking the bat boxes for signs of use. This will be done between September and November, after the main active bat season.

3.3 Lighting

3.3.1 Lighting for the proposed development should be designed as Lighting for the proposed development should be designed as per best practice guidance (BCT and Intitute of Lighting Professionals, 2018). Methods of achieving this would include:

- Recess lighting within the building.
- Siting windows to avoid areas of particular interest for bats, identified during the further survey.
- Incorporating dark zones within retained habitat to the north and west in line with foraging and commuting habitat, and maintaining these post-development.
- For outside areas, using LED lighting that are in the warm spectrum (2700 K) to minimise impacts on bats. Timers, dimmers and off-times could be considered, where possible.

3.3.2 Current light levels throughout the site area should be maintained or reduced, where possible. This is achieved through appropriate siting of lighting columns. It is advise that if lighting is required for security purposes, this should be on short-duration timeframes. Floodlighting should not be included for the sports pitches. The south-east of the site, within the play areas, should not be lit so as to maintain a commuting corridor across the landscape.

3.3.3 Lighting considerations should be made throughout the construction and operational phase of the development. Lighting plans should be reviewed by an appropriately qualified an experienced ecologist.

3.4 Conservation status of bats

3.4.1 This bat mitigation plan has been designed to avoid impacting bats or bat roosts, but also to ensure that the loss of potential roosting features from the demolition of the buildings, will not adversely impact the favourable conservation status of species likely to occur in the local area. Prior to discharging the condition to the notice for prior approval the Local Planning Authority must be satisfied that three tests under Regulation 55 of the Conservation of Habitats and Species Regulations 2017, as amended, namely that bat populations must remain in favourable condition. This is defined as when:

- Population dynamics data on the species concerned indicate that it is maintaining itself on a long-term basis as a viable component of its natural habitats
- The natural range of the species is neither being reduced for the foreseeable future
- There is, and will probably continue to be, a sufficiently large habitat to maintain its populations on a long-term basis (UK Statutory Nature Conservation Bodies, 2018).

3.4.2 The three tests are:

- Test 1: The project is of overriding public interest
- Test 2: There is no satisfactory alternative
- Test 3: the favourable conservation status will be maintained

3.4.3 Considering a total of 43 bat boxes, will be integrated and incorporated into the proposed development the loss of the roosting features in the existing buildings will be adequately mitigated and compensated for. The mitigation strategy also details measures to ensure that bats will not be directly or indirectly impacted. On this basis the favourable conservation status will not be adversely impacted by the proposed development. Therefore, the Local Planning Authority should have the confidence that their duty has been met and should consider this when assessing the planning application.

4 Birds

4.1.1 The protection of birds is detailed in Appendix 1. All bird species are protected during the breeding bird season. If a nest is identified, then works around that area, plus an appropriately sized buffer for the species, must be left undisturbed until the chicks have fledged. The breeding bird season is between March and August inclusive.

5 Other ecological enhancements

5.1.1 Bats require biodiverse habitats to thrive. Based on an initial review of the general arrangement for the project we would advise the following recommendations are considered.

5.2 Tree and hedgerow planting

5.2.1 Forest Research conducted an extensive study on the ecosystem services provided by large (Hand & Doick, Ecosystem services delivery by large stature urban trees, 2019) and small and medium (Hand & Doick, Ecosystem services delivery by small and medium stature trees, 2019b) stature trees. The recommendations below are made based on the results of these assessments.

5.2.2 In the first instance, any new tree planting should consider the localised ecology to determine whether it is appropriate to plant trees in this location. Where new tree planting opportunities have been identified the following should be considered:

- The species selected should be of local provenance and a native species, or species that is known to provide biodiversity benefits.
- Species that should be considered for planting include:
    - Standing mature trees:
        - Pedunculate oak
        - English elm
        - Beech
        - Sycamore
        - Holm oak
        - Lime species
        - Sweet cherry
        - Rowan
        - Bird cherry
        - Silver birch
    - Hedgerow
        - Yew
        - Hornbeam
        - Field maple
        - Rowan
        - Holly
        - Bird cherry
        - Hawthorn
        - Hazel
        - Elder

5.2.3 Where hedgerows are planted there should be a minimum of five species per 30m, such that these can be native species-rich hedgerows, enhancing the local biodiversity.

5.3 Grassland habitats

5.3.1 Grassland habitats need to reflect the needs for the school but should also maximise biodiversity opportunity as much as possible. Selecting diverse species mixes and

managing these to provide a diversity of structures is essential so that flora and fauna can thrive, while children use the play space.

5.4 Other ecological enhancements

5.4.1 Increasing opportunities for invertebrate is essential to ensure bats can continue to use the school grounds. This can be achieved by:

- Using gabions with construction waste material to frame the parking bays
- Planting wildflowers adjacent to the gabion walls
- Designing a cycle shelter to include invertebrate hotels along the walls and also with a green roof for the roof
- Incorporating insect hotels into the school benches
- Incorporating at least 10 bird boxes into the building design (similar to the bat boxes)
- Allowing areas to be unmown, particularly adjacent to hedgerows
- Not mowing under tree droplines
- Incorporate a 1 – 2 m buffer around playing fields where these are managed for biodiversity
- Incorporating fruit trees for a school orchard (particularly in the southern section of the school playing fields.

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Appendix 1: Legislation and Planning Policy

Legislation

Conservation of Habitats and Species Regulations 2017 (as amended)

Provides for the protection of Natura 2000 sites (SACs, SPAs and Ramsar sites), European Protected Species and habitats. European Protected Species are protected from:

- Deliberate capture, injury or killing.
- Deliberate disturbance of a European Protected Species, such that it impairs their ability to breed, reproduce or rear their young, hibernate or migrate or significantly affect their local distribution or abundance.
- Deliberately take or destroy effect.
- Damage or destroy a breeding site or resting place.
- Keep, transport, sell or exchange any live, dead or part of a European Protected Species.

European Protected Species include, but are not limited to:

- Great crested newt
- Natterjack toad
- Otter
- Smooth snake
- Sand lizard
- All bat species
- Hazel dormouse

The LPA will be aware of its legal duty under Regulation 9(3) of Conservation of Habitats and Species Regulations 2017, as amended, which states that "*a competent authority in exercising any of its functions, must have regard to the requirements of the Directives so far as they may be affected by the exercise of those function*".

Also, under Regulation 55 (9b) of the above regulations, the LPA must apply the following three tests when deciding whether to grant planning permission where a Protected Species (bats) may be harmed, in line with of the Conservation of Habitats and Species Regulations 2017, as amended.

- The activity must be for imperative reasons of overriding public interest or for public health and safety;
- There must be no satisfactory alternative;
- Favourable conservation status of the species must be maintained.

Natural England has stated that they would expect these three tests to be adequately considered by the LPA before planning permission is granted. Natural England will require evidence from the applicant that the LPA has considered the three tests and how they were met, before a mitigation licence can be issued. Where a mitigation licence is required to avoid breach of legislation, development cannot proceed even where a valid planning permission is granted.

Wildlife and Countryside Act 1981 (as amended)

Key piece of legislation consolidating existing wildlife legislation to incorporate the requirements of the Bern Convention and Birds Directive. It includes additional protection

measures for species listed under the Conservation of Habitats and Species Regulations 2017 (as amended) and includes a list of species protected under the Act. It also provides for the designation and protection of Sites of Special Scientific Interest (SSSI).

Development which would adversely affect a SSSI is not acceptable except only in special cases, where the importance of a development outweighs the impact on the SSSI when planning conditions or obligations would be used to mitigate the impact. Developments likely to impact on a SSSI will likely require an Environmental Impact Assessment (EIA).

The Impact Risk Zones (IRZs) dataset is a GIS tool which details zones around each SSSI according to the particular sensitivities of the features for which it is notified and specifies the types of development that have the potential to have adverse impacts. Natural England uses the IRZs to make an initial assessment of the likely risk of impacts on SSSIs and to quickly determine which consultations are unlikely to pose risks and which require more detailed consideration. Local Planning Authorities (LPAs) have a duty to consult Natural England before granting planning permission on any development that is in or likely to affect a SSSI.

Further information on specific legislation relating to species protected under the Wildlife and Countryside Act 1981 (as amended) is detailed below, under Protection of Protected Species and Habitats.

Environment Act (2021)

The Environment Act (2021) makes a provision for biodiversity net gain to be a condition of planning permission in England. Planning applications will need to demonstrate a 10% biodiversity net gain can be met. A biodiversity net gain plan must be submitted and must include:

(a) information about the steps taken or to be taken to minimise the adverse effect of the development on the biodiversity of the onsite habitat and any other habitat
(b) the pre-development biodiversity value of the onsite habitat,
(c) the post-development biodiversity value of the onsite habitat,
(d) any registered offsite biodiversity gain allocated to the development and the biodiversity value of that gain in relation to the development,
(e) any biodiversity credits purchased for the development,

Countryside and Right of Way Act 2000

Amends and strengthens the Wildlife and Countryside Act 1981 (as amended). It also details habitats and species for which conservation measures should be promoted.

Natural Environment and Rural Communities Act 2006

Section 40 of the Act places a duty on local planning authorities to conserve and enhance biodiversity in England whilst carrying out their normal functions. Section 41 comprises a list of Habitats of Principal Importance (HPIs) and Species of Principal Importance (SPIs) which should be considered.

The LPA will need to have particular regard to any relevant local nature recovery strategies, and any relevant species conservation strategy or protected site strategy prepared by Natural England.

Hedgerows Regulations 1997

Under these regulations it is an offence to intentionally or recklessly remove, or cause or permits another person to remove, a hedgerow. Important hedgerows are defined in Section

4 of the Regulations. This includes hedgerows that have existed for over 30 years or satisfies at least one criteria listed in Part II of Schedule 1.

Wild Mammals (Protection) Act 1996

Under this act wild mammals are protected from the intentional unnecessary suffering by crushing and asphyxiation.

Planning policy

National Planning Policy Framework (2021)

Details the Government's planning policies for England and how these should be applied, particularly to contribute to the Government's commitment to halt the decline of biodiversity. When assessing planning applications, LPAs should have regard to conserving and enhancing biodiversity by applying a number of principals, including:

- Avoiding impacts to biodiversity through appropriate site selection.
- Mitigating residual impacts.
- Encouraging the preservation and enhancement of biodiversity.
- Preventing the development of protected sites, such as SSSIs.
- Refusing permission where habitats that cannot be recreated, such as ancient woodland, would be lost.
- Encouraging good design that limits light pollution.

Relevant paragraphs in the NPPF (2021) are detailed below.

Paragraph Number	Detail
174	"Planning policies and decisions should contribute to and enhance the natural and local environment by…minimising impact on and providing net gains for biodiversity" Protection of sites of biological values Preventing new and existing development from adverse impacts to soil, air, water or noise Development should help improve local conditions
175	Maintenance and enhancement of networks of habitats and green infrastructure; plan for the enhancement of natural capital at a catchment or landscape scale
179	"To protect and enhance biodiversity and geodiversity, plans should: a) Identify, map and safeguard components of local wildlife-rich habitats and wider ecological networks, including the hierarchy of international, national and locally designated sites of importance for biodiversity; wildlife corridors and stepping stones that connect them; and areas identified by national and local partnerships for habitat management, enhancement, restoration or creation; and b) promote the conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species; and identify and pursue opportunities for **securing measurable net gains for biodiversity**."
180	"When determining planning applications, local planning authorities should apply the following principles: a) if significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused;

Paragraph Number	Detail
	b) development on land within or outside a Site of Special Scientific Interest, and which is likely to have an adverse effect on it (either individually or in combination with other developments), should not normally be permitted. The only exception is where the benefits of the development in the location proposed clearly outweigh both its likely impact on the features of the site that make it of special scientific interest, and any broader impacts on the national network of Sites of Special Scientific Interest; c) development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons and a suitable compensation strategy exists; and d) development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to improve biodiversity in and around developments should be integrated as part of their design, especially where this can secure measurable net gains for biodiversity or enhance public access to nature where this is appropriate."
185	"Planning policies and decisions should also ensure that new development is appropriate for its location taking into account the likely effects (including cumulative effects) of pollution on health, living conditions and the natural environment, as well as the potential sensitivity of the site or the wider area to impacts that could arise from the development. In doing so they should: … c) limit the impact of light pollution from artificial light on local amenity, intrinsically dark landscapes and nature conservation."

Protection of protected species and habitats

Amphibians

Natterjack toad, pool frog and great crested newt are protected under the Conservation of Habitats and Species Regulations 2017 (as amended). They are also afforded additional protection under the Wildlife and Countryside Act 1981 (as amended).

Natterjack toad, common toad, great crested newt and northern pool frog are also SPIs.

Reptiles

Smooth snake and sand lizard are protected under the Conservation of Habitats and Species Regulations 2017 (as amended). They are afforded additional protection under the Wildlife and Countryside Act 1981 (as amended).

Adder, grass snake, common lizard and slow-worm are all protected from killing and injury under the Wildlife and Countryside Act 1981 (as amended). All UK reptile species are SPIs.

Birds

All wild birds are protected under the Wildlife and Countryside Act 1981 (as amended). This includes damage and destruction of their nests whilst in use, or construction. Species listed under Schedule 1 of the Act, such as barn owl, are afforded protection from disturbance during the nesting season.

The following 50 bird species are SPIs: lesser redpoll, aquatic warbler, marsh warbler, skylark, white-fronted goose, tree pipit, scaup, bittern, dark-bellied brent goose, stone-curlew, nightjar, hen harrier, northern harrier, hawfinch, corncrake, cuckoo, Bewick's swan, lesser spotted woodpecker, corn bunting, cirl bunting, yellowhammer, reed bunting, red grouse, herring gull, black-tailed godwit, linnet, twite, Savi's warbler, grasshopper warbler, woodlark, common scoter, yellow wagtail, spotted flycatcher, curlew, house sparrow, tree sparrow, grey partridge, wood warbler, willow tit, marsh tit, dunnock, Balearic shearwater, bullfinch, roseate tern, turtle dove, starling, black grouse, song thrush, ring ouzel and lapwing.

Badger

Badger is protected under the Protection of Badgers Act 1992. Under this legislation it is an offence to kill or injure a badger; to damage, destroy or block access to a badger sett; or to disturb badger in its sett. The Act also states the conditions for the Protection of Badgers licence requirements.

Bats

All bat species are protected under the Conservation of Habitats and Species Regulations 2017 (as amended), as detailed above. Bats are further protected under the Wildlife and Countryside Act 1981 (as amended), making it an offence to:

- Deliberately or recklessly damage or destroy any structure or place which bat(s) use for shelter or protection.
- Disturb bat(s) while occupying a structure or place which it uses for shelter or protection.
- Obstruct access to any structure or place which they use for shelter or protection.

Furthermore, seven bat species are SPIs, covered under Section 41 of the NERC Act 2006. These include western barbastelle, Bechstein's, noctule, soprano pipistrelle, brown long-eared, lesser horseshoe and greater horseshoe.

Hazel dormouse

Hazel dormouse is protected under the Conservation of Habitats and Species Regulations 2017 (as amended). It is afforded additional protection under the Wildlife and Countryside Act 1981 (as amended), including obstruction to a place of shelter or rest.

Hazel dormouse is also a SPI.

Hedgerow

Under the Hedgerows Regulations 1997 it is against the law to remove or destroy certain hedgerows without permission from the LPA, which are also the enforcement body for offences created by the Regulations. LPA permission is normally required before removing hedges that are at least 20 m in length, more than 30 years old and contain certain plant species. The authority will assess the importance of the hedgerow using criteria set out in the regulations. The regulations **do not** apply to hedgerows within the curtilage of, or marking a boundary of the curtilage of, a dwelling house.

Hedgerow is a HPI.

Otter

Otter is protected under the Conservation of Habitats and Species Regulations 2017 (as amended) and is afforded additional protection under the Wildlife and Countryside Act 1981 (as amended). Otter is also a SPI.

Water vole

Water vole is fully protected from capture, killing or injury; damage, destruction or blocking access to a place of shelter; disturbance whilst in a place of shelter or possessing, selling any part of a water vole, dead or alive under the Wildlife and Countryside Act 1981 (as amended).

Water vole is also a SPI.

Other mammals

West European hedgehog, brown hare, mountain hare, pine marten, harvest mouse, polecat and red squirrel are all SPIs.

The following mammals are listed under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended): wildcat, brown hare (Schedule 5A), mountain hare (Schedule 5A), pine marten and red squirrel.

Invertebrates

Fifty-six terrestrial and freshwater invertebrate species are listed under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended). These include Reddish buff, Norfolk hawker, Purple emperor, High brown fritillary, Northern brown argus, White-clawed crayfish, Pearl-bordered fritillary, DeFolin's lagoon snail, Chequered skipper, Fairy shrimp, Rainbow leaf beetle, New Forest cicada, Southern damselfly, Large heath, Small blue, Wartbiter, Fen raft spider, Ivell's sea anemone, Mountain ringlet, Ladybird spider, Marsh fritillary, Spangled diving beetle, Mole cricket, Field cricket, Duke of Burgundy, Silver-spotted skipper, Medicinal leech, Lesser silver water beetle, Moccas beetle, Wood white, Violet click beetle, Large copper, Freshwater pearl mussel, heath fritillary, Glanville fritillary, Glutinous snail, Starlet sea anemone, Large tortoiseshell, Brackish hydroid, Swallowtail, Bembridge beetle, Barberry carpet, Silver-studded blue, Adonis blue, Chalk hill blue, Fiery clearwing, Sandbowl snail, Black hairstreak, White-letter hairstreak, Black-veined moth, Sussex emerald, Brown hairstreak, Northern hatchet-shell, Lulworth skipper, Tadpole shrimp, New Forest burnet.

A total of 398 invertebrates are Species of Principal Importance. These include: beetles (including stag beetle), butterflies (high brown fritillary, large heath, small blue, white-letter hairstreak, brown hairstreak, damselflies (southern damselfly), moths (marsh moth), ants, bees etc. Impacts to SPI must be considered by the LPA when assessing planning applications.

Non-native invasive plant species

Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) is a list of non-native plant species for which Section 14 of the Act applies. It is an offence to plant, or otherwise cause to grow in the wild species listed under Schedule 9 of the act. These include, but are not limited to:

- Himalayan balsam
- Cotoneaster sp.
- Japanese knotweed

- Giant hogweed

Habitats of Principal Importance

Section 41 of the NERC Act 2006 details 56 HPIs, of which the following could be present in south-east England: Lowland calcareous grassland, Lowland dry acid grassland, Lowland meadows, Lowland Heathland, Open Mosaic Habitats on Previously Developed Land, Lowland fens, Lowland raised bog, Reedbeds, Lowland beech and yew woodland, Lowland mixed deciduous woodland and Wet woodland.

Impacts to HPI are of material planning consideration.