Beer Quarry & Caves Special Area of Conservation (SAC)

Habitats Regulations Assessment Guidance

October 2022

ACKNOWLEDGEMENTS

This document was prepared by Sarah Jennings (County Ecologist, Devon County Council) and Pete Youngman (East Devon AONB) with an expert steering group which includes East Devon District Council, Natural England, Bat Conservation Trust and the East Devon AONB Partnership. The document is endorsed by all organisations on the Steering Group.

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Every effort has been made to avoid technical terms and acronyms in this document. However, some terms and acronyms have had to be included due to the technical nature of this document and to reduce its length. Technical terms are highlighted in ***orange text*** when first used and defined, along with any acronyms, in the Glossary.

Contents

1 Introduction

1.1 Beer Quarry & Caves SAC

The ***Beer Quarry & Caves Special Area of Conservation (SAC)*** was designated as an SAC in 2005 for its important population of hibernating greater horseshoe bats (*Rhinolophus ferrumequinum*), lesser horseshoe bats (*Rhinolophus hipposideros*) and Bechstein's bats (*Myotis bechsteinii*). The aim of the designation is to help ensure the ***favourable conservation status*** of these species. SACs, sometimes referred to as ***European Sites***, form part of a network of designated sites across Europe. Information on the SAC and Natural England's targets for the site relating to the Conservation Objectives can be found in Natural England's SAC Supplementary Advice document [1].

Greater horseshoe bats (GHBs) are one of Britain's rarest bats and are on the European Red List (Near Threatened). Confined to South West England and South Wales [2]. Populations are localised and fragmented. The current population estimate is ~12,900 individuals [3].

Lesser Horseshoe bats (LHBs) are a widespread but rare species in Europe. In Britain historical declines mean that they are now restricted to Wales, the West Midlands, and South West of England. The current population thought to be 50,400 individuals [3].

Bechstein's bat is one of the rarest bats in western Europe and one of the UK's rarest mammals. The UK population is ~21,800 [3] and east Devon is towards the western edge of its range.

Information on the numbers of bats in Beer Quarry & Caves SAC (BQ&C) is given in Table 1 below.

Table 1 – Overview of the bats found in Beer Quarry and Caves

Between 2011 and 2020 an annual hibernation count of the Show caves only has been undertaken by the Beer Caves Manager in January. Clinton Devon Estates as landowners commissioned a full survey of all accessible caves in the SAC in 2021. Data can be found on the Beer Quarry Caves website, http://www.beerquarrycaves.co.uk/bats/. However, monitoring visits can only provide an indication of abundance on the date of the visit. The overall number of bats using the SAC is likely to be greater than that recorded due to movement of bats and the difficulty with monitoring bats in a complex mine.

Species	**Overview of bats found in BQ&C**	**Annual winter counts in show caves** ***Years when whole complex surveyed.**	**NE SAC target** (based on mean annual peak hibernation count 2010-2015)
Greater Horseshoe Bat	Mostly found in a small proportion of the cave network, often in large clusters hanging from electrical cables and wires. Outside of the hibernation period the caves are used as a night roost [4]. These counts are a single snapshot of bat numbers, numbers are known to vary upon the severity of the winter, stage in the hibernation period and any potential disturbance. The overall trend however would appear to be an increase in greaters using the caves to hibernate in January.	2009* 121 2010* 139 2011 118 2012 140 2013 156 2014 163 2015 181 2016 207 2017 200 2018 239 2019 246 2020 264	Maintain the abundance above 146 individuals whilst avoiding deterioration from its current level as indicated by the latest mean peak count or equivalent.

		2021* 340	
Lesser Horseshoe Bat	As for GHBs the caves are used as a night roost outside the hibernation season [4] Numbers of Lesser horseshoe bats hibernating in the caves fluctuate quite widely.	2009* 178 2010* 156 2011 127 2012 68 2013 86 2014 79 2015 150 2016 101 2017 92 2018 99 2019 78 2020 47 2021* 160	As above but for 107 bats
Bechstein's Bat	A very rare species for Devon resulting in few records of hibernating bats. An important swarming site during the autumn. The function of swarming sites is likely to be linked with mating activity and so they are extremely important for the conservation of the species [2]. The population at the caves is currently being studied by the Devon Bat Conservation and Research Group.		Maintain the presence of hibernating Bechstein's bat at the site, whilst avoiding deterioration from its current level as indicated by the latest mean peak count or equivalent.

1.2 The purpose of this document

UK legislation requires ***Local Planning Authorities*** (LPAs), and other ***competent authorities***, to assess ***plans or projects*** which may have a likely significant effect on a European Site, alone or in-combination with other plans or projects. Such plans or projects can only proceed if the competent authority is convinced, they will not have an ***adverse effect on the integrity*** of a European Site, other than in exceptional circumstances These requirements are known as ***Habitats Regulations Assessment*** (HRA) requirements [5-8].

This document is aimed at those preparing and validating ***planning applications*** which may impact on the BQ&C SAC population of bats. It provides advice on which applications may have a likely significant effect on the SAC bat population. The area covered by this guidance is shown in Figure 1. It also provides advice on the information that applicants may need to submit with a planning application for the LPA to undertake an HRA. This guidance can also be used to inform other plans and projects such as Local Plans and Neighbourhood Plans.

This guidance is relevant to: East Devon District Council and Devon County Council as the local planning authorities for the area. Contact details are given in Appendix 1. By providing clarity on HRA requirements, the guidance aims to reduce costs and unnecessary delays to both applicants and LPAs.

This document aims to be consistent with the approach taken to the South Hams SAC Greater Horseshoe Bat Guidance. See https://www.devon.gov.uk/environment/wildlife/wildlife-and-geology-planning-guidance

Links to, or summaries of, best practice information on technical issues such as lighting will be added to the DCC website (see link above). Note however, that this HRA guidance is a stand-alone resource which is not reliant on this information.

This guidance specifically advises on HRA requirements relating to the SAC bat population. However, it is important to remember that all bats along with their breeding sites and resting places, are protected through separate legislation. The presence of any protected species is a ***material consideration*** when an LPA is considering a proposal that, if carried out, would be likely to result in harm to the species or its habitat [5,8] and a licence may be required from Natural England.

Figure 1: Extent of Beer Quarry and Caves SAC Bat Consultation Area

1.3 What are the HRA requirements for Local Planning Authorities and Applicants?

a. Local Planning Authorities

Simplistically, HRA requirements for LPAs include ***HRA screening*** followed, if necessary, by an ***Appropriate Assessment***. For more information please see Defra guidance https://www.gov.uk/guidance/habitats-regulations-assessments-protecting-a-european-site

Stage 1 – HRA Screening: An assessment of whether the proposal will, on its own or in-combination with other plans or projects, have a likely significant effect on the SAC before avoidance or reduction measures have been taken into account.

The flow chart in Section 3 should be used to identify whether an application may have a likely significant effect on the BQ&C SAC. If so, the LPA will need to use information provided by the applicant to undertake ***HRA screening.*** Where screening cannot rule out a likely significant effect then Appropriate Assessment must be carried out.

Stage 2 – Appropriate Assessment: An assessment of whether the proposal will adversely affect the integrity of the European Site taking into account avoidance and/or reduction measures. The ***Precautionary Principle*** applies, so that to be certain, the LPA should be convinced that no reasonable scientific doubt remains as to the absence of such effects.

The LPA must secure any required avoidance and ***mitigation*** measures *e.g.* through conditions attached to the planning permission, or a legal obligation agreed with the applicant.

Note: For the purposes of this document the term *detailed HRA* refers to both detailed HRA screening (where, using the Flow Chart in Section 3, likely significant effect cannot be immediately screened out) and, when required, Appropriate Assessment.

b. Applicants

It is the applicant's responsibility to provide sufficient information to enable the LPA to undertake HRA requirements. To ensure that sufficient information is provided and therefore to reduce delays applicants are encouraged to fill in the shadow HRA form – see:
https://www.devon.gov.uk/environment/wildlife/wildlife-and-geology-planning-guidance

Information provided in this document

To help LPAs and applicants meet these requirements, this document includes:

Section 2
Background information on the SAC Consultation Area.

Section 3
A flow chart to help clarify when an application may have a likely significant effect on a European Site and therefore when HRA is required.

Section 4
Guidance on the information required from the applicant.

2 The Beer Quarry & Caves SAC Consultation Zones

The designated area of the SAC is relatively small and comprises the areas immediately surrounding the quarry and caves. However, the bat populations are dependent upon a much wider area outside the SAC boundary which provides **Foraging Habitat** and **Commuting Routes** and supports other critical **Roosts**.

Foraging habitat – Areas of habitat where bats feed.

Commuting routes – The routes bats use to move through the landscape, often linear landscape features.

Roosts – Structures used by bats throughout the year for hibernating, raising young bats (maternity roosts), feeding, mating, and resting.

The Beer Quarry & Caves SAC ***Consultation Zones*** have been developed to help clarify where and when impacts, on Roosts, Foraging Habitat and Commuting Routes may have a likely significant effect on the SAC's bat populations. The Consultation Zones are shown on Figures 2 – 4 below and consist of the features listed in the box below. All features other than 'other roosts' are shown on the Devon County Council Environment Viewer at: http://map.devon.gov.uk/DCCViewer

Key Roosts – Roosts which are considered integral to the SAC population. Impacts on these roosts, alone, could potentially have a likely significant effect on the SAC bat population.

Other Roosts – Other roosts likely to be used by the SAC bat population. These roosts are generally used by small numbers of bats and in most cases it is cumulative impacts on these roosts and the habitat that surrounds them (any foraging habitat and commuting routes) which could have a significant effect on the SAC bat population. Due to the number of other roosts, and the fact that many will not have been recorded, they are not identified in this Guidance. Please contact DBRC / Devon Bat Group for existing records.

Sustenance Zones – A defined area around Key Roosts (distance will vary between species) which includes critical Foraging and Commuting Habitat.

Landscape Connectivity Zones – The area that includes a complex network of Commuting Routes likely to be used by the SAC population of bats. Provides connectivity between Key Roosts and Other Roosts (including those currently unrecorded). Helps to provide connectivity to more distant roosts and therefore maintain genetic diversity and ensure resilience.

Pinch Points – Known, or potential, commuting routes which are restricted *e.g.* due to urban encroachment or proximity to the sea / estuaries. Further restriction of *Pinch Points* could severely impact on the movement of bats and may therefore have a likely significant effect on the SAC bat population.

Existing / Approved Mitigation Features – Can include roosts, commuting routes and foraging habitat which have been (or will be) created, enhanced or protected to meet HRA bat requirements for approved development. Impacts on these features may have a likely significant effect on the BQ&C SAC bat population.

2.1 Greater horseshoe bat consultation zones

General information on GHBs [9-23]

Roosts – GHBs can live in excess of 30 years and remain faithful to their roosts for generations. Large numbers of bats can be found in **hibernation roosts** and **maternity roosts**.

GHB maternity roosts are generally in large warm roof spaces and are generally therefore found in large old houses, churches, and barns.

Hibernating roosts are usually found in caves and disused mines but occasionally GHBs will hibernate in buildings with stable, cool temperatures and high humidity e.g. unheated cellars and ice houses.

Other roosts are also used by bats in smaller numbers throughout the year again generally found in buildings and caves (GHBs do not roost in trees). **Transitional roosts** are used by individuals moving between maternity and hibernation roosts and may link different colonies facilitating gene flow. Transition roosts may also be used in the autumn as mating roosts. Failing to protect these roosts could limit population size and distribution [9]. Horseshoe bats use **day roosts** and **night roosts** [11,12,15,16,20,21,25]. These are important in a number of ways: they reduce intra-specific competition as they enable individuals to diverge and forage further afield, occasionally remaining in these roosts during the day to conserve energy levels (especially during bad weather) rather than return to the maternity roost the same night. For females, as pregnancy progresses, these roosts become more important, and their value cannot be overestimated as they enable heavily pregnant females to forage in areas that would otherwise be denied [25]. The loss of these roosts can result in increased competition for suitable foraging sites close to the maternity roost and this may reduce the productivity of the colony. If the number of adults in the maternity roost increases to the point at which the surrounding habitat is close to its capacity, then it may be more beneficial and energetically advantageous for some of the colony to remain permanently in these satellite roosts [25] and a establish a new maternity colony. **Mating roosts** are vital for the conservation of the species.

Foraging habitat – Greater horseshoe bats feed in different habitats during the year as availability of their prey changes. Examples of **foraging habitats include dark cattle grazed pastures, meadows, the edges of broadleaved woodland, stream corridors, wetlands, tree lines, tall and thick hedges, scrub, orchards and parklands** - any places where prey is found (moths, dung beetles, cockchafer beetles and dung flies, crane flies, parasitic wasps and caddis flies) [12,13]. Adult greater horseshoe bats using maternity roosts largely forage within 4km of the roost while juveniles hunt mainly within 1km of the roost and are highly dependent on dung beetles associated with grazed pasture [12-19].

It is thought likely that, due to weather conditions and the weaker physical condition of bats during the winter, they are likely to forage closer to hibernation roosts. In 2013/4 a survey of eight GHB roosts in the SW found that activity periods were short (2-4 hours) and that there was very little activity even at a 2km distance (Mathews pers comm[1]).

Commuting routes – Greater horseshoe bats fly close to the ground (up to ~2m) and close to linear landscape features such as **dark hedges, woodland edge and vegetated watercourses** which they use for navigation they avoid areas lit by artificial light. GHBs may use different Commuting Routes at different times of the year [11] and tend to forage and move at the same time, rather than making direct flights to a foraging area as some other species, such as barbastelle.

[1] Each roost was surveyed for 7 days (November and December and then late March or April) with 40-50 detectors deployed in a 2km radius.

What we know about the Beer GHB population

Radio tracking of GHBs was carried out in 2009 and 2010 as part of the *Looking Out for Bats* project. This work identified additional roosts and foraging areas [23]. Further study of bat movements in the landscape around Beer Quarry Caves has been carried out by E Fitzgerald 2020. Mist netting and subsequent ringing of GHBs at the SAC have allowed the identification of individual bats associated with the SAC to be identified in other known roosts e.g Gittisham (Mathews pers comm).

HRA Consultation Zone - Roosts, foraging and commuting habitat considered integral to the SAC

Key Roosts: Billington and Rawlinson [21] recommend that connectivity within 10km of key GHB roosts should be protected. This is therefore taken as the distance within which any Key Roosts are most likely to occur (the area of search). All GHB roosts mapped by DBRC and known to local experts (including the Devon Bat Group), within 10km of BQ&C, the only known large maternity roost has been identified and discussed with the Steering Group of bat experts. The Key Roosts identified are listed in the Table below.

Proposals effecting Key Roosts may have a significant effect on the BQ&C GHB population and therefore require HRA. If any new Key Roosts are identified by the Steering Group, they will be added to this Guidance.

Parishes with Key Roosts*meets SSSI criteria but not designated	**Roost type**	**Latest Count**	**Distance from SAC**
Beer Quarry and Caves SSSI/SAC	Hibernation	340 in January 2021	0
*Branscombe	Large maternity roost (the only known GHB maternity roost in the area of search).	248 in August 2019 (223 adults + 25 young)	1km

4km Sustenance Zone has been mapped around the Key maternity roost in Branscombe to protect critical Foraging Habitat and Commuting Routes around this roost

A 2km Sustenance Zone has been mapped around BQ&C to protect critical Foraging Habitat and Commuting Routes used by bats from this roost during the winter. See Figure 2. See p.11 for justification for 2km.

As both these roosts are near the sea an area equivalent to 4km has been mapped (= 5024 ha) following the principle established at other coastal SACs e.g. Berry Head.

Proposals impacting Foraging Habitat and Commuting Routes in the Sustenance Zones require HRA as they may have a significant effect on the SAC GHB population – see the flow chart in Section 3.

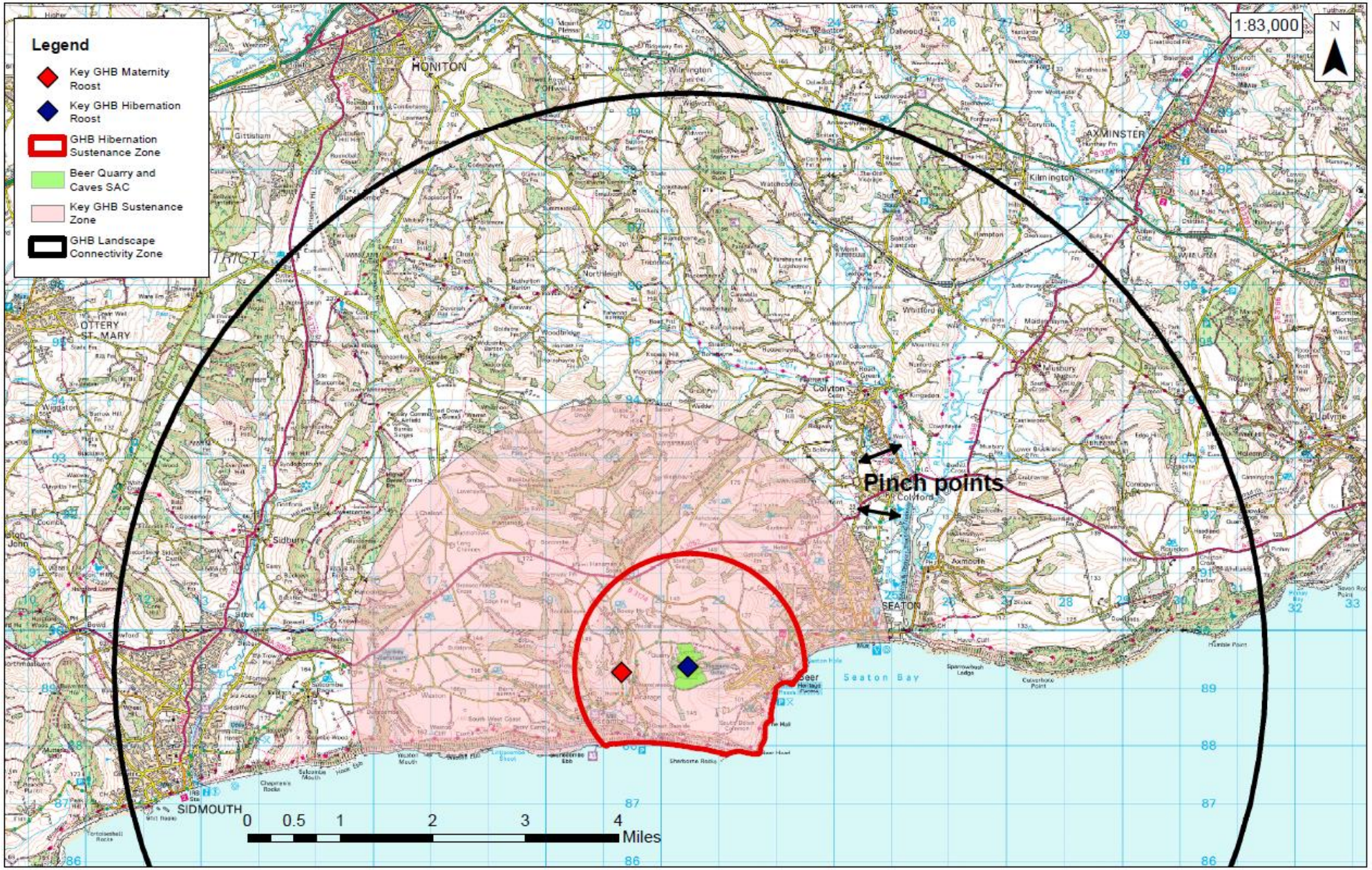
A **10km Landscape Connectivity Zone** has been mapped around BQ&C SAC to protect connectivity between the Key Roosts and other roosts in the area and to help connect the SAC to other populations to maintain genetic diversity and resilience [21]. Evidence from records held by Devon Biodiversity Records Centre and research conducted by the University of Sussex [19] indicates that GHBs commuting through the Landscape Connectivity Zone will be dispersed and found in low numbers compared to within the Sustenance Zones where most activity takes place.

It is considered that, in the LCZ, **only proposals which could severely restrict the movement of bats**

at a landscape scale (impacting on landscape scale permeability) may have a likely significant effect on the SAC GHB population and require HRA – see the flow chart in Section 3. However, there may be exceptions, see Flow Chart Note c in Section 3.

Pinch points– Pinch point has been identified in the landscape between Seaton and Colyford and Colyford and Colyton. Further urban growth in this area could significantly impact on the movement of LHBs and potentially have a likely significant effect on the SAC population. Dark flight lines need to be maintained through these Pinch Points to ensure uninhibited movement into their LCZ and between other key roosts in the region. GHBs that have been ringed at BQ& C have been found at a roost at Charmouth (Vincent Wildlife Trust Pers Comms 2011)

Figure 2 – Greater Horseshoe Bat Consultation Zones



2.2 Lesser horseshoe bat consultation zones

General information on LHBs [24-28]

Roosts – **LHB maternity roosts are usually found in the roofs of larger rural houses and stable blocks offering a range of roof spaces and frequently using a nearby cellar, cave, or tunnel where the bats can go torpid in cooler weather.** The colony may shift between attics, cellars, and chimneys throughout the summer, depending on the weather. **LHBs hibernate in caves, mines, tunnels, and cellars**. They appear to select places with similar temperatures to those sought by greater horseshoe bats, preferring temperatures between 8 and 11°C and high humidity LHBs also need other roosts (e.g., transition, mating, day and night roosts) throughout the year as for GHBs – see above.

Foraging habitat – LHBs largely feed **in broadleaved woodlands, wet woodland, wooded sheltered river valleys, parkland and semi or unimproved wet pasture bounded by hedges** [26-28].

In wooded habitats, lesser horseshoe bats feed within or below the tree canopy, taking small flying insects (midges, gnats, crane flies and moths). In summer most foraging activity takes place within 2.5km of the day roost and within 1.2km of the hibernation roosts in winter.

Commuting routes – LHBs actively avoid open areas and artificially illuminated areas. **They use dark tree lines, woodland edges over-grown hedges and vegetated banks of streams** to move between roosts and foraging areas [27].

What we know about the Beer Q&C LHBs

Radio tracking carried out at a large LHB roost near Cotleigh by M Zeale in 2014 from Bristol University records bats foraging up to 2.5km away from the maternity roost. This is the closest LHB roost to the SAC population that has been studied and it confirms the relevance of Bontadina [28] in an east Devon context. Roost visits by members of the Devon Bat Group and Devon Bat Research and Conservation Society have provided additional roost locations and roost numbers.

HRA Consultation Zone - Roosts, foraging and commuting habitat considered integral to the SAC

Key Roosts: Summer and winter roosts are thought to be generally no more than 5-10km apart [29]. Billington & Rawlinson recommend that connectivity within 10km of key LHB roosts should be protected [21]. All LHB roosts mapped by DBRC and known to local experts (including the Devon Bat Group), within 10km of BQ&C, have been identified and discussed with the Steering Group of bat experts. This showed that there are at least eight large maternity roosts within 10km of BQ&C as well as a large maternity roost (meeting SSSI criteria) 11.2km away. Survey information for these roosts shows that they seem to support ~700 bats (however, this is a very approximate figure as counts may include juveniles as well as adults, and, as LHB colonies can move around, some of the bats may be counted twice). NE's target for the SAC with respect to LHBs is to maintain abundance above 107 individuals (see p.4). We unfortunately do not know which of the local maternity roosts are used by the LHBs from BQ&C SAC. We have to assume that, whilst the SAC bats may use a number of maternity roosts in the area, the majority of SAC bats are likely to use the nearest maternity roosts. The 3 nearest maternity roosts are within ~5km of BQ&C and support ~130 bats (again this is approximate as there may be double counting) and which are considered to be Key Roosts in the context of the SAC population. There is also a hibernation roost in Beer which, due to its size and proximity to the SAC, is also considered to be a Key Roost. The number of bats in the Key hibernation roosts seems to roughly match that in the Key maternity roosts. **Proposals affecting Key Roosts may have a significant effect on the BQ&C GHB population and therefore require HRA.**

Parishes with Key Roosts	Roost type	Most recent counts	Distance from SAC (km)
Branscombe	Maternity*	30+	2.0
Colyford	Maternity	20-30	4.2
Colyford	Maternity*	70+	5.2
Beer Quarry and Caves SSSI / SAC	Hibernation and summer night roost	160	0
Beer	Hibernation	30	1.6

2.5km Sustenance Zones have been mapped around Key Maternity Roosts [28]

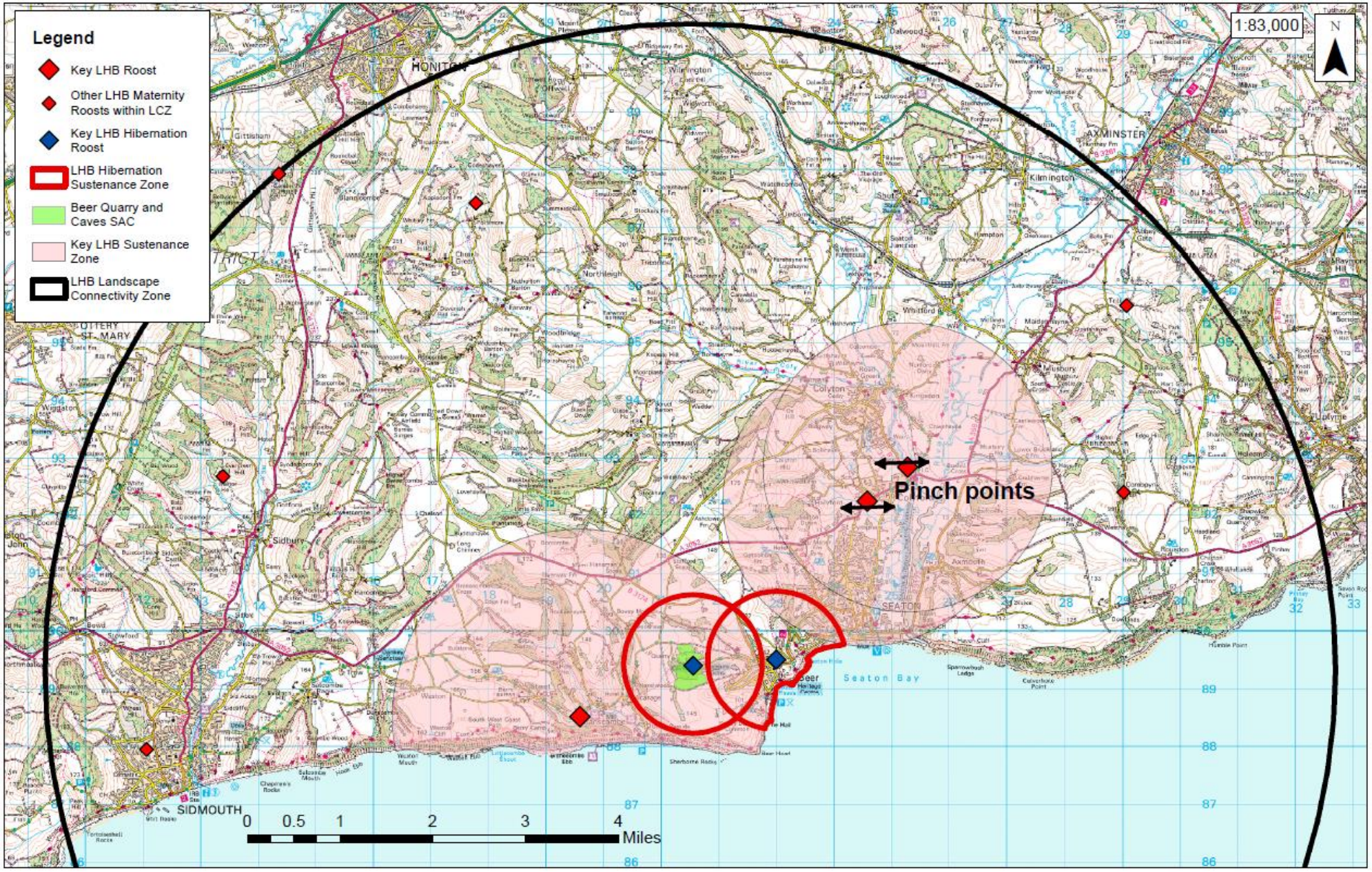
1.2km Sustenance Zones have been mapped around Key Hibernation Roosts (or equivalent area for roosts on the coast) [26]. See Figure 3.

Proposals impacting Foraging Habitat and Commuting Routes in the Sustenance Zones may have a significant effect on the SAC LHB population and therefore require HRA – see the flow chart in Section 3.

A **11.2km Landscape Connectivity Zone** has been mapped around BQ&C SAC to protect connectivity between the Key Roosts and other roosts in the area and to help connect the SAC to other populations to maintain genetic diversity and resilience [21]. As for GHBs, this is based on guidance produced by Billington and Rawlinson [21] but then extended to 11.2km to include the large maternity roost (over 200 LHBs) that meets SSSI criteria. See Figure 3 below. As for GHBs it is considered that LHBs commuting through the Landscape Connectivity Zone will largely be dispersed and found in relatively low numbers, other than within the foraging area of maternity roosts found in this landscape. **Only proposals which could severely restrict the movement of bats at a landscape scale (impacting on landscape scale permeability) are considered to potentially have a likely significant effect on the SAC LHB population and require HRA – see the flow chart in Section 3.** However, there may be exceptions, see Flow Chart Note c in Section 3.

Pinch points – A pinch point has been identified in the landscape between Seaton and Colyford and Colyford and Colyton. Further urban growth in this area could significantly impact on the movement of LHBs and potentially have a likely significant effect on the SAC population. Dark flight lines need to be maintained through these Pinch Points to ensure uninhibited movement into their LCZ and between other key roosts.

Figure 3 – Lesser Horseshoe Bat Consultation Zones



2.3 Bechstein's bat consultation zones.

General information about Bechstein's bats [30-32]

Roosts – **Summer roosts are found in cracks, crevices, and old woodpecker holes in mature trees**. Maternity colonies use multiple roosts throughout the season, frequently splitting into subgroups [30] and switching roost sites regularly. Winter records are rare, but they are known to **hibernate in hollow trees and underground e.g. caves.**

Foraging habitat – Bechstein's bat forages in **closed canopy broad-leaved woodland, in copses, along large hedgerows, in wooded riparian corridors and meadows**. Their diet is rich in moths and woodland associated flies. Lacewings, beetles, centipedes, earwigs and harvestmen are also taken. The bats tend to feed up to a maximum of 1 – 2.5km from the roost or usually closer [31,32].

Commuting routes – Bechstein's generally commute along **linear landscape features such as woodland edge and hedges.**

What we know about the Beer Q&C Bechstein's bats.

Female Bechstein's from BQ&C have been radiotracked over a number of years (2006-2019) to a single ash tree in a small copse in Wilmington which is assumed to be a maternity roost and /or one of a number of trees used as a maternity roost. Females tend to be very sedentary during the maternity season whilst male bats are more likely to move around the landscape. However, males have been radiotracked to other trees where they spent a significant amount of time. See the Table below. Further survey is needed. A summary of the Bechstein's surveys done around Beer will be set out in a separate paper to this guidance.

The East Devon AONB has sponsored the Devon Bat Conservation and Research Group to continue to monitor Bechstein's to further enhance our understanding of how they use the landscape and to identify any further roosts. The Blackdown Hills AONB has been installing bat boxes for Bechstein's bats in suitable woodland to improve the roosting options for these bats and potentially enhance their breeding success.

HRA Consultation Zone - Roosts, foraging and commuting habitat considered integral to the SAC.

Key Roosts: Bechstein's from BQ&C have been radiotracked to a maximum of 10.25km from the SAC roost. Given the rarity of Bechstein's, and that little is known of their local roost sites, the Steering Group consider that all known roosts within a 10.25km zone of BQ&C are Key Roosts and integral to the SAC population.

Parishes with Key Roosts – see Fig 3	Type of roost	Latest count	Distance from the SAC (km)
Beer Quarry and Caves	Hibernation	Jan 2021 count recorded just 1 Bechstein's.	0
Wilmington	Possible maternity roost.	Used by multiple females since 2009	10.25
Beer	Day roost used by male bats	Individual bats	0.9
Northleigh tree 1	Day roost used by male bats	Individual bats	5.7
Northleigh tree 2	Day roost used by male bats	Individual bats	6.4

Northleigh tree 3	Day roost used by male bats	Individual bats	7.1
Shute tree 1	Day roost used by male bats	Individual bats	9.2
Shute tree 2	Day roost used by male bats	Individual bats	9.5
Shute tree 3	Day roost used by male bats	Individual bats	9.7

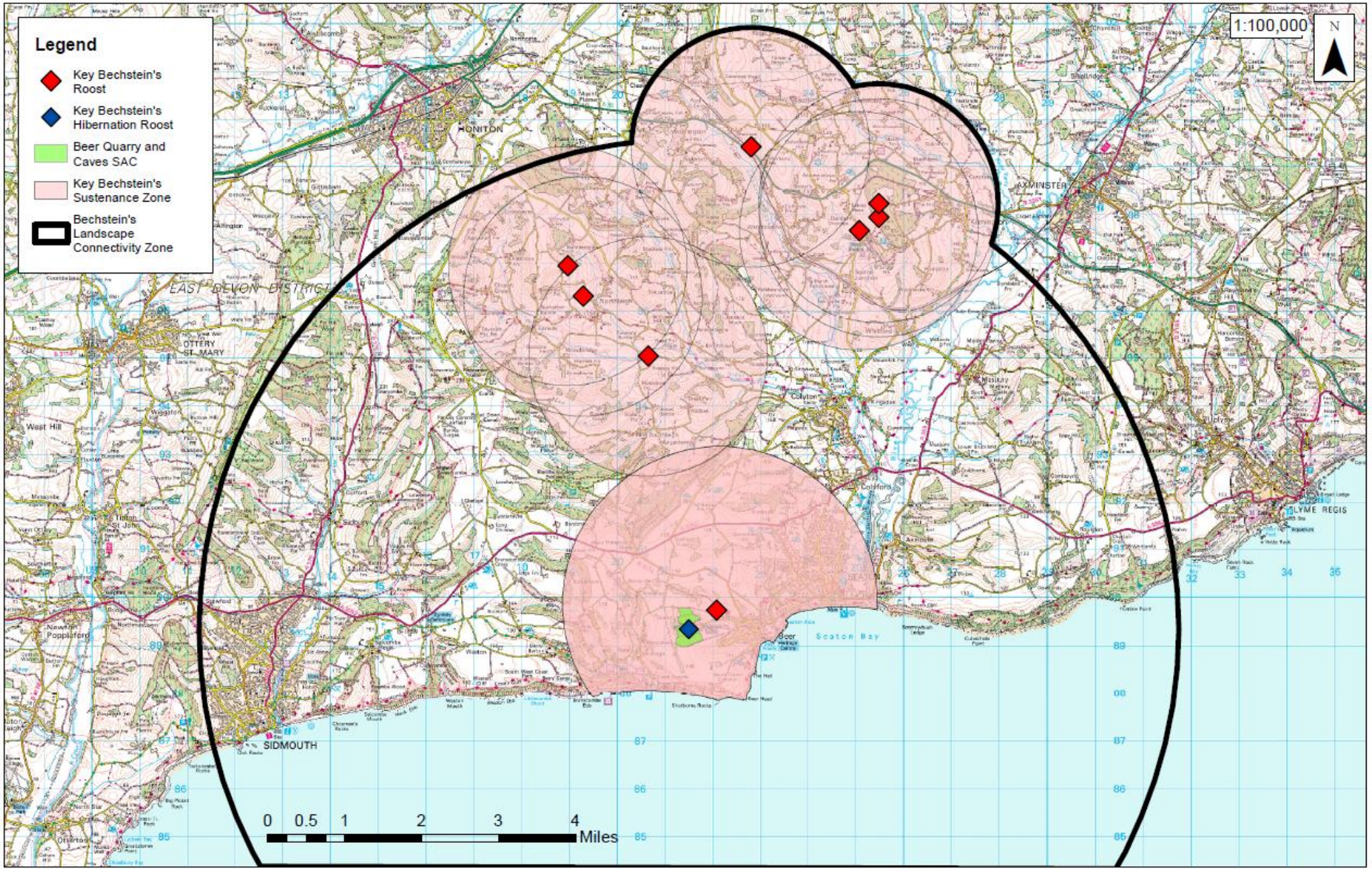
2.5km Sustenance Zones have been mapped around all Key Roosts. The bats tend to feed up to a maximum of 1 – 2.5km from the roost or usually closer [31,32]. The maximum distance has been used due to the rarity of the bats and our lack of knowledge given the difficulties in surveying for them[2]. Given these issues the Steering Group agreed that a precautionary principle should be taken, and Sustenance Zones mapped around all known Bechstein's roosts in order to protect all potential Bechstein's habitat, including any unmapped roosts.
Proposals impacting on any potential Bechstein's habitat in the Sustenance Zones may have a significant effect on the SAC and therefore require HRA. See Figure 4 below and Section 3.2

A **10.25km Landscape Connectivity Zone** has been mapped around BQ&C to protect connectivity between the Key Roosts. 10.25km is based on the furthest distance that a Bechstein's bat has been radiotracked from the quarry. **Proposals impacting on Bechstein's Commuting Routes within this zone may have a significant effect on the SAC Bechstein's population**. See Figure 4 below and Section 3.2.

Pinch points – No pinch points have been identified to date.

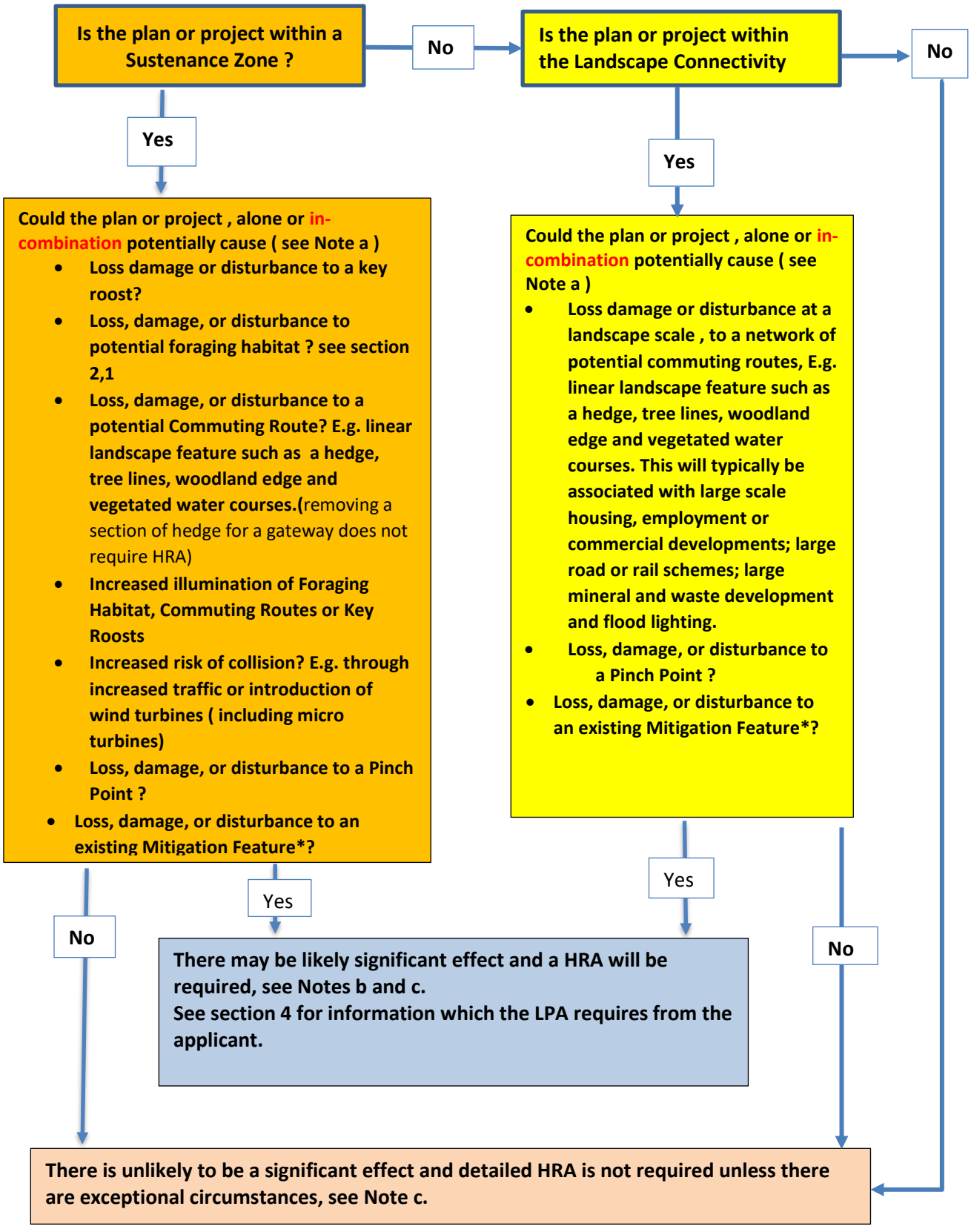
[2] BCT's CSZ for Bechstein's is 3km. However, BCT states (BCT, 2016) that 3km is very precautionary:. '*The weighted average mean-maximum foraging radius for M. bechsteinii rounds to 1km, however an increased CSZ size of 3km has been selected for this species due to its rarity and specialised habitat requirements'.* In the Devon situation the Sustenance Zones are being placed around trees used by individual bats, the Steering Group felt that it would be unreasonable to go beyond the 2.5km referenced.

Figure 4 – Bechstein's Bat Consultation Zones



3 When could a proposal have a likely significant effect on the Beer Quarry & Caves SAC?

As early as possible in planning of a development (pre-application stage) the LPA and applicant should discuss the proposal and, using existing knowledge, follow the Flow Chart and associated Notes below to clarify whether there may be a likely significant effect on the SAC.



*Feature is mapped on DCC environment viewer at http://map.devon.gov.uk/dccviewer/ Note however that there may be a time delay in adding Mitigation Features and it is the responsibility of the applicants to ensure that they are aware of any relevant mitigation features not yet shown on the Viewer.

Flow Chart Notes:

(a) If there is any degree of uncertainty regarding how to answer questions in the flow chart *e.g.* whether there is loss, damage or disturbance to a potential Foraging Habitat or Commuting Route, an ecologist should be consulted. Examples of how a proposal could potentially adversely affect bat habitats include:

Foraging Habitat
Building on pasture, wetland, or converting to improved grassland or arable
Felling woodland.
Altering drainage of wetland areas.
Indirect impacts that could lead to deterioration of the feature
Increased illumination of Foraging Habitat through internal, external and vehicular lighting sources.

Commuting Routes
Removal of a hedgerow / tree line.
Increased illumination of sections of hedgerow/tree lines, including from internal, external and vehicular lighting sources.
Building in close vicinity to a hedgerow / tree line.
Having an indirect impact *e.g.* a change in management to hedgerows bordering residential gardens.
Obstructions.
Increased risk of collision or habitat fragmentation e.g. new roads.

(b) It *may* be possible for the LPA to screen out *likely significant effects* relatively quickly in the process where it is considered that, due to factors such as location, site characteristics, size/type of the application, the proposal will clearly not have a likely significant effect on the SAC.

(c) HRA may be required in circumstances not listed on the flow chart if, following survey, the LPA or Natural England consider that the development could have a likely significant effect on the SAC. This could include the discovery of a new Critical Roost or the in-combination impacts of small projects in the Landscape Connectivity Zone.

Note: The applicant and LPA must ensure that other wildlife impacts (including impacts on bats as *European Protected Species*) are identified and mitigated appropriately through the planning process. See the Devon County Council website and Natural England standing advice for more information - https://new.devon.gov.uk/wildlife-and-geology-planning-guidance and https://www.gov.uk/guidance/bats-surveys-and-mitigation-for-development-projects

4 Information required for detailed HRA

4.1 LPA Planning stages

Pre-application Stage

The applicant should commission a suitably qualified ecological consultant (with experience of identifying impacts and mitigation requirements for GHB/LHB/Bechstein's) to provide the LPA with the following:

- Bat survey results and analysis, when required, see Section 4.2 below.
- Impact Assessment.
- Avoidance, mitigation measures and monitoring details, see 4.3 below.

LPAs cannot recommend consultants but can provide a list of ecological consultants known to them. See: https://new.devon.gov.uk/environment/wildlife/wildlife-and-geology-planning- guidance

The information provided should be up to date and follow current published guidance[3]. Departures from published guidance need to be fully justified in writing and agreed with the LPA.

It is advised, particularly for large or complex applications, that applicants seek pre-application advice on HRA requirements, survey and potential avoidance/mitigation measures from the LPA as well as from Natural England's Discretionary Advice Service. If insufficient information is submitted the LPA may be unable to validate the application or may need to request further information or new mitigation measures which could affect design/layout. These scenarios may lead to delays and increased cost.

Applicants and LPAs should use Natural England's Conservation Objectives and related Supplementary Advice for the BQ&C SAC when developing and assessing an application which may affect the SAC [2].

Submission of a Planning Application

The applicant must submit all the information required for the LPA to produce an HRA. If insufficient information is supplied, the LPA may not be able to validate the application. **To help ensure that all information has been provided it is strongly recommended that the applicant fills in the shadow Devon HRA template found at**

https://www.devon.gov.uk/environment/wildlife/wildlife-and-geology-planning-guidance

Determining a Planning Application

The LPA will use the information provided to undertake an HRA and, when required, consult Natural England. Note that the LPA must consult Natural England on all Appropriate Assessments. If insufficient information has been supplied the LPA may have to request further information. This can lead to a delay in determining the application.

The LPA will secure any mitigation measures required to ensure the project will not adversely affect the integrity of the SAC via conditions and/or legal obligations agreed with the developer.

If the LPA is unable to conclude that the application will have no adverse effect on the integrity of BQ&C SAC, the application will be refused (except for in exceptional circumstances) [3].

Outline applications are subject to HRA requirements. It is acknowledged that not all design and layout details will be known. However, where detailed HRA is required appropriate survey must be undertaken and any required avoidance/mitigation measures and principles, such as dark corridors, secured (via condition or legal agreement) in order to provide the LPA with the confidence required that there will be no adverse effect on the SAC bat population. These secured measures and principles must then be followed when developing details at reserved matters stage.

4.2 Survey Requirements

Greater and Lesser Horseshoes

Current national guidance [24] should be followed as well as any local guidance. Exact survey requirements will need to reflect the sensitivity of the site and the nature, location and scale of the proposals plus the difficulty of detecting horseshoe bats. Early dialogue with the LPA and Natural England is therefore encouraged.

There is currently no national guidance available to inform winter bat activity surveys in the Sustenance Zones around

[3] Including guidance from the Chartered Institute for Ecologists and Environmental Managers CIEEM) https://www.cieem.net/ and the British Standard for Biodiversity (BS 42020:2013).

hibernation roosts. Some foraging will occur during hibernation but at reduced rates to other times of year. If impacts occur in hibernation SZs the ecological consultant should discuss and agree any winter survey requirements with the LPA and Natural England.

Surveys and assessment of the results should be informed by any relevant bat data within the vicinity of the development from Devon Biodiversity Records Centre and the Devon Bat Group (see contact details in Appendix 1) and relevant projects where data are available. The assessment should provide an overview of how bats are thought to use the landscape in and around the application site. New bat data should be shared with the Devon Biodiversity Records Centre in accordance with good practice guidelines.

Bat activity survey that is more than 2/3 years old will generally be considered out of date as per the British Standard for Biodiversity BS 42020. However, in some circumstances it may be possible for the LPA and Natural England to agree to mitigation requirements without the need for a survey / full survey. Note that HRA will still be required. Circumstances may include:

- A minor development proposal where there is certainty (as evidenced by a competent ecological consultant) that impacts on bat habitat can be avoided or are negligible.
- A situation in which survey (or further survey) would not contribute further to the identification of impacts and avoidance/mitigation requirements.
- A situation in which the LPA and Natural England agree that there is sufficient existing survey information for the site (see British Standard for Biodiversity BS2020 for more information).

Bechstein's

Bechstein's are very difficult to survey using standard monitoring techniques. They rarely leave the cover of roosting sites until after dark, tending to forage high up in the canopy, where their low intensity echolocation calls make them difficult to detect using standard ultrasonic detectors [33]. Any echolocation calls that are recorded are difficult to identify accurately to species, as call structure for many of the Myotis species overlaps [34]. Additionally, Bechstein's bat are difficult to trap with harp traps and mist nets making capture for identification in the hand very challenging. these techniques only allow a very small area to be surveyed [24, 35].

Given these limitations it is advised that Bechstein's surveys should not be undertaken to identify impacts. An impact assessment should be undertaken using the assumption that Bechstein's bats are using any suitable habitat within the identified Sustenance Zones. Note that this does not negate the need for bat activity surveys, which may still be required for identification of impacts on other bat species.

Trees: Separately to HRA any planning proposals which impact on mature trees (including individual trees) require an assessment to identify any impacts on bat roosts (which have statutory protection). This assessment, and any detailed survey required, will help to identify trees which have potential Bechstein's roosting features (cracks, holes etc) and therefore trees which have no roosting features. The survey *may* identify Bechstein's presence but a negative result does not mean that a tree with roosting features isn't used by bats. If a tree has the potential for roosting Bechstein's the consultant should produce an impact assessment assuming presence and identify avoidance and mitigation measures.

In some cases it may be possible to agree a worst case scenario and put mitigation in place which will ensure no adverse effect on the integrity of the SAC. In some cases specialist survey may be required and the methodology should be agreed with the LPA and NE.

4.3 Avoidance, Mitigation and Monitoring Principles

The development should be designed (using the 'mitigation hierarchy'[4] as the standard approach) to avoid impacts through:

- Avoiding loss, damage or disturbance to bat roosts, Foraging Habitats and Commuting Routes and maintaining connectivity to offsite habitats.
- Where appropriate, creating sufficiently wide and dark buffers along or around habitats to protect them from impacts.
- Designing any lighting schemes to prevent impacts on known or potential bat habitat, in accordance with BCT/ILP guidance note 08/18[5]
- Designing the scheme to avoid future impacts *e.g., permanent* physical solutions such as bunds to reduce impacts from the future introduction of householder lighting, safety lighting or householder hedge management.

Bechstein's: **Given the rarity of Bechstein's every effort should be made to avoid habitat loss and impacts**. If an impact on likely Bechstein's habitat is considered to be in the public interest this should be discussed with the LPA and NE as early as possible. Avoidance and mitigation measures should take into account factors such as extent of loss and availability of other suitable habitat in the area e.g., if an individual tree is being felled which is identified as potentially supporting Bechstein's (due to cracks etc) then this *may* be acceptable if there are other suitable roosting trees nearby and it is agreed that the loss of the tree will not have an adverse effect on the integrity of the SAC population.

Where it is not possible to avoid all impacts the applicant should put forward measures to reduce impacts (mitigation) and ensure no adverse effect on the integrity of the SAC. Required measures may include:

- Creating or enhancing new dark corridors through the development site to maintain a connected network of Commuting Routes for bats. Creating or enhancing new Foraging Habitat in suitable locations within the same Sustenance Zone.

- Maintaining Commuting Routes across road and transport routes by creating safe bat crossings following best practice. This could include, for example, culverts, underpasses and green bridges.

- Imposing controls or restrictions on relevant operations, e.g. lighting.

- Creating or enhancing a roost.

- Contributing to any BQ&C SAC strategic bat fund which combines funding to deliver permanent high-quality bat habitat and roosts in priority locations to increase population resilience. The LPAs will provide further advice where this is relevant.

- There must be sufficient certainty that mitigation measures will be effective in ensuring no adverse effect on the integrity of the SAC and that they can be delivered. This certainty must be beyond reasonable scientific

[4] See Guidelines for Ecological Impact Assessment in the UK and Ireland (September 2018) Chartered Institute for Ecologists and Environmental managers (CIEEM) https://www.cieem.net/ and the British Standard for Biodiversity (BS 42020:2013).

[5] See Bats and Artificial Lighting in the UK (2018). Bat Conservation Trust and Institute of Lighting Professionals Guidance note 08/18.

doubt. For example:

- Measures must be in place and functioning before impacts occur.
- All financial and legal details relating to the delivery of mitigation requirements must be clear.
- Measures should be secured and implemented to reflect the duration of the impacts. Where impacts are permanent and irreversible measures will need to be secured ***in-perpetuity***.
- All mitigation should follow current best practice.
- Mitigation measures must be considered in the context of the wider area *e.g.* Commuting Routes through a development site must connect to routes outside the site and off-site impacts such as lighting must be mitigated.

Monitoring (which ensures that mitigation has been carried out as agreed and is effective) and appropriate follow up measures must be agreed with the LPA and implemented by the developer. Any required remedial measures must be completed to a timetable agreed with the LPA.

Note: Whilst not required for HRA both the developer and LPA should seek enhancements for all bat species in line with any national and local net gain policy and guidance.

5 Reviewing this Guidance.

This guidance will be reviewed and updated by the Steering Group as required. This may be as a result of national policy or legislative changes or the discovery of a new Critical Roost.

An up-to-date version of the guidance will be available on the DCC website.

If significant revisions are made to the document, the Steering Group will advise consultants listed on the DCC website and ensure that these amendments are set out in a table included as an Appendix to the Guidance.

6. Glossary.

Adverse effect on integrity	Where the competent authority is unable to confirm that the plan or project, without taking into account measures to avoid or reduce harmful effects (mitigation), will not have a likely significant effect on the SAC then the LPA will ask for further information in order to undertake an ***Appropriate Assessment*** and ensure that the plan or project will not have an adverse effect on the integrity of the site. The integrity of a European site can be defined as, 'the coherence of its ecological structure and function, across its whole area, which enables it to sustain the habitat, complex of habitats and/or the levels of populations of the species for which it was classified.' [5]. In practical terms this means the habitats necessary to maintain a healthy and viable population of greater horseshoe bats.
Appropriate Assessment	Stage 2 of HRA requirements where a likely significant effect, alone or in-combination, cannot be ruled out. An assessment of whether the proposal will adversely affect the integrity of the European Site taking into account avoidance and/or reduction measures. The ***Precautionary Principle*** applies, so to be certain, the LPA should be convinced that no reasonable scientific doubt remains as to the absence of such effects.
British Standard for Biodiversity	BS42020: 2013 Biodiversity – *Code of practice for planning and development* – is the first British Standard on biodiversity planning. Consistent with the European Biodiversity Strategy and UN Aichi targets. The British Standard offers a coherent methodology for biodiversity planning.
Commuting Routes	Linear features used as flight lines *e.g.* hedgerows, tree lines, woodland edge and vegetated watercourses.
Competent Authority	For the purpose of the ***Habitats Regulations***, a Competent Authority includes any Minister of the Crown, government department, statutory undertaker, public body of any description or person holding a public office. For planning applications, the Competent Authority would typically be the relevant Local Planning Authority.
Consultation Area	The combined area of the ***Sustenance Zones*** and ***Landscape Connectivity Zone*** (Figure 1). Based on current evidence the Steering Group considers that applications outside the consultation zone will not have a likely significant effect on Beer Quarry and Caves SAC.
Echolocation	The sonar-like system used by bats to detect and locate objects by emitting usually high-pitched sounds that reflect off the object and return to the animal's sensory receptors, either their ears or in the case of horseshoe bats, their nose 'leaves'.
European sites (sites protected under European legislation)	Sites within the European Union (EU) network of classified Special Protection Areas (SPAs) and Special Areas of Conservation (SACs) designated under Article 4 of the EU Habitats Directive (EEC/92/43). Also referred to as Natura 2000 sites.

European Protected Species	Species of plants and animals (other than birds) protected by law through the European Union and listed in Annexes II and IV of the European Habitats Directive.
Existing Mitigation Features (greater horseshoe bats)	Roosts, Commuting or Foraging Habitat created, enhanced, or protected to meet Habitats Regulations requirements for approved projects.
Favourable Conservation Status	Article 1 (i) of the Habitats Directive defines conservation status for species as *"the sum of the influences acting on the species concerned that may affect the long-term distribution and abundance of the its populations within the territory referred to in Article 2'* and continues *'the conservation status may be considered 'favourable' when:* (a) *its natural range and areas it covers within that range are stable or increasing; and* (b) *the specific structure and functions which are necessary for its long-term maintenance exist and are likely to continue to exist for the foreseeable future; and* (c) *there is and will probably continue to be, a sufficiently large habitat to maintain its populations on a long-term basis'.*
Foraging Habitat	Feeding areas for bats.
Habitats Directive	Beer Quarry and Caves SAC has been designated under the European Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora ("the Habitats Directive") as part of a European network of strictly protected sites important conservation sites that will make a significant contribution to conserving habitats and species listed in Annex I and Annex II of the Directive. These habitat types and species are those considered to be most in need of conservation at a European level (excluding birds).
Habitats Regulations	Various obligations of the Habitats Directive are transposed into domestic legislation by the Conservation of Habitats and Species Regulations 2017 (SI No. 2017/1012) ("The Habitats Regulations"). The Habitats Directives continues to have a direct effect in the UK and prevail in the event of a conflict between their provision and those of the Habitats Regulations. Decisions of the Court of the European Court of Justice are directly binding on UK competent authorities.
Habitats Regulations Assessment (HRA)	The assessment, required by the Habitats Directive and Habitats Regulations, carried out by the competent authority to assess the effects of projects or proposals on European protected sites. Stage 1 includes screening for likely significant effects. Stage 2 (Appropriate Assessment) assesses whether it is possible to avoid an adverse effect on site integrity.

HRA screening	An assessment of whether the proposal will, on its own or in- combination with other plans or projects, have a likely significant effect on the SAC's population of greater horseshoe bats before avoidance or reduction measures have been taken into account. The flow chart in section 3 should be used to identify whether an application may have a likely significant effect on the South Hams SAC greater horseshoe bat population. Where it is clear that there is no likelihood of significant effect there is no need for detailed screening. However, where there may be a likely significant effect the LPA will need to use information provided by the applicant to undertake a detailed HRA screening. Where screening cannot rule out a likely significant effect then ***Appropriate Assessment*** must be carried out.
Hibernation roost	Roosts where bats hibernate during the winter.
In-combination effects	Effects that occur from a plan or project, in combination with other plans or projects to protect sites from cumulative effects of more than one project when the effects of project acting on the site alone would not be likely to be significant. The key purpose is to ensure no significant cumulative adverse effects on a site. Projects generally include [6]: Projects started but not finished • Projects with consent but not started • Applications lodged and not determined • Refusals subject to appeal • Known projects not needing consent • Proposals in adopted plans • Firm proposals in published final draft plans • Firm proposals in final draft plans.
In-perpetuity	For the purposes of HRA, mitigation must cover the duration of impacts. Where impacts are permanent and irreversible mitigation should be delivered 'in-perpetuity'. Legal counsel may need to be sought in some cases when a defined time frame is required under The Perpetuities and Accumulations Act 2009.
Integrity Test	In the context of the Habitats Regulations, the 'integrity' of a site is defined in England and Wales as *'the coherence of its ecological structure and function across its whole area, that enables it to sustain the habitat, complex of habitats and/or the levels of populations of the species for which the site is (or will be) designated'*. A site can be described as having a high degree of integrity where the inherent potential for meeting site conservation objectives is realized, the capacity for self-repair and self-renewal under dynamic conditions is maintained, and a minimum of external management support is required. The integrity test must be considered on a case-by-case basis, taking account of the potential effects of the particular plan or project on the particular site and its qualifying features. [6]
Key Roosts	Roosts which are considered integral to the SAC population. Impacts on these roosts, alone, could potentially have a likely significant effect on the SAC bat population.
Landscape Connectivity Zone	The area that includes a complex network of Commuting Routes likely to be used by the SAC population of bats.

Likely significant effects	Effects, considered in HRA screening, which would undermine the SAC's Conservation Objectives. If, on the basis of information provided, a likely significant effect cannot be ruled out then Stage 2 of the HRA (an ***Appropriate Assessment***) must be undertaken by the competent authority. In HRA terms, 'likely' is not a certainty or a probability but a possibility or a risk of a significant effect [6].
LPA – Local Planning Authority	The Local Planning Authority is the Authority responsible for plan- making and development management functions.
Material consideration	A material consideration is a matter that should be taken into account in deciding a planning application or in an appeal against a planning decision.
Maternity roost	The roost where, during summer, female bats gather to have and raise their pups. Some males may also be present in maternity roosts. Types of structures used for maternity roosts vary hugely between species.
Mitigation	Measures to avoid and reduce significant adverse effects on the integrity of SACs.
Other roosts	Not identified as Key Roosts. These roosts are generally used by small numbers of bats and in most cases, it is cumulative impacts on these roosts and the habitat that surrounds them (any foraging habitat and commuting routes) which could have a significant effect on the SAC bat population. Due to the number of smaller roosts, and the fact that many will not have been recorded, they are not identified in this Guidance. Please contact DBRC / Devon Bat Group for existing records.
Permitted development	Permitted development rights are a national grant of planning permission which allows certain building works and changes of use to be carried out without having to make a planning application. Permitted development rights are subject to conditions and limitations to control impact and to protect local amenity. Rules relating to permitted development are set out in the General Permitted Development Order.
Pinch Point	Known or potential commuting routes which are significantly restricted *e.g.,* due to urban encroachment or proximity to the sea / estuaries. Further restriction to a Pinch Point could significantly impact on the movement of greater horseshoes and potentially have a likely significant effect on the SAC.

Plans or projects	Plans or projects in the context of HRA are defined as [6] A plan is: • any new document (or modification alteration or revocation) whatever form or title it may have • a detailed proposal for doing, planning, regulating, or achieving something OR • an intention/decision about what is going to be done • excluding statements of general aspiration or political will or general intentions. A project is capable of being: Anything that requires any form of new or renewed, or periodically renewable, authorisation or any variation, modification or revocation of an authorisation.
Planning applications	As well as planning applications this term includes prior approval notices and non-material amendments.
Precautionary Principle	HRA incorporates the 'precautionary principle' as established in case law. It is not for the competent authority to show that there would be harm to the European site's integrity before refusing authorization, but for it to establish that there would be no harm to site integrity before granting authorisation [6].
Roosts	A bat's breeding site or resting place. UK bats do not construct roosts but use structures that are already available.
SAC – Beer Quarry and Caves	Beer Quarry and Caves Special Area of Conservation. Designated as a SAC in 2005 for its important population of hibernating greater horseshoe bats, lesser horseshoe bats and Bechstein's bats. The aim of the designation is to help ensure the ***favourable conservation status*** of these species.
Site of Special Scientific Interest (SSSI)	An area or site that is designated by Natural England under the Wildlife and Countryside Act 1981 for its nationally important biodiversity.
Sustenance Zone	The area around Key Roosts which includes critical Foraging and Commuting Habitat.

7 References –

[1] NE (2019) European Site Conservation Objectives: Supplementary advice on conserving and restoring site features Beer Quarry and Caves Special Area of Conservation (SAC) Site code: UK0012585 http://publications.naturalengland.org.uk/publication/5373286804357120?category=5374002071601152

[2] Bat Conservation Trust Greater horseshoe bat fact sheet https://cdn.bats.org.uk/pdf/About%20Bats/greaterhorseshoe_11.02.13.pdf?mtime=20 181101151259

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[7] ODPM Circular 06/2005: Biodiversity and Geological Conservation.

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[9] Flanders, J. & Jones, G. (2009). Roost use, ranging behaviour and diet of Greater Horseshoe Bats *Rhinolophus ferrumequinum Using* a Transitional Roost. Journal of Mammology 90: 88-896.

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[15] Billington, G. (2002). Radio tracking study of Greater Horseshoe Bats at Buckfastleigh Caves Site of Special Scientific Interest English Nature Research Report no. 573. Peterborough English Nature.

[16] Billington G. (2002) Radio tracking study of greater horseshoe bats at Chudleigh Caves and Woods Site of Special Scientific Interest, English Nature Research Report 496.

[17] Robinson, M. F., Webber, M & Stebbings, R.E. 2000. Dispersal and foraging behaviour of Greater Horseshoe Bats, Brixham, Devon. English Nature Research Report No. 344. Peterborough: English Nature.

[18] Vincent Wildlife Trust (2012) Unpublished radiotracking data from High Marks Barn tracked bats.

[19] Finch D (pers. comm.) University of Sussex Ph.D. field research (2016): Informing Landscape Scale Management of the Greater Horseshoe Bat (*Rhinolophus ferrumequinum*).

[20] Jones, G., Duvergé, P.L., and Ransome, R.D., (1995). Conservation of an endangered species: field studies of greater horseshoe bats. Symp. Zool. Soc. London. 67: 309 -324.

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Other similar guidance used to produce this document:

Exmoor and Quantock Oak Woodland SAC – Guidance on Development – V 2.1, May 2019
http://wwwold.somerset.gov.uk/EasysiteWeb/GatewayLink.aspx?alId=137146

Bath and Bradford on Avon Bats SAC – Guidance on Development – V 1.2 – April 2019

North Somerset and Mendip Hills SAC – Guidance on Development – V 2.1 – March 2019
https://www.mendip.gov.uk/media/22423/Technical-Guidance-Mendip-District-SAC-Bats-v2-1/pdf/Technical_Guidance_Mendip_District_SAC_Bats_v2.1_a2.pdf?m=637484770030800000

South Hams Special Area of Conservation (SAC) (2019) Habitats Regulations Assessment Guidance, Greater Horseshoe Bats
Wildlife and geology planning guidance - Environment (devon.gov.uk)

Appendix 1. Contact details for Planning Authorities

East Devon District Council

Eastern Team
Email: planningeast@eastdevon.gov.uk
Tel: 01395 571597
Covering Planning issues in the following parishes:
All Saints, Axminster, Axmouth, Beer, Branscombe, Chardstock, Colyton, Combpyne Rousdon, Cotleigh, Dalwood, Farway, Hawkchurch, Honiton, Kilmington, Luppitt, Membury, Monkton, Musbury, Northleigh, Offwell, Seaton, Shute, Southleigh, Stockland, Uplyme, Upottery, Widworthy, Yarcombe.

Central Team
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Covering Planning issues in the following parishes:
Awliscombe, Bicton, Broadhembury, Budleigh Salterton, Buckerell, Colaton Raleigh, Combe Raleigh, Dunkeswell, East Budleigh, Feniton, Gittisham, Newton Poppleford & Harpford, Payhembury, Otterton, Ottery St. Mary, Sheldon, Sidmouth.