Turning a blind eye to bats: National Highways' attempts to 'scope out' bats from the Arundel Bypass scheme

Report prepared by Emma Tristram, 5 May 2021, and updated in January 2022 during the 'Statutory Consultation' on the Grey route

1. Introduction

In the Jan-March 2022 'Statutory Consultation' on the new Arundel Bypass Preferred Route (called the Grey route previously), National Highways have stated that permanent damage to bats will be 'scoped out' from the Environmental Statement (a document produced at the next planning stage). In other words, there will be an assumption that the road scheme will cause no permanent damage to bats.

This is extraordinary, as National Highways (NH) have been performing bat surveys in the relevant area every year since 2017, and Natural England have warned that the area is of international importance for bats and mitigation is unlikely to be effective. This decision carries on the saga of suppressing information about bats since the first consultation in 2017.

- 2017 consultation on routes 1, 3 and 5A: no information about bats bar a statement that 5 species were 'likely' to be in the area. Evidence by MAVES (Mid Arun Valley Environmental Survey) that there were 13 (later 14) species was not included.
- 2019 consultation: only surveys about the three routes presented in 2017 was included in the consultation – there was no information about the western end of the two new routes, Magenta and Grey, even though surveys had been done on them in 2019.
- 2022 Statutory Consultation – attempt to scope out permanent damage to bats completely.

a) The 2019 consultation: the major data lack

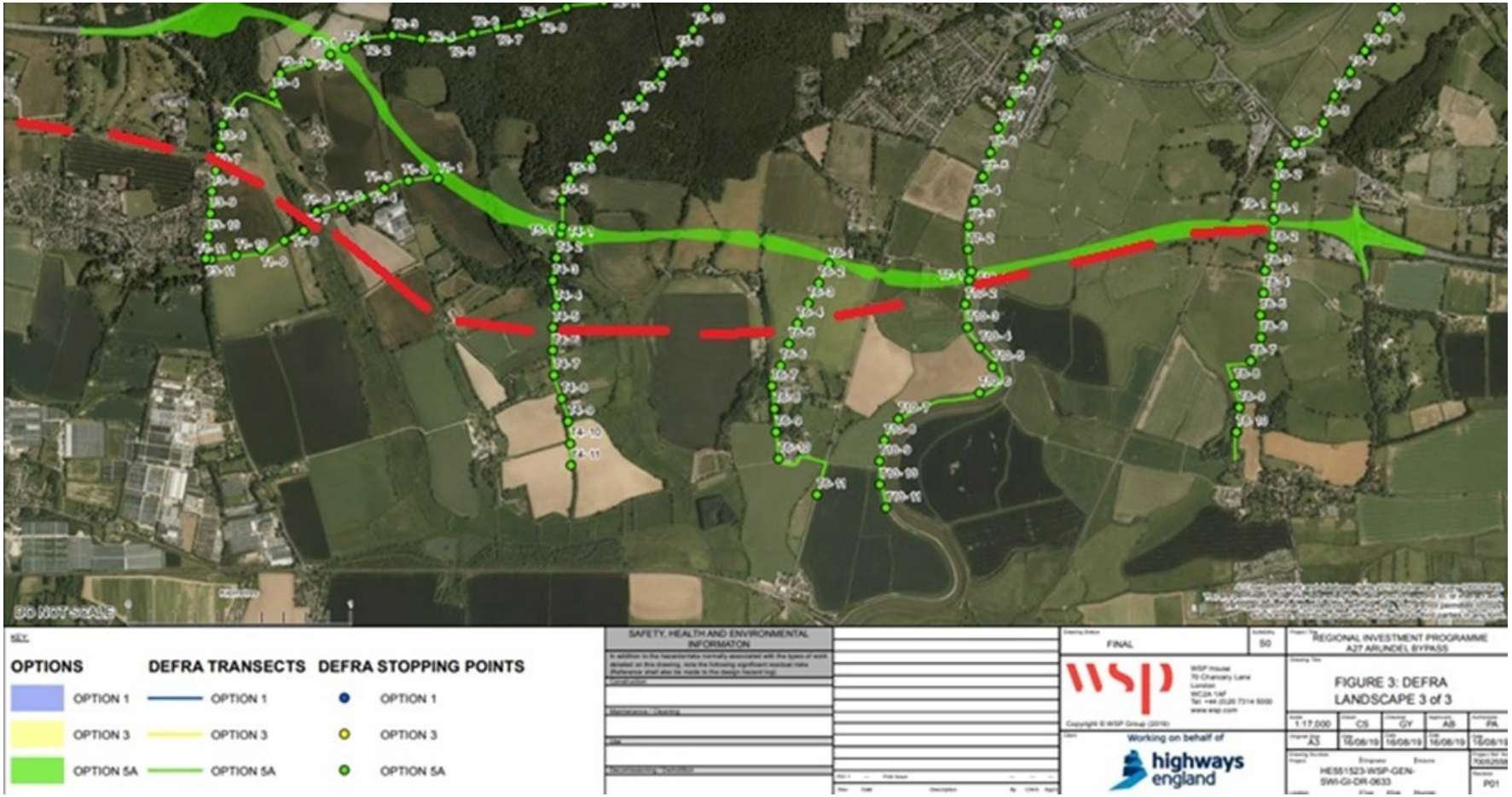
The 2019 consultation presented massive, detailed bat surveys, but they covered only the three routes from 2017, excluding the two new routes, Magenta and Grey. The reason HE gave for this lack of data was: 'Ecological field survey data is not available for the Western sections of Option 4/5AV1 and 5BV1 [Magenta and Grey]. This is because these sections were previously too far west of the study area to necessitate a survey. …The information collected for Options 1, 3 and 5A in 2017 and 2018 will be used to inform an assessment of the six scheme options and scheme option selection' (Environmental Assessment Report (EAR) 2019, Appendix 8-8, 1.1.1.7). In spite of the data lack, HE stated that 'Grey is likely to have the least effect on bats' (2020 SAR, p. 17-73). The 2017-18 surveys on the old three routes (only) were also used to decide the Preferred Route (Grey, one of the 'new routes').

b) The 2019 surveys actually contain damning information about the Grey route

This paper shows that if you look back at the 2017-18 bat surveys (of the 'old' routes, 1, 3 and 5A, renamed Beige/Cyan, Crimson and Amber), presented at the 2019 consultation, and search for information about the new (unsurveyed) Grey route, the information given suggests that Grey and Magenta would be

just as damaging for bats as the three routes that were surveyed. In other words, Highways England's statement 'Grey is likely to have the least effect on bats' is untrue.

Figure 1: Highways England's Figure 3: DEFRA Landscape study, 3 of 3, from the 2019 EAR, Appendix 8-8. Note that the Amber route – the route being surveyed - is shown in green. The Grey Route (now the Preferred Route) has been added in red by the author of this paper. The transects (surveying paths) cross the Grey route area. The conclusion of the study was that there was no diminution of bat activity along the transects.



c) Key findings

The 2017-18 'DEFRA Study' (presented in 2019) used 'transects' which extended for 1 km perpendicularly from the Amber/5A route, so some cross the proposed Grey route. Bat activity did not change with greater distance along the transects, which are likely to be commuting routes. See Figure 1 above for HE's map of the transects with the Grey route added – Grey is well within the transects. The DEFRA Study also used 'crossing points', on the Amber/5A route, which show high numbers (sometimes 100%) of bats flying at unsafe heights. This would also apply to the Grey route.

The 'Study Area' for the 'old' three routes surveyed included an area 1 km from the routes. It therefore included the area the Grey route would cross. Barbastelle and Bechstein's bats, found in the area, are both Very Rare in Sussex and the UK. 'The Study Area forms part of the core sustenance zones for both species' (EAR 2019, Appendix 8-8, 4.1). The area the Grey route would cross is part of this core sustenance zone.

2. The DEFRA Transects Study (performed 2017-18, given in 2019 EAR, Appendix 8-8)

2.3.4. describes the method. 'The aim…is to assess the effect of linear influence on bats at a landscape and population scale. This is done by identifying changes in level of bat activity, and species diversity, in relation to proximity to a road scheme. 2.3.2.2: 'Surveyors walked 10 transects per scheme option [Options 1, 3 and 5A from the 2017 consultation], each covering one km of the landscape on either side of the scheme options.'

2.3.4.4. 'Each transect was visited twice. Eleven spot checks were made, located at 0m, then every 100m. Surveyors stood for 10 minutes at each spot check and recorded habitat, weather, and bat calls (on an automatic recorder). 2.4.3.2.: Transects are designed to 'avoid known maturing roosts or habitats of particular high or low bat suitability. But due to habitats throughout the Study Area assessed to be of high suitability, and the abundance of known roosts…this was difficult to achieve.'

3.2.28.1: 'A total of 2,989 bat passes of a minimum of ten species were recorded during the survey. Figure 3-2 displays the total number of passes per transect, with peak level of activity occurring across transect 4.'

The transects were analysed individually. The ones that passed across the areas the Grey route would go through include, each starting from the Option 5A/Amber route:

- Transect 1 (west along FP 342, past Binsted Church, across the Binsted Rife valley to Yapton Lane). 30 bat passes.
- Transect 3 (west from Scotland Lane, along Binsted Lane then down Hedgers Hill, then south down Yapton Lane). 187 bat passes. These are possibly bats commuting in and accessing woodland edge or woodland from wider area.
- Transect 4 (south from Binsted Park, along Binsted Lane, along Hoe Lane). 287 bat passes. Note how busy it is: this transect had the highest number of bat passes. It is possibly a corridor from the woodland to the floodplain. Not only the Grey route itself, crossing Binsted Lane twice and

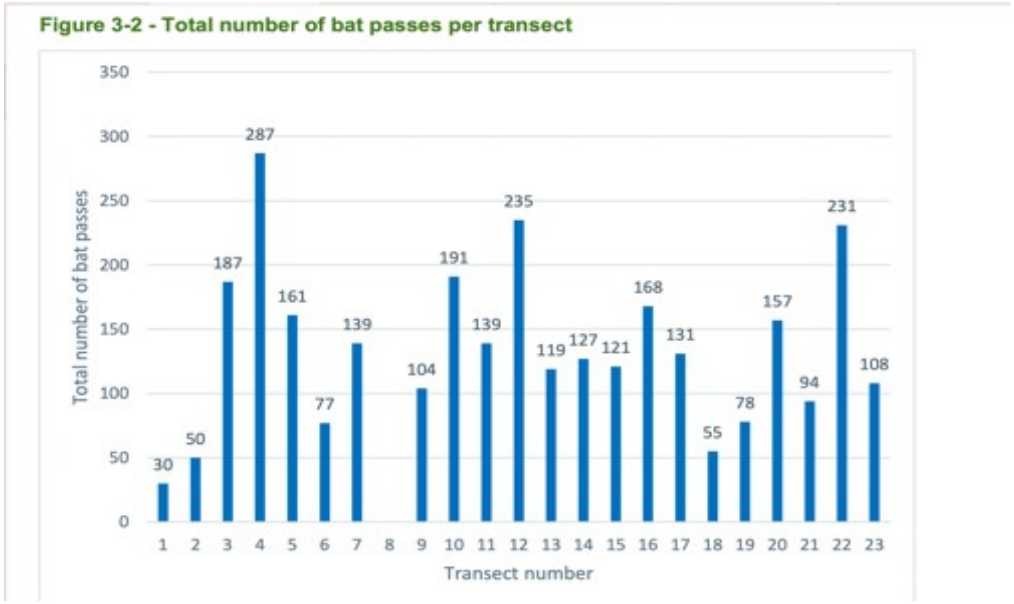
thus crossing this transect, but also a 7m high overbridge to maintain access to properties in Binsted Lane, would severely interfere with this bat route.

- Transect 6 (south through Tortington, via a path then Tortington Lane), 77 bat passes.
- Transect 10 (southwards down the River Arun), 191 bat passes.

Highways England's Figure 3-2 gave total number of bat passes per transect. The conclusion was that 'For all options, distance from the scheme does not have a significant effect on bat activity' (4.1.3.2). This is likely to be due to the fact that bats are flying ALONG rather than ACROSS these features, i.e. they are important commuter routes.

This suggests that the areas the Grey route would go through have just as much bat activity, and would be just as badly affected, as the areas the Amber/5A route went through. Since the Amber/5A route passed through parts of Binsted Woods, and 'distance from the scheme was not found to have a significant effect on bat activity', this means that distance from Binsted Woods also did not have a significant effect on bat activity. The data from the transect study shows that the areas that the Grey route would go through are essential to the bat population of the area.

Figure 2: The number of bat passes per transect.



3. The 'Crossing Points' Survey (performed 2017 and 2018, presented in 2019 EAR, Appendix 8-8)

At 2.3.2.2 is an explanation of 'crossing points'. 33 locations were selected for the survey. 'Locations represented points where the scheme options [the 1, 3 and 5A options] pass through habitat or boundary features and significant bat commuting routes were likely to be found, hereafter referred to as crossing points'. The crossing points were whittled down to 29. The ones on the Amber/5A route, the nearest to the Grey route, are crossing points 1-11 and 18-28. '26 crossing points received the full complement of 6 visits June to September 2017 or 2018.'

The results of the survey are given in the form of tables. In the February 2020 mini-consultation, which presented corrections and a chance to change one's response to the 2019 consultation, a tranche of corrections to these tables was given. These are ignored here since they changed the figures, for what percentage of bats of various species were flying at unsafe heights, by only a few percentage points. The conclusion of the survey is much more important.

Bats are divided according to their ecological niches into 'clutter adapted species', 'edge habitat species' and 'open habitat species'. The bald statement at the conclusion, 4.1.1.5, says 'Clutter adapted species were found to fly at unsafe heights and therefore at risk of traffic collision. Edge habitat and open habitat species were also found to fly at unsafe heights'. The percentages are even more startling.

The crossing points are treated individually. The tables are too long to summarize but some figures give the flavour of the destruction that would be caused by a bypass, on the Grey route as well as on the surveyed routes.

Crossing point 1: on the edge of Barn's Copse. 85% of bats pass at an unsafe height (within the collision zone of passing traffic).

Crossing point 2: on Scotland Lane outside Binsted Woods. For some species 100% pass at an unsafe height.

Crossing point 3: on Copythorn West Hedge. 97% pass at an unsafe height.

Crossing point 4: on FP 342. 92% pass at an unsafe height.

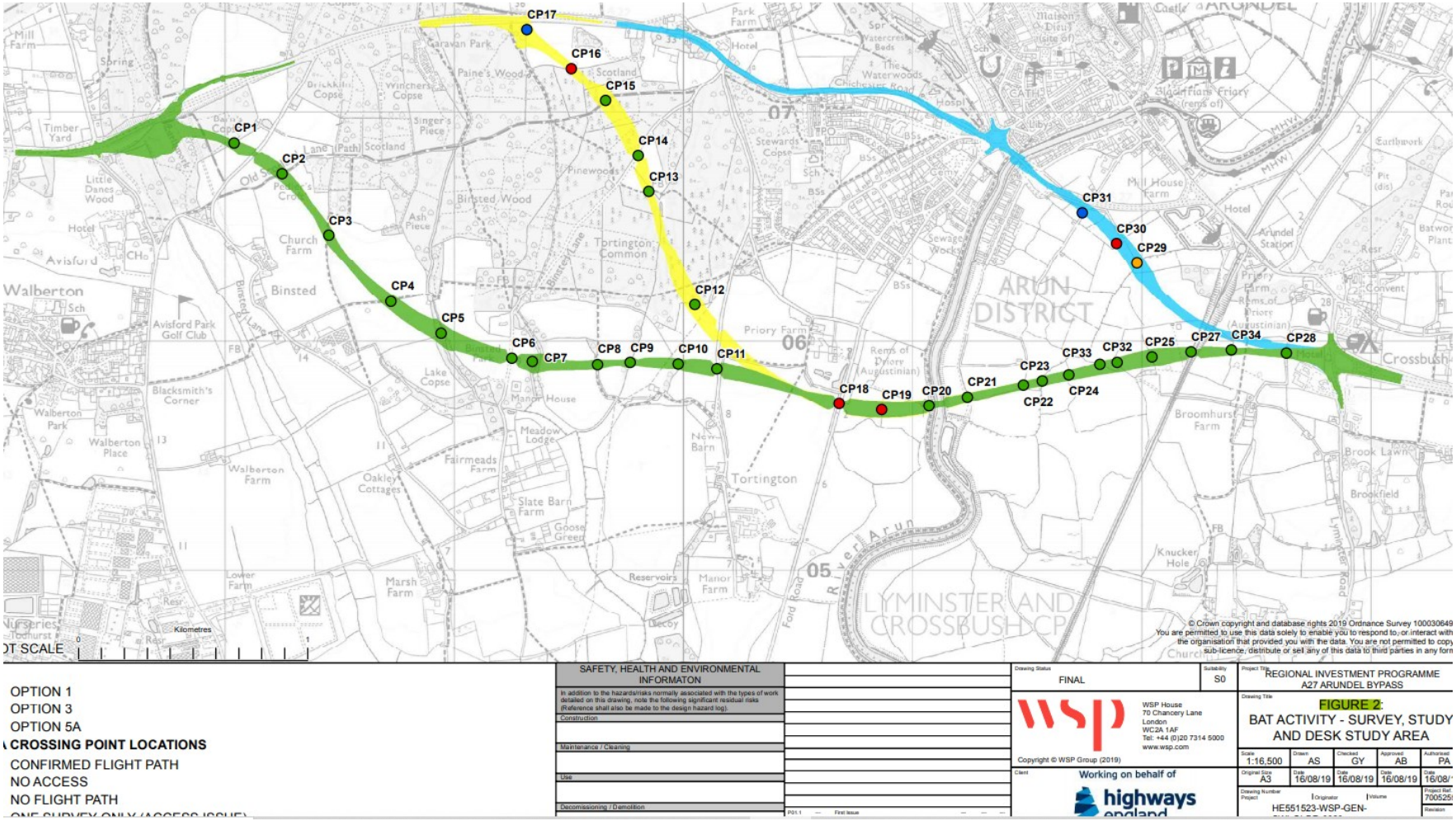
Crossing point 5: on the edge of the Shaw. 85% pass at an unsafe height.

Crossing point 6: the track across Binsted Park. 85% pass at an unsafe height.

Crossing point 7: the Lag. 75% pass at an unsafe height.

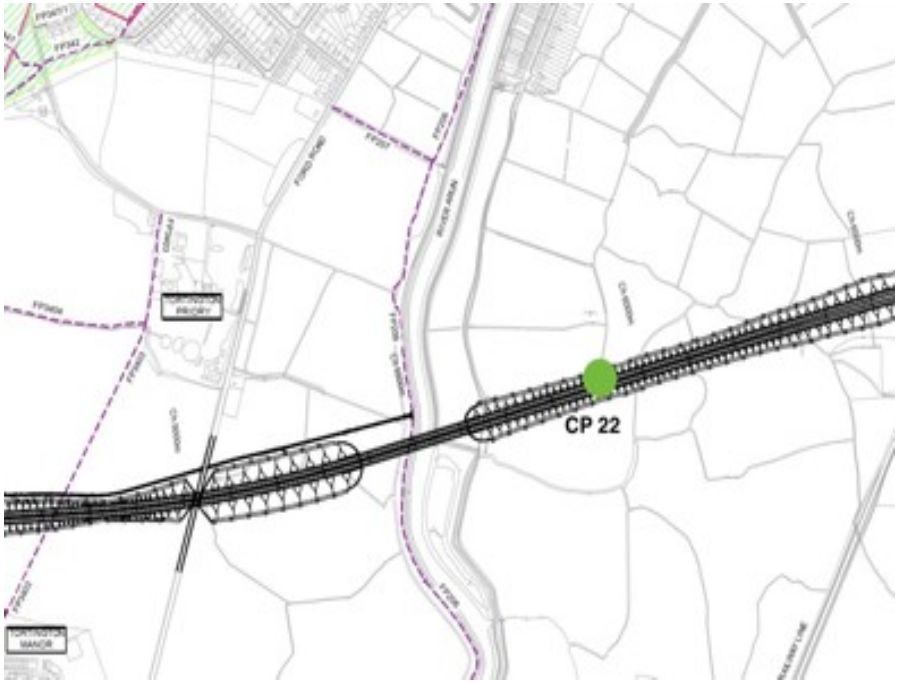
At both western and eastern crossing points, the figures for some species are 100% 100%, 100%, 100% passing at an unsafe height.

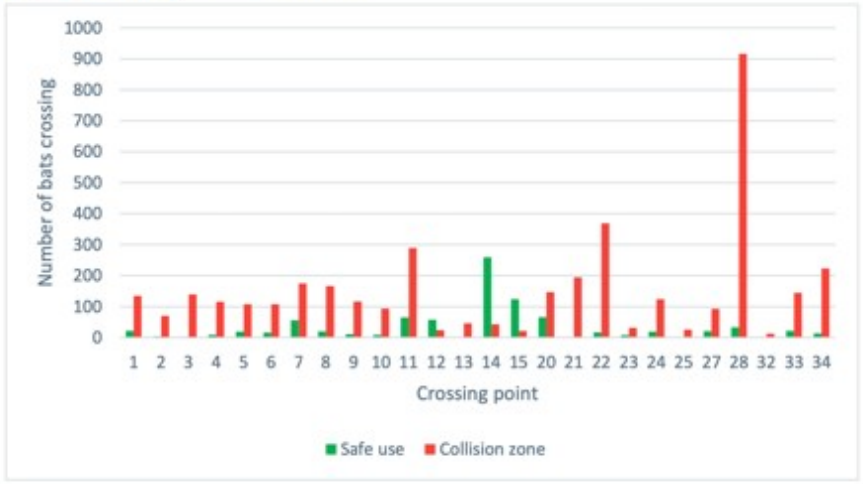
Figure 3: Highways England's Figure 2 of 2019 EAR Appendix 8-8, Crossing Points.



The survey states of Crossing Point 22 (between the River Arun and the railway): '3.2.19.1. A total of 386 bat passes were observed, of which; 17 (4.4%) were considered to be using the feature at a safe height, with 369 (95.6%) observed to be crossing at an unsafe height and within the collision zone of potential traffic. Crossing point 22 is the only feature within the Arun floodplain to record a high number of observed passes. This suggests that it is a key commuting route for bats within this part of the Study Area.' Crossing point 22 is directly under the Grey route.

Figure 4: Crossing point 22 with section from the Grey route superimposed, and HE's figure 3-1:





Crossing point 28 is the easternmost, near the Crossbush junction where all bypass routes would start. The survey states of Crossing point 28 – the busiest: '3.2.24.1. A total of 1,142 bat passes were observed, of which; 37 (3.2%) were considered to be using the feature at a safe height, with 1105 (96.8%) observed to be crossing at an unsafe height and within the collision zone of potential traffic.' These are mostly Pipistrelles, a less rare species, but the numbers are high.

4. Bat Activity Baseline Survey Report (performed 2017-18, presented in the 2019 EAR, Appendix 8-5)

This survey again showed the importance for bats of the area east of the River Arun, where the route of Grey is the same as the Amber/5A route surveyed.

Figure 5: Map snip showing part of the Amber route and Static location 4.2. The Grey route as the same as the Amber route at this location.

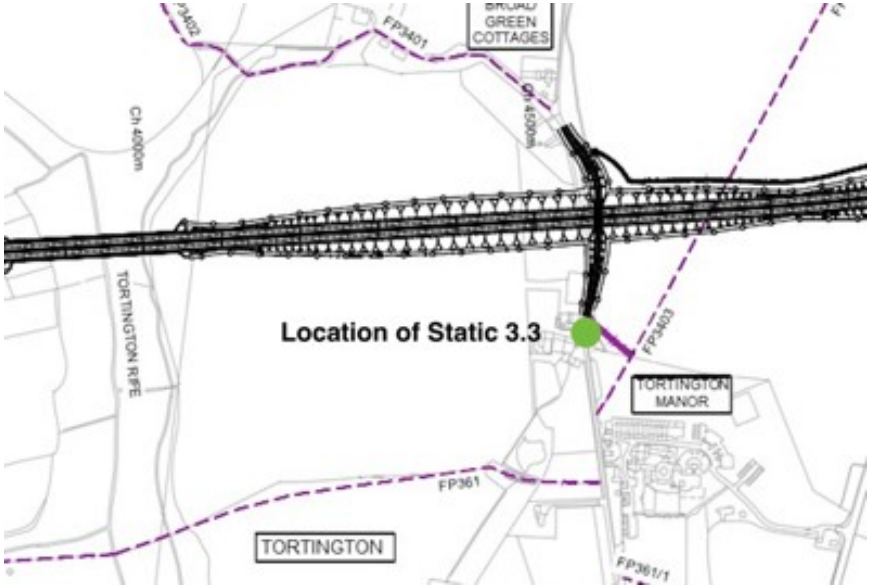
4.1.1.3: 'Activity levels for bats adapted to open and edge habitats such as noctule, Leisler's bat, Serotine, Pipistrellus spp. and Barbastelle were generally highest within transect 4 (Static location 4.2 has peak counts of 321 PPH [passes per hour]). This transect is located within the Arundel floodplains which provides suitable open habitat with linear features such as treelines, hedgerows and wet ditches.' Static location 4.2 (Figure 5) is close to the Crossbush junction, where all the offline routes are the same.

'High levels of bat passes for these species was also recorded at static location 3.3 (approximately 547 PPH), located in a treeline habitat surrounded by open farmland with well- connected linear features such as hedgerows and treelines.' Static location 3.3 is located very close to the Grey route, on the spot where an overbridge over Tortington Lane would start. See map sections below.

Figure 6: Map snip showing Static location 3.3. The Grey Route passes through this location.

The next paragraph states (4.1.1.4): 'Static locations 3.3 and 4.2 have recorded consistently high levels of activity across the survey months and years. It is considered that these locations are either situated along a commuting route or close to a roost, or possibly both. …A confirmed Bechstein's bat roost was located north of static location 3.3, within Binsted Woods Complex LWS. During radiotracking surveys, Bechstein flight lines confirmed the use of habitats and linear features from Binsted Woods Complex LWS along Tortington Common. Therefore, it is considered that static 3.3 is located within a commuting route. The habitat was also confirmed as a foraging area for barbastelle. Static 4.2 is likely to be an important foraging location for open and edge adapted bats, with open floodplains grazed by livestock, wet ditches and linear features leading south of Arundel.'

Figure 7: Static location 3.3's approximate location is shown below with a section of the Grey route superimposed:



5. Appendix 8-6: Bat Radiotracking Baseline Survey (performed 2017-18, presented in the 2019 EAR)

This report shows rare bats with foraging areas crossing the Grey route – purple is core / blue is peripheral / yellow star is the roost. In the map snips from Highways England's EAR 2019, Appendix 8-6, below, the orange road route shown is the 5A/Amber route.

Figure 8: Alcathoe (a Very Rare, newly discovered bat, Annex II Red Listed):

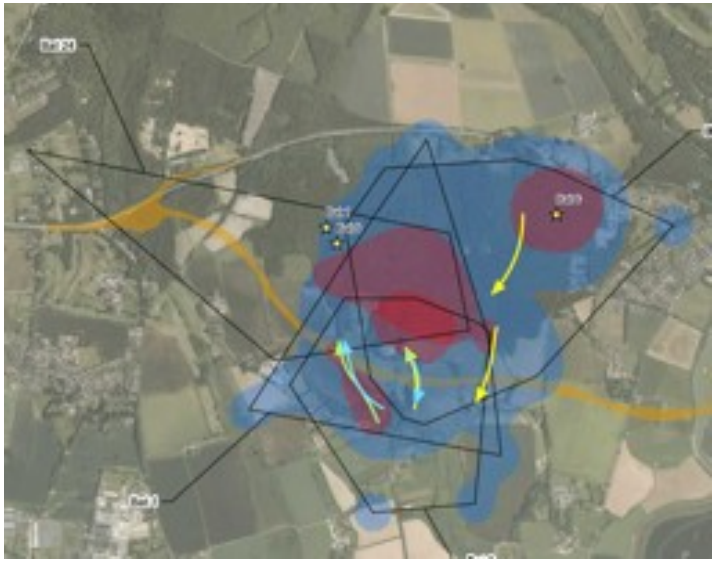


Figure 9: Barbastelle (one of the two Very Rare species found here, Annex II Red Listed):

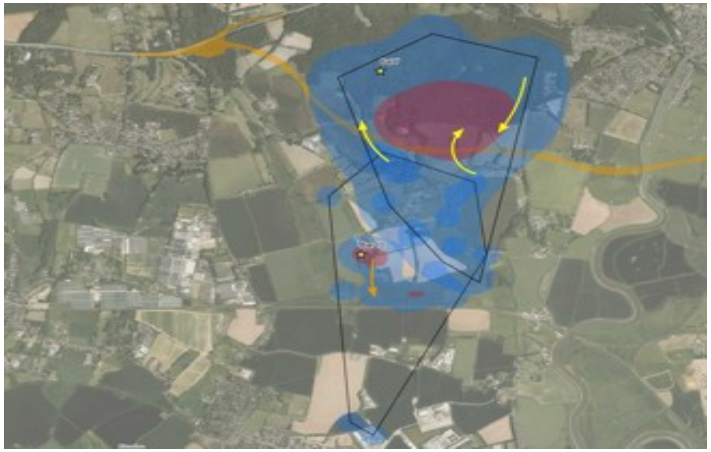


Figure 10: Barbastelle continued:

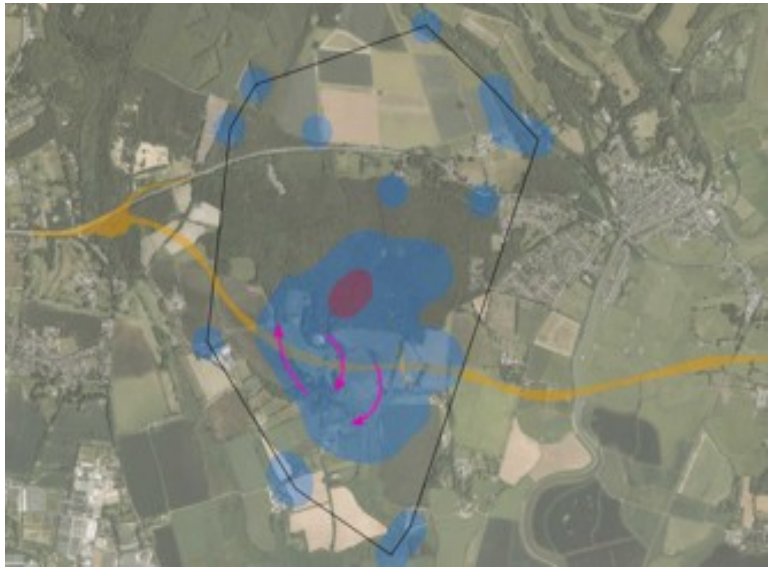


Figure 11: Bechsteins (another Very Rare species, Annex II Red Listed):

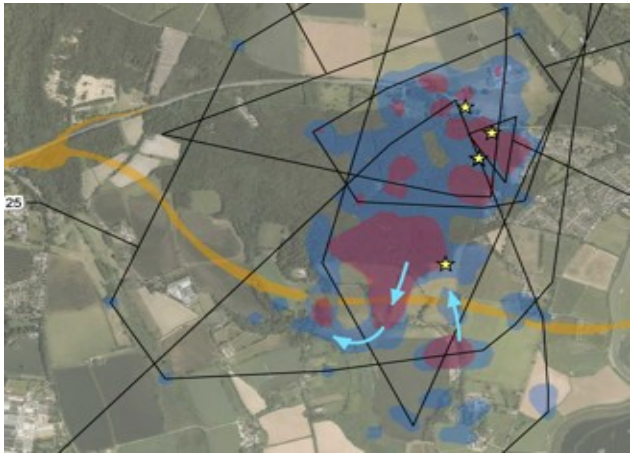
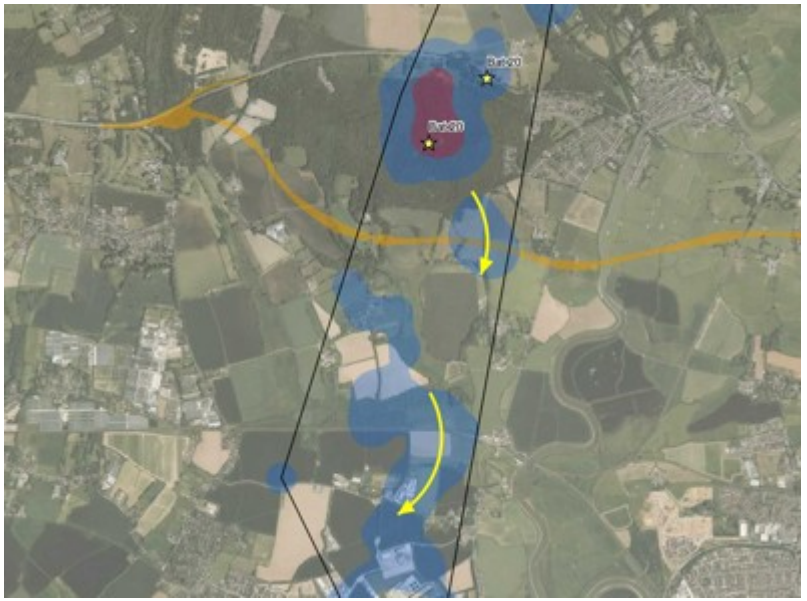


Figure 12: Whiskered bat:



6. Conclusions

Looked at carefully in the light of the Preferred Route decision for Grey (2020), the data presented in 2019 shows that:

- The area the Grey route would go through is within the 2019 Study Area, which is the core sustenance zone for the two very rare bat species, Barbastelles and Bechstein's bats.
- The amount of bat activity was not affected by distance from the Option 1, 3, or 5A routes, or by distance from Binsted Woods.
- The amount of bat activity did not diminish as the transects crossed the Grey route.
- Some of the transects are likely foraging routes, which cross the Grey route.
- Very high percentages of all three different types of bats (classified according to their ecological niche) fly at unsafe heights where there is a risk of traffic collision.
- The 'Bat Activity Baseline Survey Report' showed the importance of the area east of the River Arun.
- The bat radiotracking survey showed rare species with foraging areas crossing the Grey route.

Connectivity between the habitats is vital for many species, including bats, and the Grey route severs this connectivity and maroons the woodland area (170ha) between two major roads. The Grey route would be just as damaging for bats as the Option 1, 3 and 5A routes surveyed in 2017 and 2018.

The decision to present data only on the old, 2017 routes at the 2019 consultation may have been due to HE's desire (obvious in many other aspects of the consultation) to persuade people to choose Magenta or Grey as their preferred option in their response. They may have hoped that people would think 'no data, no bats'. Surveys on Magenta and Grey had been performed in 2019 and could have been included.

The large amount of data presented about the 'old' routes, especially the Amber route, leaving out the Grey and Magenta routes completely from all the maps, was confusing. The wrong colours were often used for the routes, e.g. in Figure 3 above the Amber route is shown in green and the Crimson route in yellow. No routes in the maps have name labels. These deficiencies served to further disguise the lack of data on the Magenta and Grey routes.

The statement in the 2022 consultation that there would be no permanent damage to bats from the Grey route, and that they will be 'scoped out' of the Environmental Statement, appears to be another attempt to disguise the damage the Grey route would do in order to push it through the planning process.