

3rd February 2015
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Dear Sirs

Airports Commission consultation: Increasing the UK's long-term aviation capacity

Please find attached Natural England's response to the above consultation.

As the Government's adviser on the natural environment, our purpose is to ensure that the natural environment is conserved, enhanced, and managed for the benefit of present and future generations, thereby contributing to sustainable development.

In preparing this response we have had discussions with the Environment Agency and the Forestry Commission to ensure that we provide you with consistent messages on the environment.

Our detailed response is attached in the annex to this letter. Our comments are based on the information available in the Airports Commission's consultation documents and on the scheme information to date, which at this strategic assessment stage remains high level; we reserve the right to alter our advice as further environmental assessment information becomes available.

As a broad summary, our response concludes:

- On the basis of the information provided, we largely agree with the assessment of direct impacts on designated sites and landscapes, priority habitats and ancient woodland for the three proposals; however there remain uncertainties regarding a number of direct and indirect impacts on these receptors, for example:
 - i. impacts on protected landscapes from increased overflying;
 - ii. the impact of increased bird control activities on the South West London Waterbodies Special Protection Area and Ramsar site (SWLW SPA/Ramsar) (for Heathrow) and on mitigation proposals (for Gatwick and Heathrow);
 - iii. the direct and indirect impacts on Staines Moor Site of Special Scientific Interest (SSSI) and the possibility of mitigation relating to the River Colne alterations to avoid this (for Heathrow).

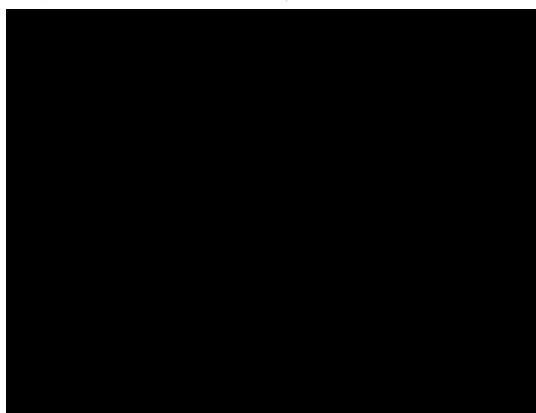
These uncertainties need to be reflected in the Airports Commission's final recommendations to Government; they indicate the need for a precautionary approach to the final sustainability assessment scores given to the environmental topics.

- We would welcome proposals which clearly demonstrate the avoidance and minimisation of impacts on key wildlife habitats, designated sites and landscapes, priority habitats and ancient woodland. Ancient woodland is an irreplaceable habitat and avoidance of loss should therefore be the principal approach.

Technical discussions regarding ratios for determining habitat creation to 'compensate' for loss of ancient woodland should only occur if Government decides to proceed with the Gatwick option.

- We welcome the acknowledgement that an Appropriate Assessment (AA) will be required to determine the impact of increased bird control activities on the SWLW SPA/Ramsar from both Heathrow proposals. However, we also recommend that the impacts of increased bird disturbance from increased overflying of the SPA and its supporting waterbodies is also included in the Appropriate Assessment. Also that for the North West Runway (NWR) scheme, the impact of the loss of 8ha from Old Slade Lake Local Wildlife Site (which provides functional habitat to the SPA) must either be clearly addressed by the mitigation proposals or included in the AA.
- We welcome the Airports Commission's commitment to undertake further air quality dispersion modelling. We recommend including designated sites that may be sensitive to air quality changes beyond the 5km buffer if they are within 200m of a road that will experience significant traffic increases as a result of the proposals.
- We commend the Commission's Ecosystems Services Assessment (ESA) to inform decision making regarding the three runway options. We advise, however, that the current ESA is lacking a key stage; it does not present a thorough assessment of the impact on the ecosystem services from the habitat losses outlined before undertaking the monetary valuation stage; on this basis we would urge the Commission to further refine the ESA, building in a more detailed assessment of the impacts into the valuation work.
- We advise that further work from the scheme promoters on their mitigation strategies is required (which could also affect the current monetary values assigned to land required for these), to ensure that a landscape scale approach to enhancing connectivity between existing sites and habitats is applied; that local opportunities to secure effective long term management of existing sites are maximised; and that local/regional partnerships already planning and delivering environmental wins on the ground are included in the scoping and delivery of the mitigation strategies to ensure join up. The promoters' mitigation proposals should seek to achieve a net gain to biodiversity.
- Given the significant and extensive impacts on watercourses and flood risk for each of the options, we support the Environment Agency's advice that there is the risk of infraction proceedings if their advice regarding the Water Framework Directive and water-based mitigation is not undertaken.

Yours faithfully



Increasing the UK's long-term aviation capacity Natural England response, February 2014

Introduction

1. Natural England is the Government's adviser on the natural environment, and as such our purpose is to ensure that the natural environment is conserved, enhanced, and managed for the benefit of present and future generations, thereby contributing to sustainable development.
2. Natural England has provided responses to the Airports Commission's consultations that have been relevant to our remit and contributed to the Commission's sustainability reference group.
3. We welcome the opportunity to respond to this consultation. Our response focuses on the Sustainability Assessments and technical modules relevant to our remit; this includes the biodiversity and air quality modules, the landscape sections of the Place module, the sustainability assessment for each option and the overall consultation document.

Our response to the consultation questions

Q1: What conclusions, if any, do you draw in respect of the three short-listed options? In answering this question please take into account the Commission's consultation documents and any other information you consider relevant.

Gatwick

With regard to biodiversity

Designated sites

4. Natural England agrees with Jacob's conclusion that there will be no landtake from internationally or nationally designated sites from the second runway proposals. However, there is the potential for indirect impacts on a number of these sites. Glover's Wood is the nearest Site of Special Scientific Interest (SSSI) at approximately 1.7km west of the current airport footprint. Other SSSIs relevant to the proposals include:
 - Leith Hill
 - Vann Lake and Ockley Woods
 - Reigate Heath
 - Mole Gap to Reigate Escarpment
 - Hedgecourt
 - Weir Wood Reservoir
 - Wakehurst and Chiddingfold Woods
 - Cow Wood and Harrys Wood
 - St Leonards Wood
5. In keeping with the National Planning Policy Framework, proposed development on land within or outside a SSSI likely to have an adverse effect on a SSSI (either individually or in combination with other developments) should not normally be permitted¹. The potential for indirect impacts on a number of these SSSIs from air and water quality changes as a result of the second runway proposals is discussed below.
6. The nearest European designated sites are Mole Gap to Reigate Escarpment Special Area of Conservation (SAC) approximately 9.5km north-west, and Ashdown Forest SAC and Special Protection Area (SPA) approximately 12km to the south-east. These sites are afforded protection under the Conservation of Habitats and Species Regulations 2010, as amended (the 'Habitats

¹ Paragraph 118, National Planning Policy Framework

Regulations'). The potential for indirect impacts on a number of these sites is discussed in further detail below.

Priority habitats

7. Natural England acknowledges the direct land take impacts on two local designated sites, one statutory (Willoughby Fields SNCI/LNR), one non-statutory (Rowley Wood SNCI) and estimated habitat losses of:
 - 62.1ha of lowland mixed deciduous woodland, including 14.2ha of ancient woodland;
 - 49.7km of hedgerow including 25.3km of ancient hedgerow;
 - 3.5km (7.2km under Jacobs' figures) of rivers and brooks including 2.2km of canalised or conduited channel; and
 - six ponds².
8. We note the airport's commitment to applying a minimum 2:1 ratio of habitat creation to habitat loss to compensate for many of these losses, and advise that location and quality of any compensation land is of key importance and that habitat ratios form only one part of potential compensation which should be considered here. They do not reflect the complexity of issues that will dictate any mitigation proposal for Gatwick, as explained below. Habitat creation should be focused on areas where the most ecological and ecosystems services benefits can be realised. Biodiversity offsetting is cited variously throughout the consultation reports with reference to ancient woodland. Natural England agrees with Jacobs that ancient woodland is an irreplaceable habitat which cannot be re-created and that due to its irreplaceability, biodiversity offsetting is not applicable to ancient woodland.

Ancient woodland and hedgerows

9. The loss of 14ha of ancient woodland is a significant concern, and one that will be greatly exacerbated by the significant loss of connecting hedgerows. Ancient woodlands have existed since circa 1600. It is not only the trees and variety of habitats which are important when considering ancient woodlands but also the soils. Ancient woodland soils contain a myriad of species assemblages which have been borne through time and which cannot be replaced by new planting. The National Planning Policy Framework states that development resulting in the loss or deterioration of irreplaceable habitats, including ancient woodland and the loss of aged or veteran trees found outside ancient woodland, should be avoided unless the need for, and benefits of, the development in that location clearly outweigh the loss.
10. The irreplaceable nature of ancient woodland and veteran trees means that loss or damage cannot be rectified by mitigation and compensation measures. Therefore, where measures seek to address issues of loss or deterioration of ancient woodland or veteran trees, our advice is that these should be issues for consideration only after it has been judged that the wider benefits of a proposed development clearly outweigh the loss or damage of ancient woodland³.
11. We acknowledge the airport's commitment to woodland habitat creation in response to the loss of ancient woodland and Jacob's conclusion that the proposed 3:1 ratio be increased to 5:1; however, technical discussion regarding ratios should only be undertaken if Government decides that the Gatwick second runway should proceed. The location, quality, ecological function and ongoing long term management of woodland creation in response to the loss of ancient woodland requires more detailed consideration.
12. We support Jacobs' recommendation to downgrade the promoter's scoring of residual impact to negative/adverse for the loss of ancient woodland.
13. We recommend that a strategic 'landscape scale' mitigation and compensation strategy for the second runway is developed if the proposals proceed that reflects the significant losses of ancient

² Page 56, Appendix C, Biodiversity Assessment

³ Standing Advice Natural England and the Forestry Commission, April 2014

woodland and hedgerows. The existing habitat is one of woodland of various sizes with a series of interconnecting hedgerows which are also a priority habitat. The existence of the network of hedgerows joining various woodland blocks provides a functioning habitat throughout this landscape. The loss of such a large extent of this functioning habitat therefore should be considered on a landscape scale. Woodlands and hedgerows provide a vital resource for a wealth of wildlife, providing habitat and ecological networks via the hedgerows between the woodland blocks. If these links are severed and woodland and/or hedgerows lost, the impact must be considered both directly and indirectly. Direct loss of habitat per se must be assessed with further deleterious impacts via loss in the remaining habitat's connectivity, quality (via pollution and fragmentation) and robustness. This affects the habitat's resilience into the future. We further advise that this impact should also be considered with reference to climate change and the wildlife's ability to absorb future pressures on the landscape. Any new planting should be with site native species that are locally sourced, to minimise the risk of bringing in new plant diseases.

14. The NPPF states clearly that the planning system should contribute to and enhance the natural and local environment by "*minimising impacts on biodiversity and providing net gains in biodiversity where possible, contributing to the Government's commitment to halt the overall decline in biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures*"⁴; we advise that this net gain principle underpin the further development of the promoter's mitigation and compensation proposals, should the second runway proceed. This may impact on the monetary values currently presented in the Airports Commission's sustainability assessment for Gatwick.

Agricultural land

15. With regard to the loss of agricultural land and the impact on soils from the proposals, we note that the Gatwick second runway will involve the loss of 189.3ha of Grade 3 agricultural land. The Natural Environment White Paper (NEWP) 'The Natural Choice: securing the value of nature' (Defra, June 2011), emphasises the importance of natural resource protection, including the conservation and sustainable management of soils. The conservation and sustainable management of soils also is reflected in the NPPF⁵. In line with these policies, the planning system should seek to:
- Safeguard the long term capability of best and most versatile (BMV) agricultural land (Grades 1, 2 and 3a in the Agricultural Land Classification) as a resource for the future;
 - To avoid development that would disturb or damage other soils of high environmental value;
 - Ensure soil resources are conserved and managed in a sustainable way.
16. The exact amount of BMV agricultural land lost as a result of this development has yet to be determined for these proposals. The estimated 189.3ha loss of BMV agricultural land is a nationally significant loss which is not compensated for, although we acknowledge the Jacob's proposals to add 10% of the agricultural land loss to the mitigation estimates to allow for protected species mitigation, and that some of the costs associated with this loss are reflected in the ESA calculations. We advise that where agricultural land is involved, a more detailed agricultural land classification survey is undertaken to determine the loss of BMV land, and that a robust soils strategy is developed by whichever scheme proceeds to ensure best practice is adhered to and ecological impacts of this loss are minimised.

Protected species

17. The presence of European Protected species (EPS) and other nationally protected species both within and outside the new airport footprint is noted. Impacts on EPS and other nationally protected species will need to be fully addressed through scheme design and mitigation and through the licensing process, should licenses be required. At this high level assessment stage, we welcome the principal supporting Jacob's proposal to add a 10% mitigation allowance based on overall land take to allow for compensation for protected species outwith designated sites and priority habitats, however the rationale behind the 10% figure would benefit from further explanation.

⁴ Paragraph 109, NPPF

⁵ Paragraphs 109 and 112, NPPF

18. We note that Bechsteins bats have been found in and around the environs of Gatwick Airport; Bechstein's are also one of the Annex II qualifying species present at Mole Gap and Reigate Escarpment SAC, 10km north. The fact that the Airport scheme includes the loss and fragmentation of woodlands and hedgerows has the potential to impact this species. The Bechsteins bat is one of the rarest of our mammals and a UK Biodiversity Action Plan priority species. Bechsteins bats receive full statutory protection as a European Protected Species (EPS) under the Habitats Regulations. Due to their rarity they are also listed as an Annex II species under this legislation. Natural England advises that a suite of further exploratory surveys will be required to establish the presence and status of any roost and the use of the application site by this important species. Surveys will be required to determine if there is a resident Bechstein's population centred on Glovers Wood SSSI and surrounding ancient woodland or if bats are commuting in from Mole Gap and Reigate, Ebernoe, or the Mens, in which case impacts on their flightlines/foraging areas will need to be understood.
19. We support the airport consultant's acknowledgement that pre-construction habitat creation will be required to ensure that mitigation for protected species, including great crested newts and bats, is effective⁶.

With regard to air quality

20. The Air Quality module refers to Glover's Wood, House Copse and Buchan Hill Ponds SSSIs as potentially sensitive to air quality, which we support. We recommend expanding this list to include sites beyond 5km designated for habitats that could be affected by significant changes in road traffic emissions as a result of the development. These would include:

- Mole Gap to Reigate Escarpment SAC (bisected by the A24 and adjacent to the M25);
- Ashdown Forest SAC (bisected by the A22);
- Reigate Heath SSSI (adjacent to the A25);
- Hedgecourt SSSI (adjacent to the A262).

Natural England advises that additional air quality information will be required with reference to Ashdown Forest Special Protection Area (SPA) and Special Area of Conservation (SAC). This site is sensitive to atmospheric Nitrogen pollution and additional modelling will need to clearly demonstrate no likely significant effect to this European Protected site. The critical load for Ashdown Forest has been exceeded and the assessment would need to identify whether the scheme will produce Nitrogen levels which exceed 1% of the critical load or level, or exceed one of the Highways Agency's DMRB (Volume 11, Section 3, Part 1, Air Quality) screening thresholds (eg 1000 AADT). Exceedance of these thresholds would trigger more detailed assessment and modelling to identify whether, in combination with other plans and projects, the scheme would produce nitrogen deposition levels that would have a likely significant effect and trigger the need for an Appropriate Assessment.

21. The Air Quality module states that "*For the sensitive sites identified, it will be necessary to establish 'with scheme' nitrogen deposition as part of the second stage assessment.*"⁷ We welcome the intention to establish 'with scheme' nitrogen deposition for these sites in the second stage assessment. Given the challenges of mitigating air quality impacts on protected sites close to busy roads, it will be important to establish some degree of understanding as to the significance of impact at these sites. Should the runway proposal proceed, these sites will need to be assessed if they are within 200m of either a major road, or a road which is likely to be significantly affected by additional traffic generated by the second runway proposals, in line with the Highways Agency DMRB guidance⁸.

⁶ Paragraph 5.65, A Second Runway for Gatwick Appendix A10 Biodiversity, RPS (May 2014)

⁷ Page 29, 6. Air Quality: National and Local Assessment, Jacobs (November 2014)

⁸ Design Manual for Roads and Bridges, HA 207/07, Volume 11, Section 3, Part 1 Air Quality, Highways Agency (May 2007)

22. The air quality section in the Gatwick SA states that “*10.5 Changes to air quality around Gatwick are not forecast to have any likely impacts upon protected ecosystems or other important environmental sites.*” This does not appear to reflect the conclusions of the AQ module underpinning the SA.
23. There could also be air quality impacts on ancient woodland blocks adjacent to affected roads. Natural England’s standing advice on ancient woodland and veteran trees highlights the need for developers to consider air quality impacts on ancient woodland and seek to mitigate these impacts.

With regard to water quality

24. We agree that significant local biodiversity enhancement opportunities exist in relation to the River Mole and its tributaries, in that whilst there will be some loss of natural sections of channel, other sections currently canalised and culverted can be re-naturalised. It is noted that airport bird control requirements may reduce the ecological benefit of some of this mitigation due to netting; we strongly advise that other bird control techniques, such as the use of lasers and radars, are explored as alternatives to netting so that the ecological benefits of a more naturalised watercourse can be maximised and the negative impacts of netting on mammals such as water vole and otter are avoided.
25. It should be noted that the ghyll woodland for which Glover’s Wood SSSI is, in part, designated, is hydrologically dependent; should the runway proposal proceed, the potential for hydrological impact on the SSSI should be assessed in greater detail and avoided through mitigation. We support Jacobs’ recommendation that any future hydrological assessments for the scheme should consider the proposed discharge routes for waste and surface water to assess if there are potential threats via discharge either directly or indirectly to Glovers Wood SSSI, the River Mole, and ponds in Zones 1 and 2 (where protected aquatic species could potentially be affected). We also recommend the inclusion of Buchan Hill Ponds and Hedgecourt SSSIs in future hydrological assessments.

With regard to landscape

26. Protected landscapes play a significant role in conserving tranquillity, which is a shrinking resource requiring protection; the NPPF states that “*Planning policies and decisions should aim to identify and protect areas of tranquillity which have remained relatively undisturbed by noise and are prized for their recreational and amenity value for this reason.*”⁹ The NPPF also states that “*great weight should be given to conserving landscape and scenic beauty in National Parks, the Broads and AONBs which have the highest level of protection in relation to landscape and scenic beauty.*”¹⁰
27. Tranquillity is an essential element of many of our nationally protected landscapes, one that makes a significant contribution to people’s experience and enjoyment of these landscapes. Tranquillity is one of the ‘cultural ecosystems services’ that protected landscapes provide; these include the non-material benefits people obtain from ecosystems through spiritual enrichment, cognitive development, reflection, recreation and aesthetic experience , and as such can significantly contribute to people’s quality of life.
28. We acknowledge the potential for impact on the Surrey Hills and High Weald AONBs from increased overflying resulting from the Gatwick second runway proposals. It appears difficult to determine the magnitude of this impact at this stage. The height at which increased overflying occurs will be crucial in determining the magnitude of the impact, so further information on this would assist decision making.
29. The Place module states: “*As aircraft joining these approach routes come from widely dispersed airspace, there is a likelihood of overflight across both the Surrey Hills and the High Weald AONBs. Landscape Figures 11 and 13 show the effect of the second runway as part of Gatwick 2R and suggest that route rationalisation results in fewer approach tracks. The southern runway requires a slight extension of routes southwards, but also offers the potential for a reduced spread of arrivals overflight, particular of some parts of the Surrey Hills AONB. There may however be increased*

⁹ Paragraph 123, National Planning Policy Framework

¹⁰ Paragraph 115, National Planning Policy Framework

departure overflight over the same AONB. There is limited opportunity for avoiding this extent of overflight of the protected landscapes once avoiding overflight of built up areas (a primary environmental objective) is taken into account.”¹¹

30. Whilst we agree that at this high level stage it is difficult to offer a definitive conclusion regarding tranquillity impacts of the Gatwick proposal on the AONBs affected, we are not convinced by the conclusion that there would be a negligible (or neutral) effect on Areas of Outstanding Natural Beauty (AONBs) during both construction and operation of the second runway¹² when the module agrees that overflying of areas of AONB will increase. We do however agree with the conclusion that the overall score for landscape impact should be ‘adverse’, given the extensive losses to a landscape currently characterised in large part by woodland blocks and hedgerows; but we would urge caution with regard to the assessment of AONB impacts as neutral given the inherent uncertainties at this stage. We recommend that further analysis of both landscape and tranquil areas is undertaken once detailed airspace design commences, with a view to reducing or avoiding flight paths below 7000 feet over the AONBs. This will be in line with the CAA guidance which recommends that *“where practicable, and without a significant detrimental impact on efficient aircraft operations or noise impact on populated areas, airspace routes below 7,000 feet (amsl) should, where possible, be avoided over Areas of Outstanding Natural Beauty (AONB) and National Parks”*.¹³

Heathrow north west runway (NWR)

With regard to biodiversity

Designated sites

31. Natural England agrees with Jacob’s conclusion that direct land take from internationally and nationally designated sites can be avoided by the NWR proposals; according to the biodiversity assessment, this is however dependent on the alignment of surface access routes along the M25 corridor being designed and constructed to ensure no direct impacts on Staines Moor SSSI and Wraysbury Reservoir SSSI (and therefore on the South West London Waterbodies SPA and Ramsar site (SWLW SPA/Ramsar), of which Wraysbury Reservoir SSSI is a component).
32. There is the potential for indirect impacts on a number of internationally and nationally designated sites. Wraysbury Reservoir SSSI and Staines Moor SSSI are within 2km of the scheme boundary. The promoter has identified that there is the potential for significant impacts to the Staines Moor SSSI due to changes to the River Colne, on which the alluvial meadows, for which the SSSI is in-part designated, depend; we would agree with this conclusion. Mitigation will be crucial to avoid impact on the SSSI.
33. The SWLW SPA/Ramsar is designated for its internationally important numbers of gadwall and shoveler. Regarding the potential impact on this SPA, the biodiversity assessment highlights that the NWR will move the airport boundary closer to the Queen Mother Reservoir (which provides functional support to the SPA) and may require increased bird control measures on the Reservoir. We welcome the acknowledgement of uncertainty regarding the impacts of increased bird strike control measures on gadwall and shoveler using the Queen Mother Reservoir, and the need for Appropriate Assessment under the Habitats Regulations to determine the effect on the SPA, should the NWR option proceed. We agree with Jacobs’ conclusion that *“Further work is therefore needed to determine the arrival directions and flight altitude of birds using Queen Mother Reservoir in particular, and the reservoirs to the west of Heathrow in general, so that the likely additional risk can be properly assessed.”*¹⁴
34. We disagree with Jacob’s conclusion that increased noise/overflying is unlikely to impact on the gadwall and shoveler bird populations for which the SPA is designated (concludes negligible

¹¹ Page 42, Place module (November 2014)

¹² Page 45, Place module

¹³ Guidance to the CAA on Environmental Objectives Relating to the Exercise of its Air Navigation Function, DfT, 2013

¹⁴ 2.2.4, Airports Commission Biodiversity: Assessment, November 2014

impact) due to habituation. Given the limitations of the Komenda-Zehnder et al., (2003) study acknowledged in the report (that it reports findings from overflying of smaller aircraft only and did not measure noise levels), and the uncertainties regarding exact flight paths and heights of the NWR proposals over both SPA and its functional habitat, we advise that a significant degree of uncertainty remains as to the possibility of likely significant effect (LSE) on SPA bird populations from increased overflying as a result of the NWR proposals. Even if impacts from increased overflying can be shown not to have LSE on the SPA, there may be other impacts that should be assessed in combination with increased overflying. We therefore recommend that impacts from increased overflying is assessed in addition to impacts from increased bird control activities in the Appropriate Assessment.

35. The impact on the SPA from the loss of the Old Slade Lakes Local Wildlife Site (LWS), which also provides functional support to the SPA, should also be assessed and addressed through the promoter's mitigation strategy to ensure no likely significant effect on the SPA. We agree with the conclusion that bird strike control requirements are likely to have a significant influence on the type and function of habitats created as mitigation for the scheme proposals, and that habitat creation areas identified to the west and north of the airport expansion are likely to be subject to birdstrike management measures that may mean they cannot be regarded as mitigation for impacts on the SPA. We recommend that the Commission seeks assurance that the mitigation strategy is robust enough to provide mitigation for the loss of Old Slade Lakes within the constraints of bird control management requirements.
36. There is some potential for indirect impacts due to air quality changes on other Natura 2000 sites within 15km of the scheme – these are discussed below in the air quality section.
37. With regard to the Appropriate Assessment of the Heathrow options, we would urge early engagement with Natural England due to the complexity of assessing multiple source disturbance impacts on mobile bird populations.

Priority habitats

38. We acknowledge Jacobs' figures regarding direct losses of priority habitats; the Heathrow NWR scheme involves direct land take impacts on three local non-statutory designated sites (8ha from Old Slade Lake LWS, 51ha from Lower Colne SMINC and 6ha from Stanwell II SNCI), and would result in losses of priority habitats including approximately 57.3ha of mixed deciduous woodland, 2.85ha traditional orchard, 12.3km of river, and 9.2ha lowland meadows (including land take for additional surface access). We agree that the River Colne valley presents opportunities for biodiversity enhancement measures, which will be required as mitigation given the proposed culverting and diverting of sections of rivers with resultant biodiversity losses. Paragraph 109 of the NPPF states that the planning system should contribute to and enhance the natural and local environment by "*minimising impacts on biodiversity and providing net gains in biodiversity where possible, contributing to the Government's commitment to halt the overall decline in biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures*"; we support the promoter's intention to apply this net gain principle to their mitigation proposals, should the third runway proceed. We support any increase in the proposed habitat creation:habitat loss ratios proposed by Jacobs.
39. With regard to the loss of agricultural land and the impact on soils from the proposals, we note that the NWR will involve the loss of 121.8ha¹⁵ of Grades 1- 3 agricultural land under the footprint of the scheme. Please see our comments at paragraphs 15 and 16 regarding the loss of best and most versatile agricultural land and soils.

Protected species

40. We agree with the conclusion that further site-specific assessment is required to understand the impact on the nationally rare protected plant species (pennyroyal) at Lower Colne SMINC. We note the presence of key protected species including bats, otter, water vole, reptiles (including grass

¹⁵ Table 2.12, Biodiversity Assessment (November 2014)

snake and slow worm), and various species of birds within 2km of the scheme boundary. Impacts on EPS and other nationally protected species will need to be fully addressed through scheme design and mitigation and through the licensing process, should licenses be required. At this high level assessment stage, we welcome the principal supporting Jacob's proposal to add a 10% mitigation allowance based on overall land take to allow for compensation for protected species outwith designated sites and priority habitats, however the rationale behind the 10% figure would benefit from further explanation.

With regard to air quality

41. We welcome the inclusion of Staines Moor SSSI, Wraysbury Reservoir SSSI, South West London Waterbodies SPA, Wraysbury No.1 Gravel Pit SSSI, Wraysbury & Hythe End Gravel Pits SSSI and Kempton Park Reservoirs SSSIs as designated sites that could be sensitive to air quality changes. We would add that the South West London Waterbodies is designated a Ramsar site as well as an SPA.
42. We agree that these sites are likely to be mostly influenced by road traffic emissions and welcome the proposals to assess the impact of the proposed scheme on road traffic emissions in the vicinity of these sites and the impacts of Nitrogen deposition as part of the second stage assessment.
43. We would add to this list consideration of sites beyond the 5km buffer, where these could be affected by changes to road traffic emissions associated with the airport expansion. Sites such as Windsor Forest and Great Park SAC, Richmond Park SAC, Wimbledon Common SAC, Burnham Beeches SAC are known to be sensitive to Nitrogen deposition, have high exposure to NOx concentrations from road traffic and have their critical loads exceeded, and any additional N deposition from changes in traffic flows could have an impact on these sites.

With regard to water quality

44. The biodiversity assessment and Sustainability Assessment for the NWR highlight the hydrological dependency of the Staines Moor SSSI alluvial meadows on the River Colne. We acknowledge the promoter's conclusion that SSSI impacts will be avoided through the design of channel diversions, minimising culverting requirements, and maintaining flow regimes, but conclude this will require further detailed modelling and design work before the effectiveness of these measures can be agreed. We recommend that both promoters undertake further work to inform the Commission's understanding as to the design and deliverability of such mitigation. If additional netting of watercourses is proposed due to bird control requirements then this should also be reflected in the mitigation proposals; please also refer to our comments regarding netting at paragraph 25 above.

With regard to landscape

45. We agree that there will be no direct impacts on protected landscapes from the NWR proposals. The Place module acknowledges the potential for increased overflying of the Chilterns AONB leading to *"the potential to increase visual and noise disturbance above some parts of the Chilterns AONB."*¹⁶ We support the conclusion that further analysis of both landscape and tranquil areas is undertaken once detailed airspace design commences, with a view to reducing or avoiding flight paths below 7000 feet over the AONB. This will be in line with the CAA guidance which recommends that *"where practicable, and without a significant detrimental impact on efficient aircraft operations or noise impact on populated areas, airspace routes below 7,000 feet (amsl) should, where possible, be avoided over Areas of Outstanding Natural Beauty (AONB) and National Parks"*.¹⁷

Heathrow extended northern runway (ENR)

With regard to biodiversity

¹⁶ Page 55, Place assessment, November 2014

¹⁷ Guidance to the CAA on Environmental Objectives Relating to the Exercise of its Air Navigation Function, DfT, 2013

Designated sites

46. Natural England agrees with Jacob's conclusion that there will be direct impact due to land take from the Staines Moor SSSI from the ENR proposals, comprising the loss of Unit 1 (Poyle Meadow, 8.74ha) of the SSSI.
47. We also acknowledge the potential for indirect impacts on Unit 12 of Staines Moor SSSI from works affecting the River Colne, and Heathrow Hub's worst case scenario that this could lead to the loss of 40ha of the SSSI. As with the NWR proposals, mitigation will be crucial to avoid this additional and severe impact on the SSSI; we recommend that both promoters undertake further work to inform the Commission's understanding as to the design and deliverability of such mitigation.
48. We acknowledge the proposed works, including a balancing pond, adjacent to King George VI Reservoir (which forms part of Staines Moor SSSI and SWLW SPA) and nearby Wraysbury Reservoir (also part of the SWLW SPA), but agree that impacts on the SSSI and SPA from construction and operation can be avoided and screened out via appropriate timings of works.
49. In addition to the above, there appears to be the potential for further impacts on the SSSI that are not reflected in Table 2.9 (which summarises the impacts of the ENR). The biodiversity assessment module states that *"Jacobs has identified that surface access proposals for the scheme involve potential impacts due to land take and disturbance in the southern area of the proposal, primarily along the existing M25 motorway corridor and across Staines Moor SSSI. Using the buffer zone of 100m as a potential area of impact around the proposed surface access routes has identified some potential overlap with the boundaries of Wraysbury Reservoir SSSI, King George VI Reservoir and Staines Reservoirs (and therefore the SWLW SPA). It is considered likely that during subsequent design stages the exact alignment of the surface access routes and the construction methods to be used would be planned to avoid land take within the SPA. Adverse impacts to Staines Moor SSSI and the River Colne due to current Surface Access proposals are likely to be highly significant."*¹⁸ It appears therefore that there is the potential for further direct land take due to new southern access road through Units 12 and 13 on the western side of Staines Moor SSSI, or alternate dualling of A3044 road which runs between units 7 and 8 of the SSSI (these units are also part of the SWLWB SPA). This requires further clarification.
50. Natural England agrees that there will be no other direct impacts on other internationally or nationally designated sites, however, there is the potential for indirect impacts on a number of these sites.
51. The ENR moves the airport boundary much closer to the SWLW SPA/Ramsar, principally to the Wraysbury Reservoir which is part of the SPA and to the Queen Mother Reservoir, Horton and Kingsmead Lakes, which provide functional support to the SPA. We agree with the observation in the biodiversity assessment module that if *"overflying aircraft (as a result of the proposed scheme) were to have a disturbance effect on waterbird populations, it is therefore reasonable to assume that this effect would be most acute at the Queen Mother Reservoir and Wraysbury Reservoir, but also potentially evident at Horton Gravel Pits and perhaps the Kingsmead Gravel Pits."*¹⁹ However we would dispute the conclusion that as the QMR and Wraysbury reservoirs *"are concrete-lined, supporting a negligible resource of marginal plant habitat"* they are *"of little value to gadwall and shoveler"* and that *"the potential for effects on the SPA deriving from these two closest waterbodies is therefore unlikely."* Birds need sanctuary areas to rest, so a food source is not always key, and the Wraysbury Reservoir is part of the SPA. Whilst bird numbers on the latter water body were recorded as low in the 2007 Briggs research, numbers will fluctuate annually. Whilst we acknowledge the likelihood of habituation to overflying and promoter's prediction that aircraft traffic as a result of the scheme will overfly these water bodies at a height greater than 300m, we recommend that the possibility of increased disturbance to gadwall and shoveler from increased overflying is investigated further should the scheme proceed.

¹⁸ Page 37, Biodiversity assessment module (November 2014)

¹⁹ Page 35, Biodiversity assessment module (November 2014)

52. In addition, through analysis undertaken as part of Natural England's aviation sensitivity mapping we found that, assuming a standard 'Continuous Descent Approach' angle of three degrees, anything within a 5.5km distance would be below 300m. We would welcome further explanation of the assertion from the promoter that aircraft traffic as a result of the scheme will overfly this area at a height greater than 300m.
53. With regard to the impacts on the SPA from increased bird control requirements, we agree with the conclusion that an Appropriate Assessment under the Habitat Regulations will be required to assess these impacts. The biodiversity assessment module wrongly concludes that "... *scaring of non-target birds at Queen Mother Reservoir (which is not part of the SWLW SPA) and Wraysbury Reservoir (which is part of the SWLW SPA) is not likely to have a significant impact on gadwall or shoveler numbers given the very low numbers at/importance of these particular waterbodies to these birds.*"²⁰ Again, the low numbers of birds recorded at these sites is immaterial – any increase in bird scaring at any of the water bodies within the SPA, or outwith but providing functional support to the SPA, is likely to have a likely significant effect on the SPA and thus require Appropriate Assessment.
54. As with the NWR proposals, we agree that further work is needed to determine the arrival directions and flight altitude of birds using the Queen Mother Reservoir in particular, and the reservoirs to the west of Heathrow in general, so that the likely additional risk can be properly assessed.
55. With regard to the Appropriate Assessment of the Heathrow options, we would urge early engagement with Natural England due to the complexity of assessing multiple source disturbance impacts on mobile bird populations.

Priority habitats

56. We acknowledge Jacob's figures regarding direct losses of priority habitats; the Heathrow ENR scheme involves direct land take from Staines Moor SSSI (8.74ha) (with potential for more due to surface access requirements, to be clarified), 4.1ha from Arthur Jacob LNR, 2.9ha from East Poyle Meadows SNCI, 0.45ha from Greenham's Fishing Pond SINC, 10-15ha from Lower Colne SMINC, and 1.25ha from the River Colne (From County boundary to Staines Moor). It would also result in losses of priority habitats including approximately 56.3ha of deciduous woodland, 0.5ha traditional orchard, 10.4km of rivers and brooks, 8.3ha of reedbeds and 38.9ha lowland meadows (including land take for additional surface access). We welcome the ratios for compensation for these losses and would argue that a 2:1 minimum should be achieved by the promoters (ENR currently falls just short of this).
57. With regard to the loss of agricultural land and the impact on soils from the proposals, we note that the ENR will involve the loss of 42.5ha of Grades 1- 3 agricultural land under the footprint of the scheme. Please see our comments at paragraphs 15 and 16 regarding the loss of best and most versatile agricultural land and soils

Protected species

58. We note the presence of key protected species including bats, otter, water vole, reptiles (including grass snake and slow worm), and various species of birds within 2km of the scheme boundary. Impacts on EPS and other nationally protected species will need to be fully addressed through scheme design and mitigation and through the licensing process, should licenses be required. At this high level assessment stage, we welcome the principal supporting Jacob's proposal to add a 10% mitigation allowance based on overall land take to allow for compensation for protected species outwith designated sites and priority habitats, however the rationale behind the 10% figure would benefit from further explanation.
59. Jacobs have added an estimated loss of 10-15ha of the Lower Colne SMINC to the promoter's figures on the basis that "*The scheme would cross the Lower Colne SMINC affecting the entire site*

²⁰ Page 42 Biodiversity assessment module (November 2014)

*south of Bath Road and a small area above it. The exact extent of the impact would depend on final road realignments, however the impact is estimated to be between 10-15ha.*²¹ The assessment for the NWR proposals highlights that the nationally rare protected plant species pennyroyal is present at Lower Colne SMINC; impacts on this species should therefore also be factored into the assessment of impacts for the ENR.

With regard to air quality

60. We welcome the inclusion of Staines Moor SSSI, Wraysbury Reservoir SSSI, South West London Waterbodies SPA, Wraysbury No.1 Gravel Pit SSSI, Wraysbury & Hythe End Gravel Pits SSSI and Kempton Park Reservoirs SSSIs as designated sites that could be sensitive to air quality changes. We would add that the South West London Waterbodies is designated a Ramsar site as well as an SPA.
61. We agree that these sites are likely to be mostly influenced by road traffic emissions and welcome the proposals to assess the impact of the proposed scheme on road traffic emissions in the vicinity of these sites and the impacts of Nitrogen deposition as part of the second stage assessment.
62. We would add to this list consideration of sites beyond the 5km buffer, where these could be affected by changes to road traffic emissions associated with the airport expansion. Sites such as Windsor Forest and Great Park SAC, Richmond Park SAC, Wimbledon Common SAC, Burnham Beeches SAC are known to be sensitive to Nitrogen deposition, have high exposure to NOx concentrations from road traffic and have their critical loads exceeded, and any additional N deposition from changes in traffic flows could have an impact on these sites.

With regard to water quality

63. Please refer to our comments at paragraph 45 above.

With regard to landscape

64. Please refer to our comments at paragraph 46 above.

Q2: Do you have any suggestions for how the short-listed options could be improved, i.e. their benefits enhanced or negative impacts mitigated? The options and their impacts are summarised in section three.

65. We welcome the recognition that bird strike control measures are likely to have a significant impact on the design and location of ecological mitigation measures for all three options, and that there is uncertainty, especially with regard to Heathrow, as to how this will affect the design and deliverability of final mitigation plans for both options. Further work from each promoter on how they will deliver ecological mitigation within the constraints of their bird control requirements would improve the robustness of the current mitigation proposals. We acknowledge that this may require establishing appropriate mitigation beyond the airport boundary.
66. In keeping with the NPPF and the aims of the Biodiversity 2020 strategy, the preferred option should seek to deliver a net gain for biodiversity.
67. The timing and location of habitat creation will be essential in mitigating habitats, protected species and landscape impacts. In many instances, it will be important to establish habitat creation for mitigation and/or compensation well in advance of habitat losses occurring. A landscape scale approach to enhancing connectivity between existing sites and habitats should be applied.
68. Better baselines and on-going monitoring of a number of key issues (e.g. air quality/NOx impacts on sensitive SSSI/SAC habitats, bird populations and flight paths within and around key protected sites and the airport) will ensure that mitigation strategies are fit for purpose.

²¹ Page 37 Biodiversity assessment module (November 2014)

69. There are opportunities for enhancements over and above mitigation and for delivering exemplary practice in terms of sustainable development and innovative environmental good practice. There are many European examples of innovative sustainable design of airports, such as the use of green roofs or green walls for example. With the right design and use of targeted bird dispersion, such as laser techniques, there may be opportunities for piloting new designs that are more wildlife and habitat friendly.
70. Local opportunities to secure effective long term management of existing sites should be maximised and local/regional partnerships already planning and delivering environmental wins on the ground should be included in the scoping and delivery of the mitigation strategies to ensure join up.
71. There are a number of additional measures that could further reduce the likely environmental impacts:

Gatwick

- The biodiversity assessment concludes that other SSSIs not in favourable condition might be better receptors for mitigation proposals around Gatwick. Favourable condition (FC) is not a 'steady state' and FC sites still require ongoing management. We would therefore advise that mitigation and habitat creation proposals relating to Gatwick take a strategic landscape scale approach, taking in all the designated sites surrounding the airport, looking for opportunities to improve management, connectivity and buffering of all sites and deliver a mosaic approach to habitat management plans. Deer management is a particular and ongoing challenge for woodland management and maintenance.
- There is scope to carry on and ideally increase support to Gatwick Greenspace Partnership and West Weald Partnership (both hosted by Sussex Wildlife Trust) to deliver a mitigation and compensation strategy for the Gatwick proposals.

Heathrow ENR

- There may be further opportunities for remedial works on Staines Moor SSSI, reconnecting the river with the floodplain as compensation for the loss of Poyle Meadow.

Q3: Do you have any comments on how the Commission has carried out its appraisal? The appraisal process is summarised in section two.

72. The presentation of the sustainability assessments and the summary consultation document tends to focus on the business case for each of the proposals, with limited information in the biodiversity and landscape sections. This should be improved so that the environmental chapters of the SAs make greater reference to the technical reports on biodiversity and place (in particular) and identify the most significant impacts (particularly on nationally and internationally designated sites).
73. Please also see our response to question 6 below regarding the sustainability assessment documents.

Q4: In your view, are there any relevant factors that have not been fully addressed by the Commission to date?

74. We are satisfied that the Airports Commission has addressed the relevant factors regarding landscape and biodiversity in the consultation documents.

Q5: Do you have any comments on how the Commission has carried out its appraisal of specific topics (as defined by the Commission's 16 appraisal modules), including methodology and results?

Biodiversity module

75. We largely support the appraisal, methodology and results of the biodiversity and landscape (as a part of the place) modules, although there are some errors:

- In the biodiversity baseline, Kempton Park reservoir SSSI should be identified as part of the SWLW SPA/Ramsar (page 22); the same applies to Table 4.1 where a number of SSSIs are not identified as part of SWLW SPA/Ramsar.
- In section 2.2.4 of the biodiversity assessment module, it states “*As for noise effects, scaring of non-target birds at Queen Mother Reservoir and Wraysbury Reservoir is not likely to have a significant impact on gadwall or shoveler numbers given the very low numbers at/importance of these particular waterbodies to these birds.*” However, QMR provides functional support to the SPA/Ramsar and Wraysbury Reservoir is part of the SPA/Ramsar, so any scaring of non-target birds could have a likely significant effect on the SPA/Ramsar and would need to be assessed accordingly. This also applies to the analysis in 2.3.2 which identifies Horton and Kingsmead Lakes as functional habitat but appears to dismiss the QMR and Wraysbury Reservoir as insignificant.
- The discussion of both Heathrow options in the biodiversity assessment module refer to the Briggs 2007 data; we would also recommend analysis of the more recent BTO WeBs data for the SWLW SPA/Ramsar which is available for 2012/13.

Biodiversity Ecosystem Services

76. Natural England commends the Commission’s commitment to undertaking an Ecosystems Services Assessment (ESA) to inform decision making regarding the three runway options. We advise, however, that the current ESA is lacking a key stage; it does not present a thorough assessment of the impact on the ecosystem services from the habitat losses outlined before undertaking the monetary valuation stage; on this basis we would urge the Commission to further refine the ESA, building in a more detailed assessment of the impacts into the valuation work.

77. Some more detailed comments are provided below.

78. A full ESA should include:

- Analysis of secondary impacts that are beyond the footprint of the site should be included, e.g. impacts due to the “loss” of rivers and streams on downstream provision of ecosystem services.
- Consideration of how habitat quality and condition and subsequent provision of ecosystem services will change. Change in ecosystem services also needs to consider the spatial configuration of habitats (e.g. woodland adjacent to water courses is likely to have a greater role in regulating water quality and flow than other woodland).
- Assessment of flows of, and demand for, ecosystem services.
- Who the beneficiaries of ecosystem services are, where they are located and their numbers.
- How the sensitivity and magnitude of impacts on ecosystem services have been determined. This includes how the issues identified for determining magnitude and sensitivity have been applied.
- An assessment of change at the ecosystem service level is needed rather than at the very broad habitat level. The tables provided have not been broken down into impacts on individual ecosystem services.
- Use of the Defra 2007 Introductory Guide to Valuing Ecosystem Services methodology, rather than the TEEB methodology. The TEEB methodology is based on 11 global biomes, rather than UK habitats, and means that there is no stage of assessing the actual impact on ecosystem services of the proposed airport expansion.

79. Although this is a high level assessment, there is still a need to incorporate ecosystem services assessments at the start of the impact assessment process (also helping to ensure that appropriate data is collected to inform the ESA). Ideally collection of data would also involve local beneficiaries, to enable the collection of detailed data on ecosystem services, to inform the assessment. The NEA

follow-on work on tools includes consideration of how the ecosystem service framework can be incorporated within existing impact assessments.

80. The importance of ecosystem processes and function and the supporting services is not acknowledged in the report; an understanding of the impacts on ecosystem processes, function and the supporting services is needed to understand impacts on final services.

Air quality

81. All three assessments now state that for sensitive sites they will establish with-scheme nitrogen deposition as part of the second stage assessment. We welcome this further assessment and would ask that Natural England is consulted on it. We note that in table 2.1.4 the assessment of risk uses the 40 µg/m³ threshold, which is for NO₂ and relates to human health. The critical level for vegetation is 30 µg/m³ NO_x. Future assessment will need to consider exceedance of the critical level for vegetation as well as impacts on critical loads.
82. We welcome reference to Natural England's aviation sensitivity maps and would highlight that the caveats and limitations section identifies that we were not able to take account of the potential effects of increased traffic on roads serving the airport. We have given this greater consideration at the local level for the shortlisted options, and recommend that for both Gatwick and Heathrow further assessment and modelling looks at changes to traffic flows and road traffic emissions on roads serving the airport and the impacts this could have on designated sites. This could mean considering sites beyond the 5km buffer zone if there are likely to be impacts on road traffic flows that could affect designated sites. We have identified above the sites that we consider would need to be assessed for impacts related to road traffic emissions. These are sites identified in recent research (as yet unpublished undertaken by Ricardo AEA) as being sensitive to Nitrogen deposition, having high exposure to NO_x concentrations from road traffic and where critical loads are exceeded.

Landscape (as part of the Place module)

83. We note that no site visits have been undertaken and Zones of Theoretical Visibility (ZTV) have not been ascertained to determine the area of study for each proposal. The effects of the proposals may extend beyond the areas defined in the study and site visits would, not least, engender a greater degree of confidence in the findings of the report, making the assessment more robust. It is important that these limitations are born in mind by the Airports Commission as it prepares its advice for Government.
84. We welcome the commitment to undertake the high level, desk based assessment in line with the Guidelines for Landscape and Visual Impact Assessment Third Edition (GLVIA3); however the extent to which GLVIA3 has been followed seems to be inconsistent (see specific comments below).
85. Unlike the heritage section of the Place module, it is not clear whether the potential impacts - on landscape, townscape and the visual resource - of increased road traffic and surface access infrastructure associated with the three schemes has been assessed in the landscape module.
86. The identification of criteria to assist with the assessment of landscape/townscape and visual effects is welcomed – this assists transparency of decision making.
87. Specific Comments – document 10, Place: Baseline.
- We welcome the use of National Character Areas, county/district Landscape Character Assessments and borough townscape information to inform the baseline.

- Concerning tranquillity mapping, we cannot comment on the technical aspects associated with noise but we would value some explanation around the choice of the “1km radius”²². This report does not quantify the changes in noise levels “in terms of acceptability or nuisance”²³. However it is important that Natural England (and others) understand the likely effects of aviation related noise on our nationally designated landscapes and their settings. Please refer to our comments above at paragraphs 27 to 31.
- Landscape/townscape effects and visual effects need to be assessed as outlined in GLVIA 3rd edition. For example, assessment of effects on Landscape Character should involve more than assessing effects on “*topography, hydrology, and land cover*”²⁴.
- Reference is made above under General Comments to the extent of the Study Area. The Place module seems to exclude aeroplanes taking off and landing from the assessment of effects of the proposals (reference is made to the “*proposed ground based elements of the scheme*”²⁵ only). Some clarity is needed regarding the more local (if this is the case) ‘during construction’ effects and ‘operational’ effects of new built structures etc., and the more wide ranging operational effects of aeroplanes.
- It would be useful if Sensitivity and Magnitude of Change could both follow descriptions in GLVIA and helpfully be placed into context regarding the assessment of Significance – their roles in informing significance of effect is not clear to the reader. Tables B4 and B5 (page 76) both deal with Magnitude of Change (the same applies to table B7 – page 77). Table B6 (page 77) deals with Significance of Effects.

88. Specific Comments – document 10, Place: Assessment

- It would be helpful to know if the assessment has been informed by the appropriate AONB Management Plans.
- Tranquillity - it is difficult to understand how, regarding the Gatwick Airport Second Runway Scheme, “*The effects on the AONB [which one/both the Surrey Hills and High Weald AONBs?] during both construction and operation would be negligible*” (2nd para. under 3.2.1). Please see our comments above under paragraphs 27-31 for a more detailed discussion of this point.

Q6: Do you have any comments on the Commission’s sustainability assessments, including methodology and results?

89. The Sustainability Assessments could more accurately summarise the potential impacts on designated sites, protected landscapes and protected species as set out in the biodiversity baseline and assessment documents. For example, the Heathrow NWR SA does not mention the Staines Moor SSSI, despite the indication in the underlying biodiversity modules that mitigation for the significant impacts on the River Colne SMINC, on which the SSSI is dependent, will be crucial in avoiding impact on the SSSI, as will the final alignments of the surface access in the M25 corridor. Similarly, with regard to landscape, none of the SAs refer to protected landscapes, despite the acknowledgement in the underlying Place module that overflying of the Chilterns, Surrey Hills and High Weald AONBs could increase and that there is uncertainty as to the magnitude of impact from this. We found that it was necessary to cross refer between the SAs and the biodiversity/air quality/place modules to gain an accurate picture of the consultants’ conclusions regarding impacts on designated sites, protected landscapes and protected species, when these issues should be clearly summarised in the SAs.

90. Nevertheless, we agree with the overall scores attributed to the biodiversity and landscape topics in each of the SAs, with the exception of the “*moving towards neutral*” conclusion for the adverse biodiversity score for the NWR. Given that the sustainability assessment and underlying biodiversity

²² Page 70 Place: Baseline, November 2014

²³ Page 70 Place: Baseline, November 2014

²⁴ Page 70 Place: Baseline, November 2014

²⁵ Page 70 Place: Baseline, November 2014

assessment acknowledge the “*high ecological value and low replaceability*”²⁶ of some of the sites directly affected by the proposal (e.g. the River Colne Site of Metropolitan Importance), and the fact that “*providing extra land does not entirely mitigate these impacts*”²⁷, we would recommend caution in reaching this conclusion.

91. We welcome the Commission’s recommendation to increase some of the ratios for habitat creation proposed by the scheme promoters, which reflects a precautionary approach to achieving the level of mitigation or compensation required.

Q7: Do you have any comments on the Commission’s business cases, including methodology and results?

92. No comment.

Q8: Do you have any other comments?

93. In conclusion, it appears that the most pressing natural environmental concerns relating to the Gatwick second runway proposals are the landscape and ecological impacts from the loss of ancient woodland and hedgerows. For the Heathrow NWR and ENR proposals, the most pressing natural environmental concerns relate to the impacts on the Staines Moor SSSI and the potential for impacts on the SWLW SPA/Ramsar. There remains much work to be done by each promoter in developing a robust mitigation strategy and addressing many of the uncertainties in the current proposals.
94. Natural England commends the Airports Commission’s precautionary approach to the final scores for landscape and biodiversity. We would emphasise the need for this approach to be maintained due to the uncertainties regarding indirect impacts, uncertainties regarding the effectiveness and scope of the current mitigation proposals, and of the way in which bird strike control will affect the final design, function and location of mitigation.
95. In addition, and currently outside the scope of the Airports Commission’s sustainability assessment, there will be longer term impacts from the additional development (for example, new housing for additional employees and new commercial development) that a new or extended runway is likely to stimulate around the chosen site. Both Heathrow scheme promoters have expressed the long term aspiration for an additional south west runway at the airport. The Gatwick and Heathrow sites may be able to accommodate a new or extended runway and minimum additional surface access within the adverse scores for biodiversity and landscape attributed to them in the current SAs, but it is likely that any further development will move impacts on these receptors into the realms of major adverse, and at Heathrow, potentially towards adverse impact on the integrity of the SPA.

²⁶ Paragraph 11.4, Heathrow North West Runway Sustainability Assessment (November 2014)

²⁷ Paragraph 11.4, Heathrow North West Runway Sustainability Assessment (November 2014)