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18<sup>th</sup> July 2023

Dear Rynd Smith

**RE: Lower Thames Crossing Nationally Significant Infrastructure Project (NSIP) Application – Written Representations (Deadline 1) – Kent Wildlife Trust**

This letter is written in response to the Lower Thames Crossing Written Representations which are due on the 18<sup>th</sup> of July 2023. Kent Wildlife Trust's Written Representations expand on the comments made during the Relevant Representations, which were submitted on 24<sup>th</sup> February 2023. Kent Wildlife Trust's remit includes impacts to biodiversity within Kent. We have reviewed relevant documents submitted within the DCO against national and local legislation and policy. A summary of our main concerns is described in the boxes below, with more detailed comments in the main body of the letter.

**SUMMARY**

Kent Wildlife Trust (KWT) has the following concerns on the basis of the information submitted in the Lower Thames Crossing DCO submission:

- The Project should be part of a sustainable transport strategy that aligns with the UK's climate and environmental policies.
- The mitigation hierarchy has not been applied when proposing mitigation throughout the DCO.
- There are discrepancies within the DCO about how much ancient woodland is being lost.
- Due to the loss of ancient woodland, we would expect to see new woodland creation at a minimum of 30ha created for every one hectare of ancient woodland lost (30:1).
- The construction of the tunnels risk temporally and/or permanently impacting South Thames Estuary and Marshes SSSI. No mitigation measures have been put in place to reduce these threats.
- Mitigation measures for the loss of functionally linked land (FLL) are not adequate for the amount of FLL that will be lost.
- The Project overall would have a 7% net gain in habitat units, -11% in hedgerow units and -7% in river units and therefore not meet the minimum 10% biodiversity net gain targets. The metric does not account for the loss of irreplaceable habitats, such as ancient woodland and ancient and veteran trees, which are being directly lost to the Project, therefore would prevent any overall claim of BNG.
- The proposed green bridges are for the functionality and permeability of the Project's infrastructure, as opposed to being primarily to promote habitat connectivity, and therefore not suitable for the level of mitigation that is required for this project.
- The Project will have a total net greenhouse gas emissions of approximately 6.596 million tonnes of carbon dioxide equivalent (tCO<sub>2</sub>e). This is an unacceptable increase in greenhouse gas emissions and does not align with the Government's net zero targets.
- The Project will breach the UK's legally binding air quality targets for 2040, where 100% of monitoring sites are already exceeding the legal air quality limit.

- 32% of monitoring sites across Kent surpass the UK's legal nitrogen dioxide limit, with 50% of monitoring sites within the 200m construction and operational buffer exceeding the legal limit.
- Nitrogen deposition enriches the soil and leads to biodiversity changes through various processes such as acidification, eutrophication, increased risk of secondary stressors and direct damage to plants and habitats through toxicity. Once nitrogen deposition impacts have occurred, there are few ways to restore and reinstate habitats to their previous botanical conditions.
- Significant effects as a result of nitrogen deposition have been identified across 36 sites. Mitigation and compensation measures have been proposed, however our main concerns regarding nitrogen deposition are how it will affect the Project's proposed mitigation and compensation schemes for ancient woodland, protected species, loss of FLL etc., and the potential degradation and/or prevention of successful habitat creation.

## **NATIONAL POLICY**

We wish to bring to your attention the Government's 25 Year Plan for the Environment. Of particular consideration to the Project are the Government's targets for:

- Creating or restoring 500,000 hectares of wildlife-rich habitats outside the protected site network, focusing on priority habitats as part of a wider set of land management changes providing extensive benefits
- Reversing the loss of marine biodiversity and, where practicable, restoring it
- Taking action to recover threatened, iconic or economically important species of animals, plants and fungi, and where possible prevent human induced extinction or loss of known threatened species in England
- Cut greenhouse gas emissions including from land use and land use change
- Meeting legally binding targets to reduce emissions of damaging air pollutants; this should halve the effects of air pollution on health by 2030
- Embed an 'environmental net gain' principle for development, including housing and infrastructure

In our opinion, the Project proposal does not commit to supporting the Government's aspirations for the environment due to loss of irreplaceable and priority habitats, negative impacts to statutory and non-statutory designated sites, loss of habitat supporting protected and priority species, increase in greenhouse gas emissions reducing air quality and subsequent net losses of biodiversity as a result of the scheme.

## **ASSESSMENT OF ALTERNATIVES**

Since the start of the Lower Thames Crossing, hereinafter referred to as 'the Project', there has been progress in policy around the climate and biodiversity crisis. The UK is committed to net zero and protecting 30% land and sea. It is our overall feeling the Project should be part of a sustainable transport strategy that aligns with the UK's climate and environmental policies, particularly that the Project is the essential first step to improve the strategic route from the Midlands and the North to the Port of Dover. Kent Wildlife Trust (KWT) are concerned that one of the reasons for the Project is to increase connection and economic growth by unlocking access to housing, which will increase congestion and contradict the need for a new road to reduce overcrowding on the existing roads. We believe that road developments should be considered as a last resort within a sustainable transport strategy. Due to the climate and cost of living crisis reducing the need to travel,

for example through well-designed towns, cities and neighbourhoods should be prioritised over carbon emitting road schemes.

## IMPACTS TO BIODIVERSITY

During the construction phase, the Project will result in habitat loss within statutory and non-statutory designated sites, including the irreversible loss of ancient woodland (there are discrepancies within the DCO about how much ancient woodland is being lost, paragraph 8.9.3 of Chapter 8 – Terrestrial Biodiversity states 7.62ha of ancient woodland will be lost, however paragraph 1.1.10 of Appendix 8.21 – Biodiversity Metric Calculations state a loss of 6.87ha of ancient woodland) and removal of veteran trees. Due to the loss of ancient woodland, we would expect to see compensation planting of new native woodland follow the recommendation from Natural England<sup>1,2</sup>, which involves a minimum of 30ha created for every one hectare of ancient woodland lost (30:1), which would result in approximately 230ha of planted woodland. However, within Environmental Statement (ES) Chapter 8 – Terrestrial Biodiversity, the scheme has proposed only 48.75ha of woodland to be planted to compensate for the loss of irreplaceable ancient woodland. The Project would also result in the permanent removal of semi-natural broadleaved and plantation woodland, hedgerows, scrub habitats of County Importance, calcareous, species-poor semi-improved and improved grasslands, open mosaic habitat, swamp and marginal vegetation, arable land, ponds and streams and temporary loss of priority habitat coastal and floodplain grazing marsh.

South Thames Estuary and Marshes SSSI lies partially within the Order Limits and has been assessed as having no significant impacts from the Project due to the tunnelling operations happening beneath the designation. However, there is the likely significant risk of habitat degradation due to dust deposition and changes in water quality and quantity, which would result in the negative effect on the grazing marsh, saltmarsh, dykes and mudflats for which the SSSI is designated. The construction of the tunnels also has the potential to lead to reduced water levels within the ditch system associated with South Thames Estuary and Marshes SSSI, which would negatively impact flora and fauna through loss of wetland habitat, and therefore would cause direct habitat loss, which currently the application has not mitigated for due to the risk of reduced water levels “*not anticipated*”. It is extremely concerning that even though there is this significant risk of loss of wetland habitat within the SSSI, no mitigation measures have been put in place to reduce the threat. We need more reassurance from the applicant that there will not be loss of wetland habitat, otherwise we expect to see mitigation for the direct loss of habitat within South Thames Estuary and Marshes SSSI.

The Project will see the permanent loss of 59ha and temporary loss of 226ha of functionally linked land (FLL) to the Thames Estuary and Marshes SPA and Ramsar, which is important habitat for wintering birds. The SPA is not necessarily sufficient to support all the birds the site is designated for; therefore, the population is reliant on the FLL habitats surrounding the SPA. The proposed mitigation for the loss of FLL includes enhancements at Coalhouse Fort and Metropolitan Police firing range, however the firing range will be used as a construction compound during the works and will be reinstated for habitat enhancements post construction phase. Therefore, we have concerns regarding the lack of suitable FLL during the construction phase, which may have a significant negative effect to the bird populations the SPA is designated for.

The widening of the A2 and construction of “green bridges” will see the direct and permanent loss of 5.85ha of habitat within Shrone and Ashenbank Wood SSSI, of which 0.95ha is irreplaceable ancient woodland. There will also be the direct loss of habitats within non-statutory sites, such as Claylane Wood, which would see the loss of 4.24ha of ancient woodland, accounting for 48% of the ancient woodland within the site and cause the

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<sup>1</sup> [The title \(parliament.uk\)](https://www.parliament.uk)

<sup>2</sup> [Review of the High Speed 2 'no net loss in biodiversity' metric \(publishing.service.gov.uk\)](https://www.publishing.service.gov.uk)

displacement and disturbance of protected species. Canal and Grazing Marsh Higham Local Wildlife Site (LWS) will also see a loss of 4.17ha, which represents 7% of the entire LWS, for the construction of a temporary compound. This includes altering the hydrology by diverting a watercourse, which has not taken into consideration the negative impacts this will have on surrounding habitats and species.

## **BIODIVERSITY NET GAIN**

An amendment secured within Section 99 and Schedule 15 of the Environment Act 2021 makes biodiversity net gain (BNG) a requirement for Nationally Significant Infrastructure Projects (NSIPs). The 2021 Act defines the biodiversity net gain objective for NSIPs as a minimum of a 10% increase in the pre-development biodiversity value of the onsite habitat. Recent guidance from Defra sets out that the requirement to deliver a minimum of 10% BNG for NSIPs will be implemented no later than November 2025. The Project has committed to deliver BNG, and therefore should align fully with the requirements of the Environment Act and guidance published by both Natural England and Defra. Failure to align with these requirements and best practice would invalidate any claims achieving BNG. From reviewing Appendix 8.21 – Biodiversity Net Gain Calculations, it is understood that the Project overall would have a 7% net gain in habitat units, -11% in hedgerow units and -7% in river units and therefore not meet the minimum targets. In all cases the scheme fails to deliver 10% BNG. The metric is based on the current preliminary Project; therefore, the loss of biodiversity could be greater at the detail design stage. It is also essential for applicants to show how they have followed the ten Biodiversity Net Gain Good Practice Principles<sup>3</sup>. These ten principles set out good practice for achieving BNG and must be applied simultaneously, as one approach.

The Biodiversity Metric 4.0 does not account for the loss of irreplaceable habitats, such as ancient woodland and ancient and veteran trees, which are being directly lost to the Project, therefore would prevent any overall claim of BNG. It is understood that SSSI habitats, which would be lost to the Project, have been included within the metric and shown as retained in the baseline, whilst the bespoke compensation has been excluded from the assessment and will be dealt with outside of the metric. Paragraph 1575 of the Environment Bill explanatory notes states that *“it is generally agreed in practice that development cannot claim biodiversity net gain in cases when development results in land take from statutory sites. [...] the biodiversity net gain requirement for development on such sites is additional to any existing legal or policy requirements for statutory protected areas and their features.”* Due to the loss of habitat within statutory designated areas, it is therefore not appropriate to apply BNG to this application to justify environmental credentials.

As stated within paragraph 7.1.1 of Appendix 8.21, it is considered the metric provides a realistic worst-case scenario in terms of net biodiversity. However, due to the number of limitations described within the Biodiversity Net Gain Calculation, the loss of irreplaceable habitats, degradation of statutory protected areas and that the Project has not been designed in detail, we disagree with this statement as there is a high level of uncertainty surrounding the overall impacts. KWT are also concerned regarding the mitigation and proposed habitat creation and believe that a Project at this scale cannot have an overarching positive impact to wildlife, biodiversity, and climate change.

## **MITIGATION AND COMPENSATION**

We continue to have concerns regarding the suitability of proposed mitigation and believe that the mitigation hierarchy has not been appropriately applied. As stated within the DCO documents, the route corridor has supposedly been designed to be a *“biodiverse wildlife corridor connecting suitable habitats throughout the wider landscape.”* Some of the mitigation measures proposed for providing connectivity for biodiversity

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<sup>3</sup>[Biodiversity-Net-Gain-Principles.pdf \(cieem.net\)](#)

includes seven mixed-use green bridges. However, from reviewing the Environmental Masterplan, the bridges are clearly not designed for wildlife and should be renamed as modified grey bridges as they will provide limited level of mitigation. The proposed “green bridges” are for the functionality and permeability of the Project’s infrastructure and therefore not suitable for the level of mitigation that is required for this project. Mixed-use green bridges can be suitable for when access on foot, such as a footpath, is the principle aim and where wildlife use is seen as an additional benefit. They can provide some ecosystem services, however they are largely used for cultural services, such as recreational, aesthetic enjoyment, and tourism. Due to the level of habitat loss and fragmentation, the core aim of the green bridges should unquestionably be focused on reconnecting the landscape for wildlife, therefore the bridges should be either natural bridges to provide mitigation on an ecosystem level, or wildlife bridges to facilitate species crossing. Human access (including cars) and artificial lighting should be carefully considered depending on the sensitivity of the target species. Overall, KWT are not convinced that the DCO demonstrates how the bridges will “*strengthen the network of designated habitats at a landscape scale*” due to the unacceptable loss and degradation of habitats the scheme will cause in the first place and the limited benefit to wildlife offered by very narrow corridors of habitat adjacent to roads.

## **PROTECTED SPECIES**

During a bat activity transect in Brewers Wood, a barbastelle bat was recorded and later confirmed during ID analysis of the call. Barbastelle are one of the UK’s rarest species of bat, with as few as 5,000 individuals in the UK and one of four Habitat Directive Annex II bat species, which means they are a species of Community interest (i.e. endangered, vulnerable, rare or endemic in the European Community) whose conservation requires the designation of special areas of conservation. Barbastelle are found only in southern England and Wales and favour deciduous woodland with areas of water such as rivers, ponds, and lakes. However, the species has never been confirmed in Kent, therefore any passes and potential roost sites in Kent are a significant find. We are concerned potential barbastelle roost and/or foraging and commuting habitat will be lost to the Project, which could be substantial for the conservation of the species in Kent.

Swarming surveys at bat hibernation sites Muggins Hill Chalk Pit, Hangman’s Wood and Deneholes SSSI were undertaken, however Bat Conservation Trust (BCT) Best Practice Guidelines (Collins, 2016) were not followed. It is understood only one 3-hour observation survey was undertaken at each site in October, which in ES Appendix 8.8. - Bats concluded no swarming activity was recorded at any of the sites. The BCT Best Practice Guidelines state that for swarming surveys at least five nights of automated/static acoustic surveys in each month of the swarming season of mid-August to the end of October should be undertaken to establish whether a site is used for swarming. All three sites (Muggins Hill Chalk Pit, Hangman’s Wood and Deneholes SSSI) will be impacted by the Project as stated within Table 3.1 of ES Appendix 8.8 – Bats. The impact of destroying or changing a swarming/hibernation site can be severe, so it is particularly important to follow best practice guidelines and investigate the sites further.

There will be a significant amount of reduced habitat for nesting, roosting and foraging birds during the construction phase, including disturbance to birds within and outside of the Order Limits. KWT are concerned that the application has concluded there will be an overall gain of habitats post construction, however the proposed mitigation will take years to establish, particularly the woodland planting, and impacts to South Thames Estuary and Marshes SSSI and Thames Estuary and Marshes SPA and Ramsar could cause long-term habitat degradation. The construction of the tunnels is within proximity to high-value habitats that support notable bird assemblages and nesting species. The application describes the tunnelling activity as “*not likely to result in adverse effects on birds*”, however this can’t be guaranteed and therefore more information is needed in how these risks will be reduced, and what will happen if large numbers of birds are disturbed as a result of the works.

## CLIMATE CHANGE

The UK Government has committed to address the climate and biodiversity crises by setting targets within the Environment Act, 2021. The targets aim to halt species decline and committing to reach net zero greenhouse gas emissions by 2050. However, the Project will undermine the Government's commitments and in contrast will likely be one of the most polluting road schemes during the construction and operational phases. As stated within paragraphs 15.6.19 and 15.9.9 of ES Chapter 15 – Climate, the Project will have a total net greenhouse gas emissions of approximately 6.596 million tonnes of carbon dioxide equivalent (tCO<sub>2</sub>e). This is an unacceptable increase in greenhouse gas emissions and does not align with the Government's net zero targets. The Climate Change Committee (CCC), which is an independent, statutory body established under the Climate Change Act 2008, states that *“new roads should only be built if they can be shown not to increase emissions.”* It is understood that the applicant plans on delivering a carbon neutral development and is committed to *“using the time available before construction of the Project begins, to explore ways of achieving greater reductions in emissions”*. However, it is unlikely due to the scale and timeframe of the Project that this would be achievable, with no reassurance on how this would be deliverable or the consequences if this is not achievable. The economic growth the Project hopes to deliver will also result in the increase of greenhouse gas emissions through new developments and further loss of carbon storage and sequestration habitats. The Project will undoubtedly defy all commitments to reach net zero by 2050.

## AIR QUALITY

The UK Government have committed to legally binding air quality targets under the Environment Act 2021 to reduce air pollutant particles that are 2.5 microns or less in diameter (PM 2.5), with an annual maximum mean concentration target of 10 microgrammes per cubic metre (µg/m<sup>3</sup>) by 2040. Table 3.2 within Appendix 5.4 – Air Quality Operational Phase Results highlights the annual mean PM 2.5 concentrations across 85 monitoring sites are already all above 10 µg/m<sup>3</sup>, with the highest at 15.9 µg/m<sup>3</sup> and lowest at 11.1 µg/m<sup>3</sup>. The table also illustrates the Project's predicted modelled annual mean PM 2.5 for 2030, which shows an increase in PM 2.5 across all 85 monitoring sites, where they had PM 2.5 concentrations between 11.7 µg/m<sup>3</sup> and 23.3 µg/m<sup>3</sup>. The Project will therefore, without doubt, breach the UK's legally binding air quality targets for 2040.

The Air Quality Standards Regulations 2010 sets legally binding limits for various pollutants, such as nitrogen dioxide (NO<sub>2</sub>) to protect public health and the environment. The UK law on NO<sub>2</sub> requires the annual mean concentration cannot exceed 40 µg/m<sup>3</sup>. From reviewing Appendix 5.2 – Air Quality Baseline Conditions of the ES, 68 out of the 227 local authority air quality monitoring sites surpassed the 40 µg/m<sup>3</sup>, which equates to 30% of the monitoring sites currently exceeding the legal NO<sub>2</sub> limit. The World Health Organisation (WHO) recommended guideline for annual NO<sub>2</sub> pollution is 10 µg/m<sup>3</sup> – four times lower than the UK's current legal limit. Out of the 128 monitoring sites across Kent, 41 sites currently surpass the UK's legal NO<sub>2</sub> limit, equating to 32% of monitoring sites within Kent, with some sites currently above 70 µg/m<sup>3</sup>. All 227 monitoring sites surpass WHO's recommended annual 10 µg/m<sup>3</sup> NO<sub>2</sub> pollution level.

Table 2.2 within Appendix 5.2 – Air Quality Baseline Conditions highlights that between the years of 2015 – 2019, five out of 10 monitoring sites within 200m of construction and operational affected road networks exceeded the UK's legal NO<sub>2</sub> limit, four of which have exceeded 50 µg/m<sup>3</sup> and two surpassing 60 µg/m<sup>3</sup>. The Project has predicted to see *“minor worsening in the air quality for NO<sub>2</sub>”* within the 200m construction and operational buffer, where 50% of the monitoring sites already exceed the legal NO<sub>2</sub> limit. Thirty percent of the 277 monitoring sites across the local authorities currently go against the legally binding NO<sub>2</sub> targets, therefore how can the Project, which will see an increase in NO<sub>2</sub>, be justified. It is the Governments responsibility for meeting the air quality limit values in England, therefore by granting the permission of the Project they will be actively going against their own legally binding obligations and putting public health at further risk.

## NITROGEN DEPOSITION

Nitrogen deposition is a serious concern for urban and suburban nature conservation sites, as the increased nitrogen enriches the soil and leads to biodiversity changes through various processes such as acidification of the soil and imbalances in other key nutrients, eutrophication, which is the prompt growth of ‘undesirable species’ which impact species composition and diversity, increased risk of secondary stressors such as fire, drought, and disease triggered by increased nitrogen, and direct damage to plants and habitats through toxicity. Long-term studies nationally have shown the increases in abundance of ‘undesirable species’, such as nettles and brambles from nitrogen deposition are significant, therefore any further increases in nitrogen levels close to designated wildlife sites are likely to increase the negative impacts<sup>4</sup>. Once nitrogen deposition impacts have occurred, there are few ways to restore and reinstate habitats to their previous botanical conditions.

Appendix 5.6 – Project Air Quality Action Plan of the ES states 36 sites are likely to experience a “*significant effect as a result of the change in nitrogen deposition [...] these sites predominantly consist of woodland and semi-natural grassland habitats, and the changes in nitrogen deposition are considered likely to adversely affect the sites’ structure, function and composition to a degree which would compromise their integrity either temporarily or permanently.*” We understand some mitigation measures have been proposed, and where mitigation is not feasible, 205ha of compensatory habitat creation at an ecological network scale has been offered. However, our main concerns regarding nitrogen deposition are the impacts it will have on the Project’s proposed mitigation for ancient woodland, protected species, loss of FLL etc., and the potential degradation and/or prevention of successful habitat creation. If nitrogen deposition has been identified to significantly effect existing habitats, what are the risks of nitrogen deposition significantly effecting the proposed habitat creation and enhancements detailed in the Project’s mitigation and compensation schemes.

Overall, KWT believe that the proposals undermine the Government's commitment to protect 30% of the UK’s land for nature by 2030, the 25 Year Environment Plan, targets within the Environment Act 2021 to halt species decline and reach net zero greenhouse gas emissions by 2050, and legally binding air quality targets. KWT reserves the right to add to/amend its position should new information be made available by the Applicant or other Interested Parties.

We hope that our comments and suggestions are useful. If you require any further information regarding our comments, please not hesitate to contact me.

Kind regards,

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<sup>4</sup> [NECR210 edition 1.pdf](#)