National Infrastructure Commission (NIC)

Response from the RSPB to the Call for Evidence

December 2015

Contact: Simon Marsh, Head of Sustainable Development, RSPB, The Lodge, Sandy, Bedfordshire SG19 2DL. [email address and phone number redacted]

SUMMARY

The RSPB welcomes the creation of the National Infrastructure Committee (NIC) and the opportunity that this provides to analyse and assess long-term infrastructure needs in a coordinated and strategic way.

Whilst we accept that '*better infrastructure is vital to improve the needs of British people*'[1], it is also vital – in order to achieve truly sustainable development – that this infrastructure is delivered in harmony with nature. Taking this approach would not only help to save nature, it would also provide a wide range of social and economic benefits,

Our recommendations are outlined below:

Green infrastructure

The NIC's remit should include consideration of the UK's strategic, long-term green infrastructure requirements as determined by the Natural Capital Committee. Such consideration must be designed to ensure that NIC recommendations complement, not undermine, the Government's 25 year plan to save the UK's biodiversity.

Taking a spatial approach

The NIC should:

- Recommend the creation – and lead on the development – of a 'light-touch', national spatial framework for the provision of key national infrastructure needs over the next 30 years.
- Undertake strategic environmental assessments of the UK's strategic infrastructure requirements.

Connecting northern cities

The NIC should ensure that its:

- Evidence base includes consideration of environmental impacts, particularly in relation to nature conservation designations of national and international importance.
- Recommendations on future investment priorities would result in no significant

[1] Statement from Chancellor George Osborne, launching the National Infrastructure Commission on 30th October 2015. https://www.gov.uk/government/news/infrastructure-at-heart-of-spending-review-as-chancellor-launches-national-infrastructure-commission

adverse effects on nature conservation designations of national and international importance.

London's transport infrastructure

The NIC should recommend that:

- The use of clean, excavated material - resulting from improvements to London's transport infrastructure – in habitat creation / flood risk management schemes should be classed as recovery, rather than waste disposal.
- Habitat creation / flood risk management schemes should be a primary option when considering how to dispose of clean, excavated material resulting from improvements to London's transport infrastructure.
- Infrastructure is provided to facilitate the transportation of excavated material – resulting from improvements to London's transport infrastructure - by train and by boat, including the provision of jetty facilities at coastal or riparian destinations.

Energy

The NIC should recommend that the UK's energy infrastructure needs be met in a way that:

- Reduces greenhouse gas emission by at least 80% from 1990 levels by 2050;
- Delivers a low-carbon energy sector by 2030;
- Maximises the use of renewable energy technologies and minimises reliance on fossil fuels;
- Is delivered in harmony with nature, resulting in no significant adverse effects and, where possible, delivering net-gains for biodiversity.

INTRODUCTION

The RSPB welcomes the creation of the National Infrastructure Committee (NIC) and the opportunity that this provides to analyse and assess long-term infrastructure needs in a coordinated and strategic way.

Whilst we accept that '*better infrastructure is vital to improve the needs of British people*'[2], it is also vital – in order to achieve truly sustainable development – that this infrastructure is delivering in harmony with nature. In particular, this infrastructure should be delivered in a way that:

- avoids adverse effects on our existing environmental assets, particularly those of national and international importance;
- delivers a net gain in biodiversity and contributes to establishing coherent and resilient ecological networks;
- contributes to people's health and wellbeing;
- mitigates – and facilitates adaptation to – the impacts of climate change.

Taking this approach would not only help to save nature, it would also provide a wide range of social and economic benefits (as outlined in the section on Green Infrastructure, below).

[2] Statement from Chancellor George Osborne, launching the National Infrastructure Commission on 30th October 2015. https://www.gov.uk/government/news/infrastructure-at-heart-of-spending-review-as-chancellor-launches-national-infrastructure-commission

In some instances, the natural environment can, itself, provide a cost-effective and sustainable alternative to expensive, 'hard' infrastructure, for example, through the managed realignment of coastal flood defences.

We understand that the Chancellor will consult further on the purpose and structure of the Commission and other matters. Our comments on green infrastructure and taking a spatial approach are relevant to the NIC's remit and therefore this further consultation, but are included here as they are fundamental to our view of the NIC's work and our response to the NIC's three key focus areas.

The NIC's terms of reference - and the questions that it poses in its call for evidence - currently give little emphasis to the principles above or to the related issues outlined below. In our recommendations, we identify how the NIC can potentially address these concerns.

GREEN INFRASTRUCTURE

Infrastructure can be defined as '*the fundamental facilities and systems servicing a country, city or area*'[3]. In the context of the UK's infrastructure needs, this is normally taken to mean the 'hard' infrastructure of physical structures such as roads, bridges, tunnels, water supply and sewerage systems, electricity grids, etc. However, in its broadest sense, it also encompasses what is commonly referred to as 'green' infrastructure – the network of green spaces and other environmental features that are integral to the health and quality of life of sustainable communities. It is based on the principle that protecting and enhancing nature and natural processes, and the many benefits human society gets from nature, should be consciously integrated into spatial and development planning.

This green infrastructure is central to the future of the economy and people's health and wellbeing. For example, it delivers essential 'ecosystem services' (life-support systems), such as capturing and storing carbon, flood protection and water purification. It enables contact with nature and active recreational use of natural green spaces, which contributes to people's psychological well-being and physical health. As such, it plays a crucial role in addressing the country's health crisis, which is being caused by spiralling levels of physical inactivity, obesity and mental health issues. It is also key in shaping the character and quality of the places in which people live and work. Finally, in many instances, it can actually provide a cost-effective and sustainable alternative to expensive, 'hard' infrastructure projects, for example, through the managed realignment of flood defences. The Natural Capital Committee's third report[4] makes a very strong economic and social case for the importance of elements of green infrastructure– such as green spaces, parks, green roofs, and sustainable drainage systems – to the future success of the country.

The wide range of benefits provided by green infrastructure makes it clear that it should be at the heart of any analysis and assessment of the UK's long-term infrastructure needs, both in the context of providing 'hard' infrastructure and in its own right.

[3] http://dictionary.reference.com/browse/infrastructure
[4] http://nebula.wsimg.com/272833c20f4e7f67e2799595a7f06088?AccessKeyId=68F83A8E994328D64D3D&disposition=0&alloworigin=1

25 year plan for nature

The Government has committed in its manifesto and subsequent statements to '*develop a 25 year plan to restore the UK's biodiversity*'. This provides an impetus to deliver green infrastructure at a strategic level, contributing to the Government's international obligations to restore biodiversity.

In 2013, 25 of the UK's nature conservation and research organisations came together to produce the *State of Nature* report, setting out the state of our wildlife[5]. The key finding of this report was that 60% of the 3,148 species that were assessed have declined in the last 50 years, and 31% have declined strongly. The follow-up report, *Response for Nature*[6], sets out 10 key actions that the Government must include as part of its 25-year plan to restore the UK's biodiversity.

The proposed Response for Nature actions are the responsibility of departments across government. Those of most relevance to the NIC are:

- **Set goals for nature and natural capital** - including a commitment to secure the effective management of a sixth of land for nature by 2020.
- **Defend and implement the laws that conserve nature** - including working to improve the implementation of the Birds and Habitats Directives and supporting the introduction of a low-carbon infrastructure plan.
- **Deliver an ecological network on land and at sea** - including creating a national ecological network and completing a spatial analysis of the ecological network.
- **Improve the connection of people to nature** - including a commitment to improve public health locally, by increasing the extent, quality and accessibility of natural green and blue spaces in all urban and rural settlements.

The NIC is not currently set up to deal with issues of green infrastructure. If our recommendation is pursued, consideration needs to be given to securing the relevant expertise from bodies such as Natural England, the Environment Agency and the NGO sector.

Recommendation:

- The NIC's remit should include consideration of the UK's strategic, long-term green infrastructure requirements as determined by the Natural Capital Committee. Such consideration must be designed to ensure that NIC recommendations complement, not undermine, the Government's 25 year plan to save the UK's biodiversity.

[5] Burns F, Eaton MA, Gregory RD, et al. (2013) *State of Nature report*. The State of Nature Partnership. https://www.rspb.org.uk/Images/stateofnature_tcm9-345839.pdf

[6] Response for Nature partnership (2015) *Response for Nature: England.* *http://www.rspb.org.uk/Images/responsefornature_england_tcm9-407740.pdf*

TAKING A SPATIAL APPROACH

The NIC is charged with offering unbiased analysis of the UK's long-term infrastructure needs and with holding government to account for its delivery. It will also be charged with beginning work on a national infrastructure assessment, looking ahead to requirements for the next 30 years.

The delivery of the UK's long-term infrastructure needs will, to a large extent, be spatial in nature (i.e. particular infrastructure will be delivered in particular locations). As such, strategic spatial planning should play a key role in the NIC's analysis and assessment of these infrastructure needs.

Whilst the local plan process can help to identify specific locations for specific local infrastructure improvements, this level of spatial planning is not sufficient to facilitate the delivery of national infrastructure needs. This will be true even where local authorities take a more co-ordinated approach to infrastructure provision, for example, through the devolution of powers to combined authorities. What is needed is a 'light-touch', national spatial framework showing options and proposals for key infrastructure provision over the next 30 years. This framework should complement related plans and strategies, such as the low carbon infrastructure plan proposed in our response on energy infrastructure (see above).

Strategic environmental assessment (SEA) should play a key role in this spatial planning process. SEA can be a particularly useful tool when considering the range of alternative options for future infrastructure provision, including consideration of different technologies and locations.

Strategic spatial planning and SEAs relating to the improvement of existing infrastructure, such as trans-Pennine transport routes, should be relatively straightforward. However, a more innovative approach will be required for other infrastructure issues such as the provision of a low-carbon energy system. The RSPB is currently developing a spatial framework that will identify how this low-carbon energy system can be delivered in harmony with nature. This has the potential to provide an essential tool for the NIC in developing its own spatial plan. The findings and recommendations of this project will be launched in 2016.

Further advice on spatial planning with nature in mind is provided in the RSPB / RTPI publication, Planning Naturally[7].

Recommendations:

The NIC should:

- recommend the creation – and lead on the development – of a 'light-touch', national spatial framework for the provision of key national infrastructure needs over the next 30 years;
- undertake strategic environmental assessment of the UK's strategic infrastructure requirements.

[7] RSPB (2013) *Planning Naturally: spatial planning with nature in mind in the UK and beyond.* http://www.rspb.org.uk/Images/planningnaturally_tcm9-349413.pdf

CONNECTING NORTHERN CITIES (Call for Evidence) / FUTURE INVESTMENT IN THE NORTH'S TRANSPORT INFRASTRUCTURE (Terms of Reference)

The RSPB does not seek to comment directly on the questions that have been posed in the NIC's call for evidence on the issue of connecting cities in northern England. However, we would like to comment on the NIC's terms of reference for providing advice to government on future investment priorities to improve connectivity between cities in northern England, particularly across the Pennines.

The NIC's terms of reference state that the NIC must first establish the evidence base and identify the options available. This must include evidence of the potential environmental impacts of the various strategic options for future transport investment. This should be addressed as a crucial issue by the NIC, given that several of the proposed trans-Pennine infrastructure improvements cut across sites of international importance for nature conservation (i.e. Special Protection Areas (SPAs) and Special Areas of Conservation (SACs)). Relevant SPAs / SACs - and the infrastructure proposals which could potentially have a significant effect on these designations - are outlined in Annex 1.

Under the Conservation of Habitats and Species Regulations 2010 ('the Habitats Regulations'), if any of these projects may have a 'likely significant effect' on the SPAs / SACs (either individually or in combination with other plans or projects), it must be made subject to an "appropriate assessment" of its implications for the site in view of the site's conservation objectives. This assessment is commonly referred to as a Habitats Regulations Assessment (HRA). **The projects may only proceed if they will not adversely affect the integrity of the site concerned**, unless the so-called 'derogation tests' apply. These include a test that there are no less-damaging alternatives to achieving the objectives of connectivity.

Recommendations:

The NIC should ensure that its:

- Evidence base includes consideration of environmental impacts, particularly in relation to nature conservation designations of national and international importance.
- Recommendations on future investment priorities would result in no significant adverse effects on nature conservation designations of national and international importance.

LONDON'S TRANSPORT INFRASTRUCTURE (Call for Evidence / Terms of Reference)

The RSPB's main interest in the issue of London's transport infrastructure is the use of excavated material deriving from improvements to this infrastructure. Our comments relate to Question 3 and 4 posed by the NIC in its Call for Evidence[8] and to the NIC's terms of reference on this issue.

Improvements to London's transport infrastructure result in the production millions of tonnes of excavated material that needs to be disposed of each year. Not only is this disposal

[8] Question 3. What opportunities are there to increase the benefits and reduce the costs of the proposed Crossrail 2 scheme?; Question 4. What are the options for the funding, financing and delivery of large-scale transport infrastructure improvements in London, including Crossrail 2?

potentially hugely expensive, but the transportation of this material also provides a significant challenge.

The Wallasea Island Wild Coast project provides an excellent example of how the benefits of such infrastructure improvements can be greatly increased and the costs significantly reduced. In this project, three million tonnes of excavated material from London's Crossrail project has been used to help create 670ha of new, tidal, wetland habitat. See Annex 2 for further details of this project.

One of the key factors that made the use of Crossrail's excavated material financially viable was that the Environment Agency classed this use as 'recovery' – as defined in Article 3(15) of the Waste Framework Directive (Directive 2008/98/EC on waste) - rather than 'waste disposal'. As such, the use of this material is subject to a much less stringent – and, therefore, much cheaper – regulatory regime than would be required for a waste disposal operation. The 'recovery' classification has also resulted in savings of approximately £200 million because landfill tax has not had to be paid for the disposal of this material.

However, the Environment Agency's decision to class the use of this material as 'recovery' has been somewhat controversial. For example, in a recent Court of Appeal case, the Environment Agency's legal representative '*argued that the EA* [Environment Agency] *itself had erred in law in granting a standard rules environmental permit (i.e. a recovery operations permit) in respect of the use of Crossrail waste spoil for the creation of a nature reserve in the Wallasea decision.*'[9]

Given the issues raised about Wallasea in the Court of Appeal case, it is by no means certain that a recovery permit will be granted for the use of excavated material at Wallasea, or for similar projects, in the future. If the use of this material is classed as 'waste disposal', it could jeopardise the completion of the Wallasea project (which still requires an additional seven million tonnes of material) and the delivery of similar habitat creation / flood risk management projects in the future. Last, but not least, it would also add hundreds of millions of pounds to the cost of improving London's transport infrastructure.

Recommendations:

The NIC should recommend that:

- The use of clean, excavated material - resulting from improvements to London's transport infrastructure – in habitat creation / flood risk management schemes should be classed as recovery, rather than waste disposal.
- Habitat creation / flood risk management schemes should be a primary option when considering how to dispose of clean, excavated material resulting from improvements to London's transport infrastructure.
- Infrastructure is provided to facilitate the transportation of excavated material – resulting from improvements to London's transport infrastructure - by train and by boat, including the provision of jetty facilities at coastal or riparian destinations.

[9] Tarmac Aggregates Ltd, R (on the application of) v The Secretary of State for Environment, Food and Rural Affairs & Anor *[*2015] EWCA Civ 1149http://www.bailii.org/ew/cases/EWCA/Civ/2015/1149.html

ELECTICITY INTERCONNECTION AND STORAGE (Call for Evidence) / DELIVERING FUTURE-PROOF ENERGY INFRASTRUCTURE (Terms of Reference)

The RSPB's main areas of concern relate to the NIC's Terms of Reference, rather than the questions posed in the Call for Evidence. In particular, we are concerned about the lack of any reference to (i) the Government's legally binding targets to reduce greenhouse gas emissions or (ii) the Climate Change Committee's recommendation to achieve a low carbon energy system (including a low carbon electricity network) by 2030.

Potential impacts of climate change

Climate change is the greatest single long-term threat to nature and to people, with one in six species at risk of extinction by 2100 if the temperature changes modelled by the Intergovernmental Panel on Climate Change (IPCC) come to pass[10].

The RSPB recently published a new report on the impacts that climate change is already having on wildlife[11]. For example, the 70% decline in UK kittiwake populations since the 1980s has been linked to climate change. Over the course of this century, impacts will only intensify and increase, particularly if action is not taken to limit climate change.

To avert these risks — and to enjoy the economic and social benefits of a healthy, natural environment — will require a transition to a low-carbon economy that takes place in harmony with nature.

Climate change targets

The UK marked itself out as a world leader in tackling climate change through the introduction of the Climate Change Act in 2008. It became one of the first countries in the world to set legally binding domestic climate change targets and, since then, many other countries have followed suit. These climate change targets set the UK on a trajectory to reduce its economy-wide greenhouse gas emissions by at least 80% from 1990 levels by 2050.

In order to keep on track for this 80% reduction, the Government's independent advisory body, the Committee on Climate Change (CCC) recommends that the UK needs to have reduced its emissions by 37% relative to 1990 levels by 2030. In order to achieve this, the UK needs a low carbon power sector that produces no more than 100 gCO2/kWh. At present, our energy system has a 'carbon intensity' of around 450 gCO2/kWh.

The CCC has said that while the UK is on track to meet its third carbon budget, there is concern about longer term progress. In order to meet the fourth carbon budget, 'significant action' will be required during this Parliament in order to keep the UK on track.[12]

An additional factor to be considered is the new evidence, published in the journal *Nature,* which has shown that, globally, the majority of fossil fuels will need to stay in the ground, if we are to achieve the global aspiration to keep temperature rises below two degrees[13].

[10] https://www.sciencemag.org/content/348/6234/571.full
[11] http://www.rspb.org.uk/natureclimate
[12] https://www.theccc.org.uk/wp-content/uploads/2015/06/6.737_CCC-BOOK_WEB_030715_RFS.pdf
[13] http://www.nature.com/nature/journal/v517/n7533/abs/nature14016.html [Globally, a third of oil reserves, half of gas reserves and over 80 per cent of current coal reserves should remain unused from 2010 to 2050 in order to meet the target of 2 °C]

Transition to a low carbon energy system

The UK's energy infrastructure has shifted towards a lower-carbon energy system in recent years, including increased levels of renewable energy and the proposed phasing out of unabated coal. However, recent cuts to support for energy efficiency measures, solar, onshore wind and carbon capture and storage (CSS) technology, as well as an ongoing enthusiasm for developing new gas infrastructure, including fracking, could all jeopardise the UK's trajectory to a low-carbon future.

It is critical that the UK Government sets out new support for the renewable and energy efficiency sector in order to drive investment in the infrastructure we will need over the coming years and decades to achieve this low-carbon future. With the costs of established renewable energy technologies in the UK (onshore and offshore wind, solar) falling all the time[1415], we believe that renewable technologies, coupled with demand reduction and energy efficiency measures, are likely to meet our energy needs at costs similar to - or cheaper than a - higher-carbon pathway.

Delivering energy infrastructure in harmony with nature

The RSPB strongly supports the appropriate siting of all infrastructure, such that it avoids adverse impacts on the natural environment. The RSPB is currently reviewing evidence and modelling potential impacts of different levels of deployment of a range of energy technologies. We will be publishing our findings and our recommendations on how to deliver energy infrastructure in harmony with nature in 2016.

Recommendations:

The NIC should recommend that the UK's energy infrastructure needs be met in a way that:

(i) reduces greenhouse gas emission by at least 80% from 1990 levels by 2050;
(ii) delivers a low-carbon energy sector by 2030;
(iii) maximises the use of renewable energy technologies and minimises reliance on fossil fuels;
(iv) is delivered in harmony with nature, resulting in no significant adverse effects and, where possible, delivering net gains for biodiversity.

[14] http://energydesk.greenpeace.org/2015/09/21/4-ways-the-uk-can-get-almost-all-its-power-from-renewables/
[15] http://about.bnef.com/press-releases/wind-solar-boost-cost-competitiveness-versus-fossil-fuels/

ANNEX 1. TRANS-PENNINE INFRASTRUCTURE PROPOSALS & INTERNATIONAL NATURE CONSERVATION DESIGNATIONS

The designations of most relevance to the proposed trans-Pennine infrastructure improvements are the Peak District Moors (South Pennine Moors Phase 1) SPA / South Pennine Moors SAC and the North Pennine Moors SPA / SAC. Key habitats in these designations include European dry heath and blanket bog, which provide a wide range of ecosystem services, including carbon sequestration. Key bird species include golden plover (*Pluvialis apricaria*) and merlin (*Falco columbarius*).

The Trans-Pennine infrastructure proposals which could have an effect on these designations are outlined below:

(i) Improvements to the A628 (Manchester - Barnsley road): About 5km of the A628 road is straddled by the Peak District Moors (South Pennine Moors Phase 1) SPA / South Pennine Moors SAC, with an extra 1.5km where the SPA / SAC is on the south side only (i.e. 6.5km in total).

(ii) Viability study for a Trans-Pennine road tunnel between Manchester and Sheffield: The Woodhead Tunnel would use an old (double) railway tunnel underneath the Peak District Moors (South Pennine Moors Phase 1) SPA / South Pennine Moors SAC, so would negate the need for the passing lane on the A628 for the 6.5km of SPA / SAC mentioned in (i) above.

(iii) Improvements to the A57 between Manchester and Sheffield: About 5km of the Peak District Moors (South Pennine Moors Phase 1) SPA / South Pennine Moors SAC straddle the A57 on both sides.

(iv) Viability study for dualling of the A66 (Penrith - Darlington road) and A69 (Carlisle - Newcastle Road): About 1km of the A66 is straddled by the North Pennine Moors SPA / SAC, with an extra 5km where the SPA / SAC is on the north side only (i.e. 6km in total).

ANNEX 2. Wallasea Island Wild Coast Project

Wallasea Island Wild Coast Project is a unique partnership between the RSPB and Crossrail which brings together Europe's largest civil engineering project and Europe's largest intertidal habitat creation project. The project demonstrates how major infrastructure schemes can help to enhance nature and 'future proof' low lying coasts against sea level rise caused by climate change as well as generating economic growth.

The project will transform 670ha of levee-protected farmland – an area twice the size of the City of London - back to a wetland landscape of mudflats and saltmarsh, lagoons and pasture. It will help to compensate for the loss of such tidal habitats on internationally important sites elsewhere. Once the project is completed, Wallasea Island, which lies 8 miles north of Southend-on-Sea in Essex, will provide a haven for a wonderful array of nationally and internationally important wildlife and an amazing place for the local community, and those from further afield, to come and enjoy.

The challenges that the Wallasea project seeks to address are real and pressing. Four hundred years ago, the Essex coast was a wild and stunning place, a haven for wildlife – including 30,000ha of intertidal saltmarsh - and a source of livelihood for local communities. Sadly, today, less than one tenth (2,500ha) of this wild coast remains due to land claim for agriculture and accelerating coastal erosion. Across England, saltmarshes and mudflats are continuing to decline at a rate of 100 hectares a year. This rate of loss will accelerate with climate change as rising sea levels and more storminess steadily erode the precious transition zone between land and sea.

With much of the island lying 2-3 metres below sea level at high tide, it has become uneconomic to protect Wallasea with traditional, hard engineering flood defences (i.e. sea walls). The project demonstrates a more sustainable approach to flood risk management, using managed realignment. Current flood defences will be breached, allowing flood water to be let into the island in a controlled way in the event of a tidal surge. This will reduce the risk of an unmanaged breach and associated negative impacts, including disruption to navigation, erosion of adjacent sea defences and loss of built assets on Wallasea. The project will also help to mitigate the impacts of climate change by sequesting approximately 4 tonnes of carbon dioxide per hectare (i.e. over 2,000 tonnes across the whole site) per year.

The project requires the importation of 10 million tonnes of soil. 3 millions tonnes of this has been provided from the £14.8 billion Crossrail project, using excavated material from the 42km of Crossrail tunnels that have been dug under London. This represents half of the total amount of excavated material – 6 million tonnes (enough to fill Wembley Stadium three times over) – that has been produced by the Crossrail project. 80% of the excavated material has been transported by rail and boat, removing 150,000 lorries (and their associated health, safety and environmental risks) off the streets of London. The RSPB is currently seeking partners to provide the remaining 7 million tonnes that it requires to complete the project.

Planning permission was granted in 2009 and the first phase of the project - Jubilee Marsh - was completed in July 2015.The project is due to be completed by 2020, and will cost about £50m in total.