

Date: 8 August 2014

Airports Commission
6th Floor Sanctuary Buildings
20 Great Smith Street
London
SW1P 3BT

By email only to Estuary.Studies@airports.gsi.gov.uk

Dear Sir/Madam

INNER THAMES ESTUARY FEASIBILITY STUDIES CONSULTATION

Thank you for providing the opportunity to comment on the Inner Thames Estuary feasibility studies. In our role as an environmental advisor to Government this letter provides comments primarily for study 1 (environmental impacts) but many of the comments are also relevant to study 2 (operational) and study 4 (surface access).

Our comments are based on the understanding that the Inner Thames estuary feasibility studies are being used as an extension of the Phase 1 sifting process. It is important that our comments are put within this context as it is the Phase 2 appraisal process that will consider the wider environmental impacts of any proposed development, rather than just the specific issues identified in the feasibility studies.

In preparing our response we have had discussions with Natural England to ensure that we provide you with consistent messages on the environment.

General Comments.

We note that whilst the Airports Commission welcomes general comments you are particularly inviting views in relation to two specific questions:

- a. Is there information in the studies which is *factually inaccurate*?
- b. Is there any new information or evidence that you wish the commission to consider?

We have been pleased to work interactively with the Airports Commission and the authors of the studies. In particular we have provided advice, evidence and data regarding flood risk management and compensatory habitat creation in relation to the TE2100 flood risk management plan for the Thames estuary. Many aspects concerning these issues are common and inter-related across your studies 1, 2 and 4.

As a consequence of our working relationship with the Airports Commission and authors of the reports we believe the studies have drawn upon appropriate and current evidence in relation to flood risk management issues within the Thames estuary

We broadly concur with the findings and conclusions of the studies. These suggest there remain significant challenges to be assessed in relation to impacts on flood risk

management and biodiversity. In particular the issue of finding and delivering compensatory land and habitat would be on an unprecedented level.

Our general comments can be summarised in three main points

1. To fully realise the new aviation capacity created, any new infrastructure (including airports and associated developments such as surface access) will need to be resilient to flood risk and extreme weather events.
2. Any new infrastructure (including airports and associated developments such as surface access) will need to make sure it does not increase flood risk to the surrounding area.
3. Creation of any new infrastructure in the Thames flood plain will likely need to secure compensatory land and habitat to mitigate impacts on flood risk management and existing habitats including Natura 2000 sites. This should also be considered within the context of the requirements of the Water Framework Directive that member states must:
 - meet legal requirements related to protected areas;
 - ensure that the status of water bodies do not deteriorate; and
 - seek to achieve good status in water bodies.

Specific Comments

Our detailed comments on feasibility study 1 are contained in the Annex to this letter.

We reiterate that we are happy to continue to work interactively with you on these studies. Thank you for your co-operation and support in this matter and we look forward to receiving your response. In the meantime, please contact

[REDACTED]

[REDACTED] if you would like further information.

Yours faithfully

[REDACTED]

[REDACTED]

Environment and Business Manager

Annex 1: Detailed comments on Inner Thames estuary feasibility study 1: Environmental Impacts

Page numbers given are those of the PDF document.

Flood Risk

p. 7/232 – “The study focussed on flood risk issues related to tidal flooding.” We would expect the study to look at all forms of flooding but accept that it is tidal flooding that differentiates the Inner Thames estuary options from Heathrow and Gatwick.

5.1.2 (p. 81/232) – The final paragraph states:

“The concept of the project was to develop a comprehensive action plan for managing flood risk for the Tidal Thames from Teddington (West London) through to Sheerness and Shoeburyness in Kent and Essex (respectively).”

The TE2100 plan is a plan to manage tidal flood risk. As such, the above sentence would benefit from editing to reflect that the action plan is for managing ‘tidal flood risk’ and not ‘flood risk’.

6.1 (p. 102/232) – Contains some inaccuracies in relation to responsibilities and the flood risk legislation we suggest it should be redrafted to reflect:

- The Flood Risk Regulations (2009) transposed the EU Flood Directive (2007/60/EC) into domestic law.
- These regulations require designated Lead Local Flood Authorities (LLFAs) to prepare Preliminary Flood Risk Assessments (PFRA) which identify Flood Risk Areas (FRA).
- If a LLFA is located within a designated FRA they must then produce flood hazard and risk maps covering local sources of flood risk (groundwater, ordinary watercourses and surface water).
- Flood Risk Management Plans (FRMPs) have to be produced by LLFAs in FRAs to cover local sources and the Environment Agency must produce them to cover Main River, the sea and reservoirs.
- The Environment Agency must produce flood hazard and risk maps for Main Rivers, the sea and reservoirs.

6.4.1 (p. 109/232) – We suggest this section contains an omission. Under the heading ‘fluvial flood risk’ we suggest you add a bullet point relating to loss of floodplain storage.

(p. 113/232) We suggest section ‘ii) Fluvial flood risk impacts’ contains an omission. We suggest commentary is added to explain that compensatory floodplain storage may be required if the airport footprint is in a fluvial floodplain. This would need to be taken into account as part of any development.

Habitat Compensation

The study correctly highlights the constraints and issues identified by the Environment Agency in finding suitable compensatory habitat for the TE2100 plan

Cont/d..

and identify that scale and costs of habitat compensation for an Inner Thames estuary airport would be a magnitude of scale greater.

Study 1 estimates probable habitat creation costs by looking at a range of habitat creation projects that have already taken place, taking an average, and then increasing this slightly due to the size of the proposal. It is important to acknowledge that Environment Agency habitat creation projects, including managed realignment schemes are only agreed for government funding where the costs (including location, design and management) are best value.

Higher cost sites that have contamination issues, expensive infrastructure such as pylons are generally ruled out and avoided to keep costs to the minimum necessary to achieve our compensatory habitat requirements. This represents best value for the public.

The scale of the compensatory habitat that would be necessary, given the size of the airport, the bird strike management, infrastructure, housing, and massive change to the geomorphology of the River Thames, is going to be at the higher end of the predicted range in study 1, and therefore the project would not be in a position to be 'selective' about locations for the replacement habitat.

It is reasonable to assume that replacement habitat costs are unlikely to be at the lower or medium end of habitat creation, but will probably be at the higher end of the spectrum. In addition much of the potential areas for habitat creation lie adjacent to existing internationally important designations and the proposed locations may already act as functional habitat used by SPA birds, and other wildlife of the European Sites, for example as high tide roosts.

Whilst assessing and costing the creation of new inter-tidal and grazing marsh habitats, we do not believe study 1 has answered the question of whether it's feasible to adequately replace the European designated sites within the Thames Estuary. Given the vast scale of the airport and its impact, determining if this is feasible will require far more extensive studies and planning. Even if it were possible to compensate for the damage to the European Protected sites, delivering established compensatory habitat, and then the airport by 2030 will be extremely challenging.

Risk of Bird Strike and compensatory habitat

The Operational feasibility report (study 2) highlights that this site would have the highest bird strike risk of any airport in the country and that substantial bird strike prevention work would be required. This level of risk does not appear to have been translated into the environmental report (study 1). The minimum levels of compensatory habitat that the environmental report (study 1) quotes are unlikely to be compatible with what is actually required. We suggest that the emphasis of the environmental report (study 1) should focus the discussion on the higher levels of compensatory habitat requirements, as these would be the most likely scenario.

Water Framework Directive

Section 5, (including Table 5.1 : Water Framework Directive Information for Water Bodies within the Study Area).

We believe Water Framework Directive risks may not have been accurately estimated in this section, given that the Thames Middle Water Body appears to be

absent from Table 5.1 and the summaries, and impacts on Bathing Waters and Shellfish Waters have been omitted.

There is an omission in Table 5.1, which would benefit from the Airports Commission's reconsideration. To resolve the omission we suggest that the Water Body named 'Thames Middle' with a Water Body ID GB53060311402 is added to the table within the rows under the heading of 'Estuarine', with the appropriately associated information.

There is also some confusion over how the Water Framework Bodies and boundaries are described in section 5 '(iii) Natural Sedimentary Processes'. The last paragraph contains the sentence:

"In the Lower estuary (seaward of Barking) the sub-tidal channel has deepened and narrowed in the 20th Century with a corresponding gain in inter-tidal areas."

Barking lies within the Water Framework Directive Water Body Thames Middle. The middle /lower water body division is a point immediately below of the mouth of Mucking Creek (on the Essex side) and to a point just east of Lower Hope Point on the Kent side (about 500m East of the lighthouse if you follow the shoreline). It would be helpful if the Airports Commission reconsidered how the water bodies and their boundaries are described in this section of the report.

We believe it is important to resolve these issues relating to the water body boundaries to make sure water quality impacts are fully considered. During construction the impacts on fisheries and spawning habitats, as described for the Thames Lower Water Body, could extend into the Thames Middle Water Body.

We believe for the Airports Commission to fully capture the issues relating to the Water Framework Directive the study should also consider the impacts on Bathing Waters and Shellfish Waters. We provide some information on these issues below:

Bathing waters and beaches

The designated bathing beaches in the estuary are also protected elements of Water Framework Directive and are receptors for water quality impacts. Any proposed discharges from an airport development would need to be modeled and assessed taking into account the complex hydromorphology of the estuary.

For example mats of decaying seagrass from the extensive seagrass beds along the northern shore are known to be deposited on the southern shore; there is some evidence that material does cross the channel perpendicular to the main axis. The hydromorphology suggests potential impacts are not confined to just the southern shore. As such potential bathing beach contamination and associated economic impacts of bathing water failures and beach closures should be considered.

Shellfish waters

The Thames estuary is an important shellfish water and the impact of the airport upon this fishery will need to be assessed. Protection of shellfish is now incorporated within the Water Framework Directive and it is likely that shellfish waters will have activity based limits for protection of suspended solids applied.

Fisheries & Biodiversity

Cont/d..

In terms of fisheries and biodiversity, study 1 does not take into account the additional house building requirement for moving 75 000 employees (study 2) to the North Kent area from Heathrow, which is a fundamental element of any Inner Thames estuary proposal. The requirement for the airport to be operational would be to have employees located locally to cater for a four runway airport. This should be taken into account and addressed together with the required additional infrastructure for those employees (such as, schools, hospitals and roads).

Additional homes and businesses associated with employees of a new airport development will create a further environmental impact in terms of visitors and indirect pressures on the surrounding estuary and potentially other nearby European and nationally protected nature conservation sites. The report may also benefit from considering the potential for the Thames estuary to be designated as a Marine Conservation Zone.

Fisheries

We believe the study does not fully explore the potential impacts on the Thames Estuary's commercial and recreational fisheries.

Eel and smelt are among the many fish that now breed in the River Thames. Despite the heavy activity on its banks and bed, the Thames estuary, from Richmond to the wider mouth at Southend and Grain, provides critical spawning and nursery grounds for fish including Dover sole, salmon, flounder, cod, herring, sprat, twit shad and both river and sea lampreys. In addition rare species such as the short-snouted seahorse and tentacle lagoon worm are also found here.

When discussing the economic value of the fisheries, study 1 does not include the bass fishery, both as an important nursery area and as both sport and commercial fishing interests.

European Protected Species and Nationally Protected Species

It is stated that the protected species *Alkmaria romijni*- the tentacled lagoon worm is present in the Medway Estuary. However study 1 fails to mention that the most significant population of this species is actually present in the Thames estuary at Greenhithe. This population has been surveyed on two occasions and was found within a relatively short length of the estuary and was presented as evidence for the THAMES MCZ proposal. The Medway populations are more disperse and probably less vulnerable than the Thames population.

Seagrass

Section 4 and table 4.7

The extensive seagrass beds on the north bank of the estuary around Leigh do not seem to be included in the inventory of impacts ecological features.

For example Two Tree Island, adjacent to Leigh Creek accounts for over half (>100 ha) of all the Thames estuary seagrass, and Leigh has significant resources (~ 30 ha). The Environment Agency holds this data and surveys the beds as a WFD classification tool element.

The Leigh/Canvey seagrass areas have very important connections with the grazing food resource for the designated wildfowl (particularly geese). We are not aware that seagrass beds have ever been successfully re-created so creating the exact conditions for re-establishment of seagrass (if lost and needing compensation) is likely to be challenging.

Cont/d..

Dredging

p89/232 – This section may benefit from further consideration. The section quotes 30 million cubic metres as an annual maintenance dredging requirement.

There may be benefit in cross referencing this figure with the Port of London Authority as it is similar to the volume of capital dredging for the London Gateway Port; the annual maintenance dredging is an order of magnitude lower. The scale of dredging will obviously influence the impact on the environment.