



**Transcript of Oral Contribution to
Issue Specific Hearing 7 (ISH7) Parts 1 and 2
on Biodiversity and Ecology**

**for the
Royal Society for the Protection of Birds
and Suffolk Wildlife Trust**

**Submitted for Deadline 5
23 July 2021**

Planning Act 2008 (as amended)

In the matter of:

**Application by NNB Generation Company (SZC) Limited for an Order
Granting Development Consent for
The Sizewell C Project**

**Planning Inspectorate Ref: EN010012
RSPB Registration Identification Ref: 20026628
Suffolk Wildlife Trust Registration Identification Ref: 20026359**

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Transcript of oral contribution to Issue Specific Hearing 7 on Biodiversity and Ecology, Parts 1 and 2

1. Part 1, agenda item 2: Terrestrial ecology

(a) Duties under ss.28G and 28I of the Wildlife and Countryside Act 1981

- 1.1. We appreciate that our point was made at the end of ISH7, Part 2 but thought it would be helpful to include here in line with the Agenda's order.
- 1.2. We are grateful to the Applicant for confirming it can produce a note to be clear on what may be involved in ensuring section 28G duties are fulfilled by Secretary of State. We are keen to add to that note the general duties under the Conservation of Species and Habitat Regulations 2017 as set out in the RSPB/SWT WR paras 4.41- 4.42 – specifically
- 1.3. Regulation 10 and the need to take such steps as consider appropriate in exercise of their function to
 - 10(3) preserve, maintain and re-establish sufficient diversity and areas of habitats for wild birds to maintain the population of bird species) including by means of the upkeep, management and creation of such habitat, as appropriate;
 - 10(7) Appropriate account must be taken of economic and recreational matters; and
 - 10(8) In addition Comp authorities must use all reasonable endeavours to avoid any pollution or deterioration of wild bird habitats

(b) The Sizewell Marshes SSSI

i. the SSSI crossing

- 1.4. We would like to reference Suffolk County Council (SCC) and Natural England (NE) on the good points they have made. In terms of impact from the current proposal and 3 span bridge our current concerns relate to the increased fragmentation of habitats. It's not just about land take. We believe the current proposals will result in greater fragmentation not just for bats but for Sizewell Marshes SSSI and the Minsmere nature reserve to the north.
- 1.5. We are also about increased fragmentation of habitats for bats and connectivity of Sizewell Marshes SSSI to Minsmere to the north.
- 1.6. In reference to EN-1¹ and EN-6² requirements to avoid and minimise loss and disturbance through careful site layout and design³ in our view the 3 span bridge is the preferable option as set out in

¹ Department of Energy and Climate Change (2011) Overarching National Policy Statement for Energy ([EN-1](#))

² [Department of Energy and Climate Change \(2011\) National Policy Statement for Nuclear Power Generation \(EN-6\) Volume II of II - Annexes](#)

³ For example "3.30 With the National Policy Statement for Nuclear Power Generation (EN-6) 19 providing more clarity on considerations and requirements specifically in relation to the Application, paragraph C.8.63 The Appraisal of Sustainability identified the potential for the mitigation of biodiversity effects on sites of UK wide conservation importance (Sizewell Marshes SSSI), including the creation of replacement habitat. The Appraisal of Sustainability notes that developers could avoid or minimise losses and disturbance to protected species through careful site layout, design, routing, location of the development, associated infrastructure, and construction management and timings. The Appraisal of Sustainability finds that there is potential for habitat creation within the wider area in order to replace lost 'wet meadows' habitats of the Sizewell Marshes SSSI, but also finds that it may not be possible to fully compensate for

our Written Representations submitted at Deadline 2⁴.

- 1.7. The other point I'd like to make is the treatment of temporary loss and again just referencing the comments made by Mr Bedford, SCC on not having clarify on the relative difference between 3 span and proposed bridge and the difference in the so-called temporary loss between the options. 3.02ha are due to be lost under this temporary banner and our point is actually there is a high degree of uncertainty over whether this will be temporary loss given the length of operation and the time the SSSI will need to be covered to allow tracked vehicles to help with the construction of the crossing.
- 1.8. We believe there is a high degree of risk that the land subject to this temporary loss will never recover back to its former state and to a level that would be deemed high enough quality for SSSI status. We believe there is a risk that all temporary losses totalling 3.02ha will become permanent loss in terms of quality not just in the areas around the SSSI crossing, but also to the west of the main platform.
- 1.9. We're not saying 10 years is not temporary but we are saying the severity of impact from tracked vehicles is so great that we believe there is a high risk it will end up being permanent and whilst it won't be covered permanently in concrete or a causeway the vegetation will not recover to its former state.
- 1.10. Our concerns are detailed in our Written Representations submitted at Deadline 2⁵.

[ii. fen meadow replacement, mitigation, monitoring and fallback](#)

- 1.11. To add to the comments by Jack Haynes, NE referencing the uncertainty of creating M22 and some of the sub communities below M22 and lack of peer reviewed literature in UK habitats. The replacement ratio is a reflection of the uncertainty of recreating habitat in any meaningful way. The Applicant may well replace them as a shadow habitat but as a full reflection of the depth and biodiversity of what is lost there is a large amount of uncertainty there. The high ratio is a reflection of the loss of functionality. The compensation sites are some way away from where the loss is occurring and if you created compensation on a like for basis even if you could achieve it with a good enough water quality, the risk is you lose the functionality of the community so providing a bigger and more robust replacement habitat helps provide confidence on that.
- 1.12. My final point is, the feasibility surveys on recreating the compensation sites will not be expected until after the DCO so I do wonder whether the Applicant can come up with reliable financial quantum in time for the Examination.
- 1.13. The Fen Meadow Plan Report 1 Baseline Report⁶ submitted at deadline 3 states ecology field surveys for Pakenham will be completed in 2021 and water monitoring will continue for 12 months at each site. In section 2.2, the Applicant states for the Benhall and Halesworth sites *Monitoring will continue for a period of 12 months from November 2020 to further develop and refine this conceptual site model* (paragraph 2.2.3 and 2.2.5). For the Pakenham site, the Applicant

losses of this habitat. The Applicant will need to develop an ecological mitigation and management plan to minimise the impacts."

⁴ Paragraphs 3.21 – 3.30 & 3.46 to 3.49 of our Written Submission for the Royal Society for the Protection of Birds and Suffolk Wildlife Trust [[REP2-506](#)]

⁵ Paragraphs 3.1-3.93 of our Written Submission for the Royal Society for the Protection of Birds and Suffolk Wildlife Trust [[REP2-506](#)] specifically temporary loss 3.50 – 3.59

⁶ Fen Meadow Plan Report 1 Baseline Report - Part 1 of 2 [[REP3-051](#)] and Fen Meadow Plan Report 1 Baseline Report - Part 2 of 2 [[REP3-052](#)]

states *Monitoring will continue for a period of 12 months from April 2021 to further develop and refine this conceptual site model* (paragraph 2.2.7).

- 1.14. We will provide further comment on this and other feasibility studies submitted⁷ when the detailed plans and further feasibility studies are submitted to the Examination.

[iii. wet woodland and other flora and fauna by reason of which it is of special interest](#)

- 1.15. The concerns outlined in our written representations⁸ remain.

[iv. Water level monitoring](#)

- 1.16. The Suffolk Wildlife Trust has been managing the Sizewell Marshes SSSI for many years, decades in fact, we obviously have an intimate knowledge how the system works. A lot of the discussions have been on water levels but actually from our understanding of how to manage the site and also the ecology of the fen habitat, particularly the nationally rare M22 fen habitat, actually it is water quality that is fundamental to the ecology rather than water level. We have spent many years on the site effectively trying to separate the drain water system from the groundwater system within the fen itself and separating that connectivity basically helps retain the high water quality coming from the ground into the peat that then helps drive the botanical diversity within the fen. From our understanding of the mitigation provided by the Applicant, what the proposals will potentially put at risk is raising the water level so they will be able to create consistent water level with the historic baseline. But by doing that they are risking in our view increasing the influence of surface water within the fen at the expense of the high-quality groundwater and that's where our concern is. Our concern is water quality not water level because we do agree with the Applicant that they are able to maintain water level.
- 1.17. It's difficult to separate the groundwater from the surface water but effectively what we need is a system that retains the water in ditch because then the groundwater is then able to influence the fen in a more effective way. The ditch water is downstream from Leiston sewage treatment works so it's pretty high in nitrates and a lot of the really rare plants need very low nutrient water. So our feeling is that the mitigation proposed does risk the SSSI and those changes generally take a long time.
- 1.18. There is some hydrological connectivity between the ditches and the groundwater, in terms of the detail I would defer to Dr Rob Low the hydrologist who works for FoE. However it is a fine balance and at the moment the rarer plants, particularly as I said the M22 do rely on a high degree of influence from the groundwater so it's not mutually exclusive, there is interaction and it's the balance that might change and that's where the risk is I think.
- 1.19. M22 is one of the fen meadow community types.
- 1.20. I would like to defer to Dr Rob Low if he has anything to add if that is possible.
- 1.21. We refer to Friends of the Earth and their experts (Dr Rob Low, Dr David Mould, Jonathan Graham) written submission to D5: WRITTEN SUBMISSION OF ORAL CASE (ISH7) and EXPERT COMMENTS on the Applicant's response to FoE's Written Representation.

⁷ Fen Meadow Compensation Study 2018 Phase 1 Report submitted at Deadline 4 [[REP4-007](#)]

⁸ Written Submission for the Royal Society for the Protection of Birds and Suffolk Wildlife Trust [[REP2-506](#)]

(c) Minsmere – the marsh harrier, including the proposed HRA Compensatory Measures for the marsh harrier qualifying feature of the Minsmere-Walberswick SPA/Ramsar, and discussion of the proposed CM at Upper Abbey Farm (including proposed wetland habitat as detailed in REP2-119 and proposed management and monitoring measures), together with the Westleton compensatory habitat.

1.22. Our full position regarding impacts on marsh harriers of the Minsmere-Walberswick SPA and the adequacy of the proposed compensation is set out in our Written Representations⁹, and we look forward to the Applicant’s response to those points at Deadline 5.

1.23. With regard to the discussion of the wetland habitats proposed at Lower Abbey Farm, we agree with the statement that wetland habitat typically provides optimal habitat for foraging marsh harriers. However, although we welcome the principle of the provision of wetland habitats (open water and reedbed) within the compensatory habitats at Lower Abbey Farm, we are concerned about the timing of their creation. At the moment, it is proposed to create that wetland habitat in the first winter of the construction period, although this could stretch into a second winter of construction, which means that this part of the compensatory habitats will not be functional during part of Phase 1 of the construction period when impacts are greatest. This means that the area of compensatory habitats that will be functional is significantly less than the 48.7 hectares that has been proposed. Given our concerns about the limitations of this area, we recommend that the construction of the wetland habitats is brought forward so that these habitats are functional by the time construction starts.

1.24. We also briefly commented on the TEMMP [REP1-016] (DCO, Sch 2, requirement 4). Whilst appreciating the Applicant’s update on a new DCO requirement 14C on the marsh harrier compensation requirements and we look forward to reviewing it, we keen to briefly raise two points – whether for the TEMMP or new 14C -

- We are keen to ensure references to the Marsh Harrier Feasibility study and other reports produced including the Applicant’s Marsh Harrier report submitted at D2 (**REP3-074**) and the implementation plan to come (although as we have covered, we have concerns with the proposals) within any requirements to ensure the details they contain are also captured.
- Currently the TEMMP page 27 states “in broad accordance with” and we wish to flag that there could be a difference with “in general accordance with” and definition for that phrase being discussed currently. Although we are not commenting specifically keen not flag that a different phrase is being used

“Marsh Harrier compensatory habitat area

*3.2.3 An area at the northern end of the EDF Energy estate... create compensatory habitats for foraging marsh harriers. The habitat enhancement is being **undertaken in broad accordance with** the Marsh Harrier Mitigation Area Feasibility Report [APP-259] as updated by the Marsh Harrier Habitat Creation Report updated version (in prep) and includes rough grassland, hedgerows, scrub plantings and a new 3ha wetland area.”*
(emphasis added)

⁹ Paragraph 3.366 – 3.489 of the Written Submission for the Royal Society for the Protection of Birds and Suffolk Wildlife Trust [REP2-506]

As raised by the ExA during the hearing, we are also concerned regarding the question of what happens if marsh harriers do not use the compensation site and will comment further once the Applicant provides more on this.

(d) HRA

[i. To understand the differences between Interested Parties \(IPs\) and the Applicant on the Applicant's conclusion of no adverse effects on integrity \(as presented in the Shadow HRA Report and addendums\) for the following matters: Disturbance/displacement effects on breeding and non-breeding waterbirds using functionally-linked land to Minsmere-Walberswick SPA/Ramsar due to noise and visual disturbance](#)

- 1.25. We support the comments of Natural England and would like to add two further explanatory points.
- 1.26. Firstly, to expand on the evidence regarding functional linkage, we note that there is quite a bit of movement of breeding and wintering gadwall and shoveler between sites within the Minsmere-Walberswick SPA and nearby sites such as the Minsmere South Levels and Sizewell Marshes. This will partly depend on, for example, water levels on these sites and where birds are finding optimal conditions. Birds might breed in the SPA one year and just outside the SPA in the next year. The South Levels in particular are directly contiguous with the SPA and they are managed as part of the RSPB Minsmere reserve. It is also worth noting that Natural England's Supplementary Advice on the Conservation Objectives for the Minsmere-Walberswick SPA refers to management of the South Levels¹⁰. The Chapman and Tildesley report for Natural England includes a description of the Heysham to M6 link road¹¹ that mentions a case where fields near an SPA were used by breeding birds and functional linkage was concluded, following a similar principle to the link between the Minsmere-Walberswick SPA and birds breeding on the South Levels here.
- 1.27. The second point was about the distributional data provided by the Applicant for breeding birds. Again, we're concerned that only one year of distributional data has been provided which, potentially along with the methodology used for those surveys, means that birds that breed in ditches and longer vegetation away from the main pools on the South Levels might not have been represented in those data. Due to the limited data available, the Applicant has assumed an even distribution of gadwall and shoveler on the South Levels for the purposes of impact assessment. Although the Applicant states this is precautionary, we think that is a reasonable assumption to make in the absence of adequate distributional data.
- 1.28. Finally, we agree with the conclusions of Natural England, that the levels of displacement predicted are significant for breeding birds (11% for breeding gadwall and 7% for breeding shoveler) and for wintering birds (around 4% displacement predicted). We agree that it is not possible to rule out adverse effects on integrity in those cases. In our view, there is a need for a robust monitoring and mitigation plan to be proposed.

¹⁰ [Natural England Supplementary Advice on Conservation Objectives \(SACOs\) - Minsmere-Walberswick SPA](#). Please note once webpage opened you have to select the species of interest and then select option to show *attributes and targets for selected features*. It does not appear to be possible download the entirety of the Supplementary Advice to provide page numbers

¹¹ Case E.20 in [Chapman, C. & Tildesley, D. \(2016\) Functional linkage: How areas that are functionally linked to European sites have been considered when they may be affected by plans and projects - a review of authoritative decisions. Natural England Commissioned Reports, Number 207](#)

ii. To understand the differences between IPs and the Applicant on the effects of recreational pressure on European sites and to discuss the monitoring, mitigation and management proposed to conclude no adverse effects on integrity

- 1.29. Our main comments on the assessment methods for recreational pressure are set out in our Written Representations¹², but we would like to update on progress since the start of the Examination, and since our Statement of Common Ground with the Applicant was produced. We have welcomed the production of the Minsmere Monitoring and Mitigation Plan¹³ and we've been pleased to see that some of our recommendations about monitoring locations and types of mitigation measures have been included. We made some further comments around the development of that plan at Deadline 3¹⁴. As the Applicant mentioned, we have also had some helpful further discussions.
- 1.30. There are some issues that still require development within that plan, for example:
- the scope of the monitoring - the habitats covered and timescales for monitoring
 - the process to implement the additional mitigation measures in a timely manner
 - the scope of the wardening roles that are proposed - responsibilities, geographic deployment and resourcing levels.
- 1.31. We are also looking forward to seeing the Alde-Ore Estuary and Sandlings (South) SPAs monitoring and mitigation plan that the Applicant has mentioned and will provide further comment once that has been submitted.
- 1.32. Our main area of difference, and we support Natural England strongly on this point, is around the provision of Suitable Alternative Natural Greenspace (SANG). As Natural England mentioned, the proximity of large amounts of construction worker accommodation to sensitive parts of designated sites means that we are quite concerned about the potential for impacts. There is not currently a large amount of housing in that area so could represent a significant additional impact. We consider that the provision of SANG is an important stage of the mitigation hierarchy because it avoids or reduces the impact rather than mitigating it, which is the next stage of the hierarchy.
- 1.33. We are also concerned that the Applicant has made statements that construction workers probably do not fit the profile of typical recreational users of designated sites, and that most workers will not have dogs, so they are not expecting significant impacts. However, we are concerned that, given the profile of the workforce, there may be an interest in more active or sporting recreation. The Suffolk coast is a popular destination for sports like mountain biking and watersports, and those could be attractive to the construction workforce and could involve sensitive parts of designated sites. So again, we do support Natural England's comments that SANG should be used to reduce those impacts.
- 1.34. In addition we raised the issue of securing the Minsmere Monitoring and Mitigation Plan¹⁵ (and the Sandlings (south) and Alde-Ore Monitoring and Mitigation Plan – once produced) and how currently, references to it are made within the TEMMP¹⁶. Again we are aware both plans are being

¹² Appendix 2 of the Written Submission for the Royal Society for the Protection of Birds and Suffolk Wildlife Trust [[REP2-506](#)]

¹³ Minsmere Monitoring and Mitigation Plan [[REP2-118](#)]

¹⁴ Comments on Other Submissions (submitted at Deadline 2) by the Royal Society for the Protection of Birds and Suffolk Wildlife Trust [[REP3-074](#)]

¹⁵ Minsmere Monitoring and Mitigation Plan [[REP2-118](#)]

¹⁶ Terrestrial Ecological Monitoring and Mitigation Plan [[REP1-016](#)], as secured by the draft DCO, Sch 2, requirement 4

updated and are grateful to the Applicant for discussions and offer of more. However we did wish to raise briefly that we have residual concerns about the level of detail and concerns about the clarity and adequacy of measures being secured via the TEMMP as are not as securely tied as if the Minsmere MMP was specifically mentioned within the DCO.

(e) Protected species

Bats

1.35. We have provided the following in our deadline 5 submission:

- comments on the Technical note on indicative lighting modelling¹⁷ submitted at Deadline 3
- comments on the Applicant's Comments on Written Representations for bats

1.36. We are working closely with James Meyer, ESC and support his submissions on bats.

Natterjack toads

1.37. The locations of existing ponds are shown on Figure 14 C7B.2 within the Natterjack Toad Survey Report 2020¹⁸. The natterjack toads are restricted to pond N1. There needs to be far better links with ponds N3 and the excellent RSPB Minsmere pond, N4. This is critical in providing resilience to the population that is already on an ecological knife edge.

1.38. We welcome confirmation from the Applicant that the revised layout for the Water Management Zone (WMZ) in Retsom's will be submitted into the examination at D5. We understand the new WMZ will avoid the hibernation areas, but far better complementary mitigation is still required.

1.39. Habitat improvement would be needed on a 200m corridor running from N1, to N3 and N4.

1.40. The current proposals are really more suited to generic amphibian requirements and there are a number of other proposals that we are concerned about. For details, please refer to our written submissions¹⁹, but some of the key points include:

- The proposed linear feature²⁰ is unlikely to have any effect on connectivity. Natterjack toads are more likely to disperse over flat grassland, were it to be of a suitable sward, than to use a linear mound for dispersal; it is a feature that would be more suitable to other species of amphibians. The feature would, however, create terrestrial refuge opportunities if well-constructed but improvements to connectivity would need to supplement this feature.
- More detail on the specifics of the management of the surrounding area is required to understand how the landscape surrounding the ponds, from N1 up to N4 will be improved. For example, type and numbers of grazing animals. In addition, the newly created ponds will need to be well designed, with shallow margins, and be maintained so that aquatic vegetation, competitors and predators do not proliferate. In effect, measures have not been suggested as to how there will be continued provision of suitable breeding habitat.

¹⁷ Technical note on indicative lighting modelling [[REP3-057](#)]

¹⁸ Additional Ecology Baseline Survey Reports Part 1 Natterjack Toad Survey Report 2020 Figure 14 C7B.2 [[AS-021](#)]

¹⁹ Written Submission for the Royal Society for the Protection of Birds and Suffolk Wildlife Trust [[REP2-506](#)] 3.763-3.795

²⁰ SZC_Bk6_ES-V2_Ch14_Terrestrial_Ecology_Ornithology_Appx14C_Protected_Species.pdf – pdf pg 343, para 1.4.8 (doc pg: V2, C14, App 14C7A Natterjack Toad Mitigation Strategy pg 13) [[APP-252](#)]

- In setting out any plans for new lined ponds, it has not been recognised that they have a finite lifespan, typically 20 years, though this can be much shorter depending on materials and local conditions. Therefore, a programme of pond restoration and creation needs to be in place.
- Presently the proposal is that a single new pond would be created, and that this would effectively generate new terrestrial habitat. However, the terrestrial habitat in the field where the pond is proposed to the north is currently poor for natterjack toads, largely because the vegetation is rank. There is no meaningful mention of how the new breeding pond and terrestrial habitat would be maintained in suitable condition for natterjack toads after construction. Therefore, there is a lack of confidence that sufficient terrestrial habitat would in fact be created and maintained.
- Poor habitat to the north is further illustrated by the fact that N3 to the north has not yet been colonised; this is likely because of the small source population, distance to that source but also because of the poor surrounding terrestrial habitat. These issues would not be sufficiently addressed by the EDF proposals for the new pond, N5. However, it is in principle a sensible idea to create a “stepping stone” pond between N1 and N4 but more needs to be done to ensure the surrounding habitat is suitable.
- A cluster of ponds of slightly differing profiles would be more appropriate than a single pond. This would increase the chance that in any one year suitable breeding habitat would be available, buffering against changes in environmental conditions. Habitat creation should involve a network of at least four new ponds, with slightly differing profiles and designed to provide good breeding habitat for natterjack toads. These should be sited in Retsom’s Field, around the location currently proposed for N5, providing breeding opportunities between the existing breeding pond and N4.

2. Part 2, agenda item 3: Marine ecology

(a) HRA, European and other designated sites

[ii. HRA, European and other designated sites - Birds - Disturbance/displacement of the red-throated diver qualifying feature of the Outer Thames Estuary SPA due to vessel movements/traffic](#)

- 2.1. Given our concerns around the number of vessel movements expected, primarily during the construction period and resulting disturbance of non-breeding red-throated divers, we support the comments of Natural England that adverse effects on integrity of the Outer Thames Estuary SPA cannot be ruled out at this stage. We would like to draw attention to the Supplementary Advice on Conservation Objectives for this site²¹, which note the vulnerability of red throated diver to disturbance by boats and the strong stress response exhibited by birds in response to such disturbance by marine activity and construction. With regard to monitoring and mitigation, we do not agree that it is clear that impacts can be mitigated at this stage, but we welcome the Applicant’s commitment to develop a vessel management plan²². This should be incorporated into a wider Marine Monitoring and Mitigation Plan, which should include the confirmed vessel

²¹ [Natural England Supplementary Advice on Conservation Objectives \(SACOs\) – Outer Thames Estuary SPA](#). Please note once webpage opened you have to select the species of interest and then select option to show attributes and targets for selected features. It does not appear to be possible download the entirety of the Supplementary Advice to provide page numbers

²² As stated in paragraph 11.21.23 of the Applicant’s comments on Natural England’s Written Representations in [REP3-042](#)

corridor, noting that only an indicative corridor has been provided so far²³. It should also include a calculation of uplift in vessel activity, commitments regarding best practice with regard vessel movements, details of vessel activity by season and details of how any restrictions on activity that might be required could be managed and enforced.

- 2.2. We note that limited monitoring has been provided for in the TEMMP²⁴. We consider this unlikely to be effective because it relies on boat-based observations. Mendel *et al.* 2019²⁵, suggest red-throated divers are flushed by boats at up to five kilometres distant, whilst the Applicant quotes two references stating an escape distance of between 400 and 1400 metres²⁶. In either case, birds are likely to be flushed at too great a distance to be observed from boats or may have avoided the area entirely due to boat presence. We therefore consider that the use of boat-based surveys would mean that birds might not be detected. Irwin *et al.* 2019²⁷, who surveyed the Outer Thames Estuary SPA describe in their report the “*known bias resulting from red-throated divers avoiding boats... leading to under recording*” when using boat-based survey methods. Section 6.1 of this report describes the recommended aerial survey techniques typically now used instead of boat-based surveys.
- 2.3. With regard to in combination effects in relation to red throated diver, the construction of Sizewell C could coincide with construction and operation of several offshore wind farms in the southern North Sea and we think that in-combination disturbance and displacement of red throated diver is therefore likely. We explained in our Written Representations²⁸ our view that there is a need to assess the sum total of disturbance impacts affecting red throated divers at the Outer Thames Estuary SPA in the same way as for an offshore wind farm.
- 2.4. Finally, as an additional point, going back to the Application alone, the combined marine impacts are of significant concern to us. These are the effects on birds and their prey from dredging, piling and vessel movements, impingement and entrainment of fish, the thermal bromoform and hydrazine plumes, increased organic matter from the discharge of dead and dying fish, increased suspended sediment concentrations and the resulting total displacement of marine birds. We do not think these total effects have been fully considered. These impacts could be significant, particularly for red-throated diver of the Outer Thames Estuary SPA, but also terns of the Minsmere-Walberswick and Alde-Ore Estuary SPAs. A particular issue concerns those impacts that have not been considered significant individually by the Applicant; we do not agree that proper consideration has been given to their potential to contribute to a significant total project effect. Again, we are concerned that it is not clear that these impacts could be adequately mitigated.

²³ Fig. 8A.12 in Shadow HRA Report Addendum Appendices 1A-10A Part 5 of 5 [REP4-004]

²⁴ Table 2.2 of Terrestrial Ecology Monitoring and Mitigation Plan [REP1-016]

²⁵ [Mendel, B., Schwemmer, P., Peschko, V., Müller, S., Schwemmer, H., Mercker, M. & Garthe, S. \(2019\) Operational offshore wind farms and associated ship traffic cause profound changes in distribution patterns of Loons \(*Gavia spp.*\), *Journal of Environmental Management*. 231: 429-438.](#)

²⁶ Paragraph 11.21.22 of the Applicant’s comments on Natural England’s Written Representations in [REP3-042]

²⁷ [Irwin, C., Scott, M., S., Humphries, G. & Webb, A. \(2019\) HiDef report to Natural England - Digital video aerial surveys of red-throated diver in the Outer Thames Estuary Special Protection Area 2018. Natural England Commissioned Reports, Number 260.](#)

²⁸ Paragraphs 3.608 to 3.609 of the Written Submission for the Royal Society for the Protection of Birds and Suffolk Wildlife Trust [REP2-506]

(b) Cooling water system, acoustic fish deterrents

Impacts of the cooling water system

- 2.5. Our main concern is the potential for effects on bird predator species from reduced prey availability arising from the total fish entrapment mortality from impingement and entrainment in the cooling water system. We support the Environment Agency's comments²⁹ on the limitations of the assessment that has been provided and in particular, want to note our concern about the level of mitigation achievable by the low velocity side entry intakes, again in support of the point made by the Environment Agency.
- 2.6. We are concerned that the ecological implications for bird species of the Minsmere-Walberswick, Outer Thames Estuary and Alde-Ore Estuary SPAs may not have been adequately assessed as a result of these limitations. The Environment Agency gave an example illustrating their concerns using smelt in their Written Representations³⁰ and explained that, when considering that assessment, they would not be able to rule out the collapse of the smelt population. Given that declines in fish populations can have significant effects on breeding tern colonies, we are concerned that long term depletion in fish populations could result in the loss of colonies or changes in bird distribution. As an example, Jennings (2012)³¹, discussed the collapse of a sprat population due to fishing and the subsequent decline in common terns breeding in eastern Scotland, noting that there was a long recovery period for the tern populations even after fishing ceased. We are therefore significantly concerned that fish mortality arising from the cooling water system could have significant effects on bird populations of the Minsmere-Walberswick, Outer Thames Estuary and Alde-Ore Estuary SPAs.

Acoustic fish deterrents

- 2.7. We strongly support Natural England and the Environment Agency's comments and do defer to them on the technical details of this issue. Given the importance of the fish species affected, particularly herring and sprat, which are key prey species for terns and red-throated divers of the Outer Thames Estuary, Alde-Ore Estuary and Minsmere-Walberswick SPAs, and the short foraging range of tern species, we feel there is a need to understand whether further mitigation of fish mortality is possible. Therefore, we request that further assessment is provided showing the level of fish mortality both with and without an acoustic fish deterrent to show the level of mitigation that would be achievable.

(e) Fisheries, fish stocks, equivalent adult values, Sabellaria spinosa

Entrainment of glass eels – additional information not presented in hearing

- 2.8. We wish to note our concerns regarding impingement and entrainment of glass eels, as stated in our Written Representations³² and to highlight that this has implications for the Habitats Regulations Assessment due to the importance of glass eels in the diet of bittern, a feature of the Minsmere-Walberswick SPA.

²⁹ Paragraphs 8.7 – 8.34 of the Environment Agency's Written Representations [[REP2-135](#)]

³⁰ Paragraphs 8.35 – 8.43 of the Environment Agency's Written Representations [[REP2-135](#)]

³¹ [Jennings, G., McGlashan, D. J. and Furness, R. W. 2012. Responses to changes in sprat abundance of common tern breeding numbers at 12 colonies in the Firth of Forth, east Scotland. – ICES Journal of Marine Science, 69: 572–577](#)

³² Paragraph 3.534 of the Written Submission for the Royal Society for the Protection of Birds and Suffolk Wildlife Trust [[REP2-506](#)]

Equivalent Adult Values – additional information not presented in hearing

- 2.9. We defer to the expertise of the Environment Agency on the detail of this topic. However, we wish to note that as juveniles of some fish species are taken by predatory birds, basing the assessment purely on equivalent adult values could underestimate impacts on designated sites, as explained further in our Written Representations³³.

3. Procedural points made at the end of ISH7 Part2

- 3.1. In addition to the documents listed in the Rule 8(3) letter amended timetable excluding the helpful signposting documents the Applicant has offered to provide we believe
- there are a further 15 documents containing new information being submitted at D5 (including responses to parts of our written representations submitted at D2) with further new documents having been mentioned during the ISHs, with only 10 working days to respond by D6; and
 - a further 11 docs again containing new information being submitted at D6 with only 20 working days to respond by D7
- 3.2. We would like to request the Applicant produce a list of all the new documents and information additional to the Examination timetable that will be coming in at D5 and D6 and at least an indication of further documents coming in at other deadlines and to briefly flag, whilst some parts will not be entirely new to us, our concern about the limited time to comment.

³³ Paragraphs 3.530 – 3.531 of the Written Submission for the Royal Society for the Protection of Birds and Suffolk Wildlife Trust [[REP2-506](#)]