



The Sizewell C Project

6.3 Volume 2 Main Development Site Chapter 14 Terrestrial Ecology and Ornithology Appendix 14C8 Consultation Table

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Contents

1. Ecology Consultation Table	1
References	45

Tables

Table 1.1: Summary of consultation responses that have informed the scope and methodology of the terrestrial ecology and ornithology assessment	1
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Plates

None provided.

Figures

None provided.

1. Ecology Consultation Table

Table 1.1: Summary of consultation responses that have informed the scope and methodology of the terrestrial ecology and ornithology assessment (2018- 2019)

No	Consultee	Date	Comment	EDF Energy Response.
1	Suffolk County Council (SCC) and East Suffolk Council (ESC) joint response.	3 June 2019 (Workshop – Post meeting note response).	<i>“EDF Energy has acknowledged that much of the data is a few years old. We expect EDF Energy to provide a robust rationale and justification for the validity of any report which is based on older data if no updates are due to be provided. EDF Energy is expected to follow the CIEEM Guidelines on the Lifespan of Ecological Reports and Surveys to demonstrate the validity of its reports.”</i>	<p>The ecological survey work completed for the site has provided a robust and extensive baseline and demonstrates that the ecological habitats within the site and the surrounding area are stable with little change observed over the past 12 years of surveying. Few sites have been subject to the duration and extent of baseline surveys that have been undertaken at Sizewell. Furthermore and uniquely at the EDF Energy estate at Sizewell, many other surveys are undertaken annually on behalf of the company by Suffolk Wildlife Trust and others, including annual estate wide breeding bird surveys (to 2019) and natterjack toad counts (to 2019) which supplement the baseline gathered directly for the Sizewell C proposals.</p> <p>Site visits undertaken by qualified ecologists in 2018 and 2019 confirm that the habitats at the site and in the surrounding area have not materially changed since earlier surveys were undertaken. Therefore, it is considered that sufficient survey data exists to characterise the ecological baseline of the site and the Zone of Influence of the proposed development, and that no additional ecological surveys are required to inform the Environmental Impact Assessment (EIA).</p> <p>The principles of survey data outlined in the Chartered Institute of Ecology and Environmental Management (CIEEM) advice note are appropriate, although a critical point is <i>“subject to an assessment by a professional ecologist”</i>. It is our professional judgement that this work in totality allows a robust definition of the ecological baseline and the use of the landscape</p>

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No	Consultee	Date	Comment	EDF Energy Response.
				by the various species and species groups.
2	SCC and ESC joint response.	3 June 2019 (Workshop – Post meeting note response).	<i>“More data should be provided on certain species, particularly those that currently are very light on information (such as White Fronted Goose, Gadwall and Shoveler). These species are anticipated to use Sizewell Marshes so a summary of potential impacts and meaningful mitigation and compensation proposals will be required.”</i>	The ornithology baseline for the main development site has been finalised and is included as Appendix 14A7 and related annexes. Additional counts for Gadwall and Shoveler on Sizewell Marshes were undertaken in winter 2018-2019 to inform both the HRA and the EIA.
3	SCC and ESC joint response.	3 June 2019 (Workshop – Post meeting note response).	<i>“A number of the assessments of impacts (and therefore mitigation proposals) appear to be based on out of date red line boundaries. This potentially underestimates the amount of impact likely to occur and therefore the amount of mitigation/compensation required. The lack of a ‘fixed’ red line boundary appears to be hampering some of the impact assessment work, this needs to be resolved as soon as possible to allow stakeholders to fully understand the impact assessment process and how the scale and significance of impacts has been arrived at.”</i>	The assessment in the ES has been based on the final application boundaries as have the mitigation strategies.
4	SCC and ESC joint response.	3 June 2019 (Workshop – Post meeting note response).	<i>“The EDF Energy definition of the mitigation hierarchy appears to be, according to slides presented at one of the workshops, “Avoidance – Minimisation – Mitigation”. The Councils stress that the mitigation hierarchy components of</i>	The mitigation hierarchy has been followed, for example in defining the extent of the temporary construction area, which has been shaped to minimise woodland and hedgerow loss. This has enabled known bat roosts to be avoided and bat corridors to be maintained, with mitigation in the form of additional bat boxes and a ‘bat barn’ provided, in case bat

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			<i>compensation and enhancement are equally essential and need to be part of the hierarchy. Enhancement should reflect Biodiversity Net Gain objectives."</i>	roosts are displaced by nearby construction activity. A Biodiversity Net Gain assessment has been completed using the Biodiversity Metric 2.0 (Ref 1.1) and provided in Appendix 14E and demonstrates that biodiversity net gain would be achieved for the operational layout.
5	SCC and ESC joint response.	3 June 2019 (Workshop – Post meeting note response).	<i>"The Councils are not clear how the mitigation hierarchy is being applied by EDF Energy to a number of parts of the project. Outcomes appear to be engineering-driven not ecology-driven (and therefore no clear demonstration that the mitigation hierarchy is being properly applied). An example is that flood storage compensation measures appear to take priority over ecological mitigation measures."</i>	See above Solutions depend upon planning, environmental and engineering considerations. Where clear alternatives have been assessed, an assessment is provided in Chapter 6: Alternatives and Design Evolution . Flood compensation areas can be integrated with ecological enhancements, such as wetland creation and there is no 'priority' as stated. This is the approach proposed with the new wetland corridor proposed west of The Grove, which would also provide flood storage compensation.
6	SCC and ESC joint response.	3 June 2019 (Workshop – Post meeting note response).	<i>"It is of concern to the Councils that, for some mitigation/avoidance measures (e.g. water voles using the long culvert in the SSSI....), EDF Energy proposes monitoring their effectiveness, but accept that if monitoring shows negative impacts, these then cannot be further mitigated. The Councils stress the key principle that mitigation needs to be implementable to avoid or mitigate harm. This means that EDF Energy may have to look at realistic worst-case scenario in some instances to ensure effective mitigation is in place in case of the strategy not working."</i>	Based on the literature review undertaken (see the Water Vole Mitigation Strategy (Appendix 14C6A) for further details), the installation of a culvert at the SSSI Crossing as part of the scheme design is not considered likely to have a detrimental effect upon the local water vole population and is not deemed likely to result in population fragmentation. The draft water vole protected species licence, includes details on the crossing point/culvert mitigation measures proposed, which will maximise the likelihood of its use by water vole. Monitoring of water voles populations would be undertaken prior to, during and after construction of the SSSI Crossing.

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			<i>Contingencies for habitat mitigation will not always be effective to avoid significant habitat impact.”</i>	
7	SCC and ESC joint response.	3 June 2019 (Workshop – Post meeting note response).	<i>“We are concerned that cross-overs between different work streams (for example between terrestrial ecology and hydrology; and between terrestrial ecology and coastal processes/MTF) are still not always being effectively dealt with by EDF Energy. This may result in impacts either not being fully assessed or not being fully mitigated/compensated. It is essential that inter-dependencies and cross-overs are reviewed in their entirety and addressed ahead of the submission of the DCO to ensure that all impacts and required mitigations are adequately considered.”</i>	<p>The cross-overs between the individual workstreams are more extensive than suggested. It is considered unlikely that any potentially significant effects have been overlooked or where these have been identified that they have not then be fully assessed.</p> <p>The ES includes many examples which demonstrate the interconnected nature of the various technical workstreams and which have informed other assessments. As well as those mentioned, these have included, for example, the noise modelling which has informed the HRA and the bat assessment included within Chapter 14.</p>
8	SCC and ESC joint response.	3 June 2019 (Workshop – Post meeting note response).	<i>“To date, there has been limited evidence of an ecological assessment of in-combination effects. While EDF Energy assure us that there are ongoing conversations with SPR and other developers and EDF Energy has consulted the Councils on the developments to be included in the in-combination assessments, the ecological assessments to date do not reflect these in-combination effects.”</i>	<p>These assessments are included in Chapter 10: Project-wide, Cumulative and Transboundary Effects.</p> <p>The DCO Shadow HRA Report also includes in-combination assessments as relevant of the European sites which have been assessed.</p>
9	SCC and ESC joint response.	3 June 2019 (Workshop – Post meeting note response).	<i>“The Councils are not yet convinced that Aldhurst Farm has sufficient carrying capacity to provide mitigation for all the species proposed to be mitigated there. The habitat is compromised due</i>	Both water voles and reptiles would be translocated to Aldhurst Farm, although there are more extensive areas for reptile receptor site which have been established elsewhere. The area of reedbed habitat is similar in area to that being lost and is therefore likely to have sufficient capacity

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		note response).	<i>to public access proposed to parts of the site and the current lack of any coherent management plan (which will need to include Fox, Corvid and Mustelid control)."</i>	<p>to accommodate the water vole and Lagoon A has been fenced to ensure water voles cannot colonise in the interim. Secure fencing around the wetland areas will prevent any public access compromising these areas. A management plan is in place and a further submission to ESC was made to identify the proposed approach to recreational access.</p> <p>The northern part of Aldhurst Farm with no formal public access could be used for all reptile species, including adder, whilst public access to the southern part of Aldhurst Farm means that this would only be used for non-venomous reptiles. The carrying capacity of the available habitat of this and all receptor areas is considered in the reptile mitigation strategy.</p> <p>We disagree that Fox, Corvid and Mustelid control is required in this location, particularly given the species subject to translocation. The only exception would be consideration given to mink control, the need for which would be determined prior to translocation of water voles.</p>
10	SCC and ESC joint response.	3 June 2019 (Workshop – Post meeting note response).	<i>"In reflection of the waterbirds assessments, the Councils note that "No Overall Impacts" on waterbirds are predicted. The Councils are not convinced yet about this conclusion and require further detail, including whether this assessment does this take into account the latest design iterations including the four additional pylons. We also note that the EDF Energy conclusions on waterbirds are based on limited evidence (Natural England expects at least two full survey seasons of data)."</i>	<p>The additional pylons are located within the built area of the main platform, an area birds are likely to avoid. The pylons and overhead lines do not substantially increase the extent of overhead line across the SE corner of the SSSI, so the collision risk is not considered to have increased, as overhead lines are already present in this corridor.</p> <p>Available ornithological data includes Wetland Bird Survey Data counts conducted within Sizewell Marshes and Royal Society for the Protection of Birds (RSPB) Wetland Bird Survey Data over repeated years in addition to more focused survey to identify spatial distribution of wintering wildfowl. It is, therefore, considered there is a robust data set against which to assess potential impacts on waterbirds.</p>
11	SCC and ESC	3 June 2019 (Workshop –	<i>"In the Councils' view there is a definite need for assessment of impacts on water voles across the</i>	The hydrological modelling indicates potential drawdown by up to 13cm during the construction phase with mitigation in the form of a control

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	joint response.	Post meeting note response).	<i>whole of the SSSI due to outputs observed to date and uncertainties with hydrological modelling. There could be a need for significantly more mitigation and /or compensation if water levels across the SSSI rise as much as suggested in the hydrological modelling to date."</i>	structure likely to be able to maintain water levels if this level of draw down is experienced. The hydrological modelling does not suggest any increase in flooding or a rise in water levels above natural variation so no adverse effects on water voles from hydrological change are envisaged.
12	SCC and ESC joint response.	3 June 2019 (Workshop – Post meeting note response).	<i>"EDF Energy states that it assumes water voles will traverse the length of SSSI crossing culvert (75-metres). There is only evidence that water voles will traverse 30-metres culverts, so it is unproven that such a long culvert would work. There is a risk that the SSSI Crossing may act as an absolute and impassable barrier to water voles. Although monitoring is proposed, EDF Energy accept that mitigation may not be achievable if monitoring shows that the SSSI crossing acts as a barrier. The Councils expect that EDF Energy puts early mitigation in place in case the SSSI crossing acts as a barrier, to address the risk of severance."</i>	Based on the literature review undertaken (see the Water Vole Mitigation Strategy (Appendix 14C6A) for further details), the installation of a culvert at the SSSI Crossing as part of the scheme design is not considered likely to have a detrimental effect upon the local water vole population and is not deemed likely to result in population fragmentation. The draft water vole protected species licence, includes details on the crossing point/culvert mitigation measures proposed, which will maximise the likelihood of its use by water vole. Available published literature provides evidence that water voles are able to negotiate culverts of at least 30m in length. However, additional further evidence indicates that suitably designed culverts of 70m should not provide a barrier to water vole. Current evidence would suggest that both Sizewell and Minsmere support large populations of water voles that could be maintained independently, in the unlikely event of complete severance. Monitoring of water voles populations would be undertaken prior to, during and after construction of the SSSI Crossing.
13	SCC and ESC joint response.	3 June 2019 (Workshop – Post meeting	<i>"At the workshop it was stated that currently EDF Energy does not have a contingency plan for additional translocation habitats for water vole.</i>	There is no current indication that the Aldhurst Farm location would be of insufficient size for the number voles to be translocated. The lagoon, ditch and reedbed habitats are optimised for this species and are greater

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		note response).	<i>Given the potential uncertainties around the numbers of animals that may be trapped, the Councils expect there to be a contingency plan for translocation as part of mitigation proposals.”</i>	in extent than the area of suitable habitat to be lost from the Sizewell Marshes SSSI.
14	SCC and ESC joint response.	3 June 2019 (Workshop – Post meeting note response).	<i>“The Councils’ preference for Lovers Lane is a bridge rather than a culvert, to allow for improved connectivity for water voles and otters.”</i>	Modifying the road in this location is not part of the current proposals. Lovers Lane forms an important transport and pedestrian corridor, particularly within the early years of the construction of the Sizewell C project. However further consideration will be given to how improvements can be made at this location to enhance connectivity for these mammal species.
15	SCC and ESC joint response.	3 June 2019 (Workshop – Post meeting note response).	<i>“We accept that post-construction there will be the opportunity for the creation of habitat suitable for bats as part of the emerging long-term estate vision. However, in the short to medium term (i.e. during and immediately after construction) the loss of Goose Hill will reduce the overall availability of bat foraging habitat. EDF Energy needs to demonstrate that adequate foraging habitat remains available to all bat species (north and south of the temporary construction area) to allow maintenance of their populations both during and immediately after construction. It is of concern that there are currently no calculations available for either lost or new habitat because of the change of the Red Line Boundary.”</i>	Calculations of bat foraging habitat loss for broad habitat types are presented in Chapter 14 as areas, proportions of the wider EDF Energy estate, and proportions of the Core Sustenance Zone relevant to each species. These show that the total woodland loss (mainly of mature pine plantation at Goose Hill) represents 36% of the woodland within the EDF Energy estate and at most 4.6% of the Core Sustenance Zone area for any bat species. Additional habitats created at Aldhurst Farm, in the reptile receptor areas and in the marsh harrier habitat improvement area in the north east of the EDF energy estate would provide enhanced additional foraging during construction.
16	SCC and ESC joint response.	3 June 2019 (Workshop – Post meeting	<i>“The Councils request an overlay of both noise and light impacts on a suitable map. We understand that this may be “very difficult” but</i>	The disturbance to bats, arising from the interaction between noise and light disturbance as well as habitat fragmentation is discussed in Chapter

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		note response).	<i>stress that this is important evidence to indicate impact on bats. Further clarification on proposed working periods is required, and what noise and lighting impacts there will be inside and outside of these times.”</i>	14.
17	SCC and ESC joint response.	3 June 2019 (Workshop – Post meeting note response).	<i>“While EDF Energy states that there will be no loss of identified barbastelle tree roosts, we note that there is a difference between retaining a bat roost feature and it remaining available to bats during construction (i.e. limitations on access due to lighting provision). EDF Energy needs to clarify this matter to ensure that an accurate assessment on the impact on the available roost resource is made (and mitigated/compensated as required).”</i>	Chapter 14 includes consideration of disturbance to roosts through noise and lighting, as well as fragmentation (i.e. separation of roosts and foraging areas) due to lighting.
18	SCC and ESC joint response.	3 June 2019 (Workshop – Post meeting note response).	<i>“More bat survey work is being undertaken (particularly at Upper and Lower Abbey Farms), the outcomes of which will be required to inform the final mitigation strategy. However, there appear to be no surveys of bat activity planned in the pits either side of Bridleway 19. This is of concern as it will make it difficult to assess the ecological value of and mitigation requirements for the pits.”</i>	Bat surveys undertaken in 2019 of both Upper and Lower Abbey Farms, as well as the bat activity transect surveys of the pits adjacent to Bridleway 19 are reported in Annex 14A8.6 .
19	SCC and ESC joint response.	3 June 2019 (Workshop – Post meeting note response).	<i>“The Councils believe that the project should be delivering biodiversity net gain and the provision of bespoke bat hibernation facilities (i.e. via purpose designed hibernation tunnel(s)) would</i>	A Biodiversity Net Gain assessment has been completed using the Biodiversity Metric 2.0 (Ref 1.1) and provided in Appendix 14E which demonstrates that net gain is being delivered at the main development site and more widely across the other permanent elements of the project.

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			<i>offer an opportunity to demonstrate this.”</i>	A ‘bat barn’ or similar modifications to existing buildings at Lower Abbey Farm is proposed within the Bat Mitigation Strategy at Appendix 14C1A .
20	SCC and ESC joint response.	3 June 2019 (Workshop – Post meeting note response).	<p><i>“The Councils expect evidence that habitats created for reptile translocation will have sufficient capacity, given the natural populations which are currently building up. Contingency mitigation should be built in, which would come into place if there is not sufficient capacity available or if monitoring during translocation identifies that thresholds are being approached. There is particular concern in relation to adders as only limited receptor land is proposed to be available for them. The estimated number of adders to be moved is 104% of the “theoretical” carrying capacity of the receptor land available so there is already a potential shortage of receptor land suitable for adders. This could be further amplified by the fact that the red line boundary has grown since the time of the 2016 reptile assessment work.</i></p> <p><i>The Councils would like to see an update undertaken of the 2016 assessment of the carrying capacities for the different receptor areas prior to translocation commencing.”</i></p>	<p>Reptiles: surveys and mitigation for development projects (Ref 1.2) has and would be followed.</p> <p>The receptor areas would be subject to a further assessment, likely in 2021, to gauge their carrying capacity before translocation occurs and, if required, additional lifecycle features or habitat enhancement measures would be implemented to increase carrying capacity. In addition, careful monitoring of translocation would occur and the situation reviewed when sites have reached 50% of their theoretical carrying capacity giving early warning if additional contingency is required.</p> <p>Further details are provided in the Reptile Mitigation Strategy at Appendix 14C2A.</p>
21	SCC and ESC joint response.	3 June 2019 (Workshop – Post meeting	<i>“There is significant concern about the potential impact of the evolving Water Management Zone proposals on natterjack toads. From the information provided it appears that at least 40%</i>	The creation of the water management zone would lead to the loss of terrestrial natterjack toad foraging habitat. The main rabbit warren would be avoided by detailed design.

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		note response).	<i>of the terrestrial habitat available to them at Retsom's Field would be lost, including the Rabbit Warrens which are their likely winter hibernacula. EDF Energy should confirm as soon as possible the scale of the water management area, as an overriding factor impacting on natterjack toads to allow further assessment to be undertaken and mitigation measures considered."</i>	A Natterjack Toad Mitigation Strategy (Appendix 14C7A) has been prepared that seeks to exclude natterjacks from the footprint of the water management zone during construction, create additional artificial hibernacula and a breeding pond as well as manage and enhance retained habitats.
22	SCC and ESC joint response.	3 June 2019 (Workshop – Post meeting note response).	<i>"We are aware of two main social groups of badgers: one just off Bridleway 19 and the other centred on Goose Hill-Coronation Wood. It does not seem that much consideration has been given to the impacts of proposed translocations on ground nesting birds. The impacts of any displacement of badger foraging on neighbouring designated sites needs to be considered, including as a crossover with the HRA work stream."</i>	<p>Bait-marking studies have revealed two main social groups: Upper Abbey/Ash Wood social group and Goose Hill/Coronation Wood/Reckham Pits social group.</p> <p>The arable fields, conifer plantation and wet woodland these social groups utilise is considered as sub-optimal habitat for badgers. Although there is some cattle-grazed pasture, this is typically wet pasture which may reduce earthworm density (earthworms are the main prey items of badgers).</p> <p>The Upper Abbey/Ash Wood social group would lose some former arable habitat but this would be compensated for by the enhanced habitat of the marsh harrier receptor area. Given that the land to the immediate north of the EDF Energy estate is grazing marsh and separated by interconnecting channels, it is unlikely to be heavily used by foraging badgers from potential neighbouring setts (e.g. any badger social group centred on the RSPB Minsmere Reserve). Data from RSPB do not indicate the presence of badger setts on their land south of the New Cut.</p> <p>The Goose Hill/Coronation Wood/Reckham Pits social group's territory ranges over Goose Hill plantation and Sizewell Belts; the reptile mitigation area in the Studio Field complex would provide improved foraging habitat for this social group. The construction footprint would provide a barrier for</p>

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				<p>these badgers foraging on RSPB land.</p> <p>In summary both the marsh harrier and reptile mitigation areas would provide improved foraging habitat for badgers and no substantive displacement is considered likely.</p>
23	SCC and ESC joint response.	3 June 2019 (Workshop – Post meeting note response).	<p><i>“The Councils support EDF Energy’s notion that additional marsh harrier foraging resource may be required due to the construction being a potential barrier to movement, and that additional contingency mitigation land is being identified for this. However, we have concerns if this resource is only provided once monitoring demonstrates that there the foraging resource available is insufficient (“evidence-led through monitoring). Given the time lag between identifying the impact and being able to implement the additional mitigation land, this could have an unacceptable detrimental impact on the species.”</i></p>	<p>The existing 47.8ha of habitat at the north end of the EDF Estate that is being improved for marsh harriers would be sufficient compensatory habitat for to address the impact that has been identified. The area would,include the temporary water storage area, the margins of which would be suitable for foraging marsh harriers as well as a new corridor of reedbed and incipient wet woodland, which both enhance this area for foraging marsh harriers.</p> <p>The area at Westleton would only be taken forward as marsh harrier compensatory habitat if there is a direction from the Secretary of State to do so.</p>
24	SCC and ESC joint response.	3 June 2019 (Workshop – Post meeting note response).	<p><i>“With regard to Bio-Security, the Councils will expect detailed proposals regarding all Non Native Invasive Species (Mink in particular).”</i></p>	<p>The EDF Energy estate is already subject to a mink control programme and a non-native invasive species strategy is included within the Code of Construction Practice to minimise the risk of introduction and spread of species.</p>
25	SCC and ESC joint response.	3 June 2019 (Workshop – Post meeting note response).	<p><i>“The Councils ask for confirmation whether EDF Energy has considered snails such as Narrow Mouthed Whorl Snail in their assessments and mitigation proposals.”</i></p>	<p>Narrow mouthed whorl snail was not recorded during surveys. Invertebrates were assessed at an assemblage level, within ‘assessment compartments’ defined by the invertebrate specialist, rather than by individual species. Species surveyed included snails that were recorded during the aquatic elements of the field surveys within the Sizewell Marshes SSSI undertaken by Wood Group, including for example Lister’s</p>

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				Rivr Snail, <i>Viviparus contectus</i> .
26	SCC and ESC joint response.	3 June 2019 (Workshop – Post meeting note response).	<i>“It is noted that the post construction management plans will need to address displacement of deer.”</i>	Deer populations are growing nationally, but there is active management of red deer and muntjac on the EDF Energy estate which would continue. EDF Energy would work with adjacent landowners to manage deer populations and so reduce any potential impact of displaced deer.
27	SCC and ESC joint response.	3 June 2019 (Workshop – Post meeting note response).	<i>“According to EDF Energy, the Suffolk Shingle Beach CWS site has enough interest for a designation as SSSI. EDF Energy is requested to consider appropriate avoidance, mitigation and compensation measures to recognise this level of interest. The assessment of impacts on this receptor needs crossover into other works streams (e.g. MTF/coastal processes) to enable it to be completed; we request EDF Energy to confirm that, and how, this is happening.”</i>	The loss of the shingle habitat has been considered within the context of coastal processes and EDF Energy would safeguard the shingle and sand substrate as well as reinstate the sand and shingle substrate once the hard sea defence structure has been constructed, to allow the reestablishment and colonization by associated plant species.
28	SCC	3 June 2019 (Workshop).	With regards to water vole, EDF Energy are to demonstrate that Aldhurst Farm is ‘optimal’ habitat and the areas to be lost are of ‘variable’ quality.	<p>The lagoon, ditch and reedbed habitats are optimised for this species and are greater in extent than the area of suitable habitat to be lost from the Sizewell Marshes SSSI. At least several sections of the SSSI to be lost are heavily shaded and surveys in 2019 (to locate a culvert for Site Investigation access) found only a low density in this location, confirming the position stated left.</p> <p>Part of of Aldhurst Farm has been fenced to prevent the natural colonisation of water vole, and the site has been established using enhancement measures to increase carrying capacity. Prior to any water vole translocation, the habitat quality of both the receptor and donor sites would be reassessed, to ensure there is sufficient suitable habitat for</p>

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				water voles.
29	Environment Agency.	30 May 2019 (Workshop).	There are good records of water vole locally. The concern is with regards to the SSSI crossing and fragmentation, and there should be post-construction monitoring to further understanding of water vole use of the length of the tunnel.	Post-construction monitoring of water vole using the SSSI crossing is included within the Water Vole Mitigation Strategy (Appendix 14C8).
30	Environment Agency.	30 May 2019 (Workshop).	Environment Agency requested that the impacts to fish and eels be considered in the ES.	No specific surveys for eels or fish have been conducted as the only locations where a direct impact on fish is likely is the SSSI crossing, the realigned Sizewell Drain and the potential for a control structure in the Sizewell drain. Impacts on eels and freshwater fish have been assessed within section 14.17 , primarily using desk study data and incidental records. In addition, primary and tertiary mitigation to minimise impacts to fish and eels, including a ‘fish rescue’ are detailed in section 14.12 . An Eels Regulations Screening Report has also been undertaken and is appended to Chapter 22 Marine Ecology
31	Environment Agency.	3 June 2019 (Workshop).	EDF Energy are to provide full justification for why the culvert option for the SSSI crossing is being progressed as opposed to a bridge design.	An assessment of the alternatives to the Embankment / Culvert design, selected for the SSSI Crossing is presented in Chapter 6 Alternatives and Design Evolution .
32	Environment Agency.	3 June 2019 (Workshop).	Felled trees would represent a useful resource for creating other mitigation e.g. reptile hibernacula.	Extensive reptile hibernacula have already been created in each of the receptor sites using timber from Kenton and Goose Hill when forestry thinning works took place. Further opportunities to use felled trees from the clearance of the Goose Hill area for further hibernacula would be considered.

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33	Environment Agency.	3 June 2019 (Workshop).	Please confirm if clay ponds could be put in the southern reptile area which is more remote from permanent water sources, to enhance the area for adders.	This is not within the current proposals but further consideration will be given to this as the Reptile Mitigation Strategy Appendix 14C2A is developed further.
34	Environment Agency.	3 June 2019 (Workshop).	Environment Agency requested that the reptile mitigation areas meet all life cycle areas for reptiles, and there should be connectivity to the wider landscape. In the long term, it is important to maintain the connectivity along the coastal habitats.	The reptile mitigation areas have been placed strategically so that there is connectivity to the wider landscape and surrounding wetland areas. This connectivity and the established enhancement measures ensures all lifecycle stages have been considered, see the Reptile Mitigation Strategy (Appendix 14C2A). Coastal connectivity for reptiles would be ensured, in the long term, by re-instating coastal habitats on the foreshore and over the Hard Coastal Defence Features, which would provide a continuous strip of suitable habitats, oriented along the coast.
35	Environment Agency.	3 June 2019 (Workshop).	Does the operational masterplan provide alternative badger foraging habitat?	The operational masterplan includes extensive additional areas of acid grassland and approximately 50ha of woodland and scrub which would provide high quality foraging habitats for badgers. During construction, alternative badger foraging habitat would be provided through the improved habitats on the temporary marsh harrier mitigation area, the reptile mitigation areas and at Aldhurst Farm and it is considered that these areas would provide sufficient additional foraging for badgers.
36	Environment Agency.	3 June 2019 (Workshop).	<i>“We would like clarification regarding the reinstatement of the natural substrate in front of the SZC site after construction has finished. Is the plan to only reinstate once, or to reinstate when needed due to the loss of material from coastal processes? We would like to ensure this habitat</i>	Reinstatement of sand and shingle substrate habitats would occur on the completion of the hard sea defence structure to allow the reestablishment of coastal vegetation across this area and the artificial dunes to be established to the east. During the operational phase, a monitoring plan would be implemented to

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			<i>which is utilised by specific coastal vegetation communities is not lost in the long term. This could possibly be addressed though the creation of a coastal realignment nearby as compensation.”</i>	<p>which would determine whether beach replenishment or nourishment is required (see Chapter 20 Coastal Geomorphology and Hydrodynamics).</p> <p>The long term situation needs to be considered in the context of coastal squeeze which will eventually cause the loss of coastal shingle and dune vegetation in this location at some point in the future due to climate induced sea level rise.</p> <p>There are no proposals being considered for managed realignment.</p>
37	Natural England.	11 July 2018 (Letter).	<i>“We advise that all baseline survey data should be considered in the context of the recent Chartered Institute of Ecology and Environmental Management (CIEEM) Advice note on the Lifespan of Ecological Reports and Surveys which states that, for surveys which are more than three years old, “The report is unlikely to still be valid and most, if not all, of the surveys are likely to need to be updated”. Where the ecological survey data to inform the various Sizewell C impact assessments are not in line with this, we advise that clear justification must be provided on how the data remain valid and robust enough to inform conclusions.”</i>	See response to comment No 1 above.
38	Natural England.	11 July 2018 (Letter).	<i>“With regards licencing, it is strongly advised that you submit draft protected species licence applications to obtain additional pre-licencing species advice at an early stage to further reduce uncertainty and reduce the risk of delay at the formal application stage. Natural England’s Pre-</i>	<p>Chapter 14 includes within its appendices, a number of mitigation strategies for protected species, as well as some draft protected species licences and method statements.</p> <p>The mitigation strategy and licence documents are presented as first drafts. EDF Energy and its consultant ecologists are committed to working with Natural England and other stakeholders to develop the</p>

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			<i>submission Screening Service (PSS) provides advice for protected species mitigation licence applications. We note that you already have a Discretionary Advice Service (DAS) contract set-up with Natural England under which this further assessment work could be provided. Please also see our email of the 5th July 2019 for further details on the licencing approach (our ref: 281101 and 281103 NE response – Appendix re Protected Species Licensing and LoNI)."</i>	approaches outlined within these documents to ensure a legally robust approach to protected species before each document is finalised. Further surveys will be undertaken as relevant and these will also inform the final draft of these documents, as relevant, sufficient to inform any relevant licence.
39	Natural England.	11 July 2018 (Letter).	<i>"We advise that the scope of European designated sites (and associated interest features) to be considered are more wide ranging than than shown on slides 9 and 24 of the EDF SZC EIA Ecology Interface – Ecology Baseline and key impacts 30 May 2019 document which appears to include a 20 km 'zone of influence' (Zol) for potential impacts. As per our response to the previously circulated Sizewell C Stage 1 Habitats Regulations Assessment (HRA) Screening Report (our ref: 273239, dated 15th February 2019), there are limitations to using this Zol as this distance cannot be definitively used to scope in/out potential cause-effect impact pathways, as this would miss some mobile species (e.g. marine mammals). This therefore needs updating."</i>	The scope of potential effects on European sites has been fully considered in both the HRA and ES. The spatial scope of each is explained. The spatial extent of individual assessments varies depending on the species or species group under consideration. As noted left, consideration of marine birds and marine mammals is considered over a much greater distance than a 20km zone of influence.
40	Natural	11 July 2018	"[The ES must also assess]:"	The ecological assessment is presented in Chapter 14. The focus of the

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	England.	(Letter).	<p>Unintentional introduction or spread of invasive, non-native species (INNS) (biosecurity)</p> <p>Physical interaction between mobile species (e.g. birds, mammals etc.) and project infrastructure (e.g. new pylons, restringing of existing pylons, new marine elements etc.);</p> <p>Changes to designated site access arrangements which may impede the management practices required for their conservation (e.g. access for grazing Sizewell Marshes SSSI) or introduce new and/or exacerbate existing recreational pressures.”</p>	<p>chapter is on impacts which have the potential to result in significant adverse effects.</p> <p>Ongoing access to the retained areas of the Sizewell Marshes SSSI will be maintained to ensure ongoing management, including grazing, during the construction process.</p>
41	Natural England.	11 July 2018 (Letter).	<p><i>“As discussed during the workshop, the plans illustrating trees with potential to support roosts and the bat ‘hotspots’ need to be redrawn to illustrate the new red line boundary. Therefore, a re-assessment of the likely impacts will be required, especially in relation to the number trees with potential roost features (PRF’s) in Goose Hill to be lost.”</i></p>	<p>The assessment of likely impacts resulting from tree loss and other aspects of the proposals have been updated to reflect the current site boundary and also the site clearance proposals, as some trees, tree groups and woodland within the site boundary would be retained, including an area on the eastern part of Goose Hill.</p>
42	Natural England.	11 July 2018 (Letter).	<p><i>“No new survey data have been provided since Natural England’s previous comments, and the data do not give a full picture of how bats of all the relevant bat species are using the site. As previously advised, key foraging and commuting routes for all bat species need to be identified across the site (included north-south commuting</i></p>	<p>In most areas the pattern of activity observed throughout the surveys, up to and including surveys undertaken in 2019, were characteristic of foraging rather than commuting, although where commuting corridors were identified these are described in Chapter 14. This is not considered that this is due to lack of survey effort, rather that distinct commuting routes are typically only identifiable fairly close to roosts (because bats tend to forage alone and therefore disperse away from commuting routes</p>

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			<i>routes), with flight lines illustrated on a habitat map, to demonstrate how ecological connectivity may be affected by the proposed development.”</i>	as they reach their preferred foraging areas). Because of the size of the site, and the fact that it provides foraging habitat, it is not necessarily expected that distinct commuting routes would cross the site north-south. Nevertheless the construction layout retains most of the the existing vegetation along the alignment of Bridleway 19, north of Kenton Hills, the west-east corridor along thr northern edge of Kenton Hills, as well as the Grove, along the eastern edge of the site.
43	Natural England.	11 July 2018 (Letter).	<i>“We still do not have a full understanding of the impact from the loss of the large area of pine plantation at Dunwich Forest/ Goose Hill. Only a single static monitoring station was positioned in the Dunwich Forest/ Goose Hill section within the development footprint. However, as this was recorded as a ‘hotspot’, as were monitoring stations on the edge of the woodland, it is likely that additional monitoring stations positioned in this woodland would also register as ‘hotspots’. From the info provided, it is not possible to agree that this is not a valuable resource for bats.”</i>	Impacts resulting from loss of foraging habitat have been assessed using data from all static monitoring stations in each habitat type, on a precautionary basis in Chapter 14. If hotspots have been identified in a particular habitat type it is assumed to have value for foraging bats, as detailed in section 14.21 .
44	Natural England.	11 July 2018 (Letter).	<i>“The document Sizewell C Ecological Support Barbastelle and Seabird Survey Strategy 2013 gives an indication of the importance of Goose Hill, with Barbastelle using all areas of Goose Hill and all the rides. However this does not appear to be acknowledged elsewhere and there is little information regarding how other species are using this resource.”</i>	The 2013 strategy is included in Annex 14A8.6 , as is the extensive survey work undertaken since, which provides information on other species. Appendix 14A8 – Bats updates the assessment made in the 2013 strategy using the more recent, as well as older, survey data.

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45	Natural England.	11 July 2018 (Letter).	<i>“Natural England still has concerns regarding the potential bat population fragmentation should the loss of the conifer plantation habitat at Goose Hill result in the severance of commuting routes. The impact of the loss of the plantation needs to be considered further. There does not appear to be any mention of post-development tree planting to compensate for the loss of this conifer plantation. It has been acknowledged that the rides provide foraging habitat for bats and Natural England is concerned that these may also provide key commuting routes north-south across the site. As previously advised, replacement planting for the loss of woodland habitat, before and after the completion of works, is required.”</i>	Measures to avoid fragmentation are provided in section 14.12 of the ES and section 14.21 in relation to bats. Post-development planting proposals are provided in the operational masterplan and Outline Landscape and Ecology Management Plan (OLEMP) (Ref 1.4) which would provide approximately 50ha of woodland and scrub habitats across the northern part of the EDF Energy estate and increase north-south connectivity for bats. Some re-intatement planting is proposed for the Goose Hill area although the focus is likely to be on suitable native species, rather than recreating a conifer plantation.
46	Natural England.	11 July 2018 (Letter).	<i>“We recognise that there is a wealth of survey information available for the Sizewell Estate which has clearly demonstrated the importance of the area for bats. However, we require an understanding of how all bat species are using the site with an assessment of how each species will be impacted, directly and indirectly, by the development and how their individual requirements will be addressed through mitigation and compensation.”</i>	This is provided in the section 14.21 of the ES and accompanying Appendix 14A8 – Bats .
47	Natural England.	11 July 2018 (Letter).	<i>“We agree building surveys need to be updated in the most recent active season prior to works, along with survey of trees with potential roost</i>	Building surveys were undertaken of Upper Abbey and Lower Abbey Farm, as well as of the sand pits along Bridleway 19 in Summer 2019. Further surveys would be undertaken of potential roosts to inform any

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			<i>features that will be lost. However, we would like this to include more survey data on the habitat that will be directly impacted by the works such as the large area of pine plantation to be lost in Goose Hill and the ‘SSSI triangle’, neither of which appear to have been included in the previous transect surveys.”</i>	<p>licence requirements, prior to any tree felling.</p> <p>Monitoring surveys would be undertaken in the active season prior to construction works commencing. This may include the use of static detectors, as these would allow more direct comparison of activity pre-, during- and post-development than transect surveys, because they make it practical to collect more nights of data (reducing the influence of specific weather conditions) and avoid potential biases associated with transect surveys (e.g. unconscious bias resulting from choice of transect start point or speed at which different surveyors walk).</p>
48	Natural England.	11 July 2018 (Letter).	<i>“We need to be confident that the surveys are able to determine the maximum number of bats of each species that may impacted by the works. The surveys should illustrate how bats are currently using Goose Hill (for commuting, foraging, roosting etc.) and assess the value of resource and the impact of the loss of this habitat. If additional static surveys are being undertaken, a greater number of detectors should be placed within the area of plantation woodland to be lost in Goose Hill, and updated transect surveys in this area also considered.”</i>	<p>Neither transect nor static surveys allow the maximum number of bats to be determined: both record bat passes which indicate a higher or lower level of bat activity.</p> <p>Monitoring surveys would be undertaken in the active season prior to construction works commencing to help inform mitigation proposals and provide an updated baseline, specifically for comparison with ‘during construction’ and ‘after construction’ monitoring. This may include the use of static detectors (see above).</p>
49	Natural England.	11 July 2018 (Letter).	<i>“The advantages of activity surveys/transects over static surveys are that bats can be counted and bat behaviour can be observed. This can provide useful information on the location of foraging areas and commuting routes. BCT guidelines (2016) state that reports of activity surveys should provide tables of bats recorded/observed</i>	<p>There are also disadvantages to transect surveys compared to statics, resulting from observer bias and walking speed/sampling effort, so the static monitoring data provides a more objective means of comparing bat activity between areas. Transect results from 2014 and 2015 are provided in Appendix 14A8 – Bats, including species, numbers of passes, and locations on plans. Where a specific behaviour was observed or bats recorded very close to sunset or sunrise this is noted in the text of the</p>

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			<i>including time, species, behaviour, number of passes observed and this information should be summarised on an annotated plan or aerial photograph (see Box 7, page 75)."</i>	Appendix.
50	Natural England.	11 July 2018 (Letter).	<i>"The transect survey information presented in the reports 2007 – 2015 does not provide this amount of detail, rather the survey results are shown as points on a map. We strongly advise that the transect survey information is redrawn for the key locations (Goose Hill, 'SSSI triangle', Bridleway 19 etc.) to show year of survey, species, flightlines, number of passes etc. so that behaviour can be determined and factored in to the subsequent assessment of impact and design of mitigation. The transect surveys for some key locations, such as SSSI crossings, were last carried out in 2011. We advise that further surveys may be required if earlier surveys were not sufficiently detailed to inform the detailed assessment of impact and mitigation."</i>	<p>This information is in Appendix 14A8 – Bats and supporting Annexes and has been taken into account in the assessment of impacts and mitigation design. It is not considered necessary to re-draw the relevant figures to show all information on the figures themselves.</p> <p>A precautionary approach has been taken regardless of the year in which surveys were undertaken. i.e. areas identified as important in any survey year are considered likely to remain important, in the absence of significant habitat changes. That some surveys are older than others does not mean that areas covered by older surveys have been undervalued in the assessment.</p>
51	Natural England.	11 July 2018 (Letter).	<i>"Consideration should be given to the possible benefit of further radio-tracking, for species other than Barbastelle, if their usage of the site cannot be determined using less invasive survey techniques. We note that, at the meeting, it was stated by EDF Energy that radio tracking the year prior to works was not desirable. However, if works are not expected to commence until</i>	Radio-tracking has an impact on the individuals caught and tagged (i.e. stress and the increased energetic cost of carrying the tag until it is groomed off) which is only justifiable if it is likely to provide new information. As stated above, the pattern of activity observed from static, transect and previous radio-tracking work is one of dispersed foraging with few distinct commuting routes. As there is no reason for this to have changed, it is considered that it is likely there would be little benefit in further radio-tracking.

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			<i>Autumn 2021, there is still some scope for mid to late season radio tracking in 2019.”</i>	
52	Natural England.	11 July 2018 (Letter).	<i>“Whilst provision of bat boxes is seen as a temporary measure, we advise that monitoring of the boxes previously erected will provide an understanding of the level of uptake. As barbastelle bats do not routinely use conventional bat boxes, we advise that that you also consider providing alternative crevice-type roost features i.e. by ‘veteranising’ trees, designing bespoke bat boxes etc. Consideration should also be given to relocating the felled sections of trees containing potential roost features by securing them onto nearby trees.”</i>	Bat boxes would be monitored in the active season prior to construction commencing. The bat boxes installed are of types which are known to be used by barbastelle and other species present; this is considered preferable to trying bespoke designs which may not be as effective. There are safety implications to re-erecting sections of felled trees on retained ones (particularly with relatively short-lived conifers) and in any case the natural life span of roost features (particularly loose bark often used by barbastelle) may only be a few years, so complex and potentially hazardous re-erection of features may not be justifiable.
53	Natural England.	11 July 2018 (Letter).	<i>With regards to bats: “In the absence of mitigation, the large scale construction site is likely to cause severance of metapopulations, with a north/south divide. Consideration must be given to maintaining established flight lines across the site where possible. If this is not achievable, sufficient mitigation and compensation will be required to ensure that the favourable conservation status of severed populations is maintained during construction. As it will be several years before the development site is returned back to a semi-natural state, consideration should be given to providing off-site measures; for example, enhancing foraging</i>	Measures to avoid severance of metapopulations to the north and south of the site boundary are described in the section 14.12 , including provision of the culvert providing an unlit flight path at the SSSI crossing, no ambient lighting in stockpile areas to reduce the size of any north-south gap, the retention of dark corridors along the Upper Abbey Bridleway (Bridleway 19) and along the northern edge of Kenton Hills, to facilitate bats’ continued use of these features.

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			<i>habitat to the south of the construction site which may benefit severed populations at Sizewell.</i>	
54	Natural England.	11 July 2018 (Letter).	With regards to bats: <i>“Further information on proposed compensation is required, particularly replacement planting for the loss of woodland habitat, before and after the completion of works. Given the scale of the works, we expect significant enhancements to be provided for bats in addition to like-for-like replacement for the loss of roosting and foraging resources.”</i>	During construction, alternative bat foraging habitat would be provided through the improved habitats on the temporary marsh harrier mitigation area, the reptile mitigation areas and at Aldhurst Farm and it is considered that these areas would provide sufficient additional foraging for bats. The foraging ranges of each species and the impacts of habitat loss are considered in Chapter 14 . Post-development planting proposals are provided in the operational masterplan and Outline Landscape and Ecology Management Plan (OLEMP) (Ref 1.4) which would provide approximately 50ha of woodland and scrub habitats across the northern part of the EDF Energy estate and increase north-south connectivity for bats. Some re-intatement planting is proposed for the Goose Hill area although the focus is likely to be on suitable native species, rather than recreating a conifer plantation.
55	Natural England.	11 July 2018 (Letter).	With regards to water vole: <i>“It is recommended that more detailed up-to-date surveys are undertaken of habitat to be directly impacted by the works.”</i>	Updated surveys would be conducted to inform the required licence from Natural England. Further details are provided in Appendix 14C6A – Water Vole Mitigation Strategy .
56	Natural England.	11 July 2018 (Letter).	<i>“Within EDF – Aldhurst Farm, Sizewell Water Vole Survey Report 2010, no figures have been provided with Appendix A Figures. In the water vole secondary data, figures have been used to illustrate which sections of water course were surveyed. However the results of the surveys have not been illustrated on any figures. Clear figures to illustrate the survey results, particular in</i>	The survey results from secondary data are discussed in the water vole section of Appendix 14A9 – Terrestrial Mammals . We do not consider that additional figures are required.

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			<i>and adjacent to the areas of impact, should be provided.”</i>	
57	Natural England.	11 July 2018 (Letter).	<i>“The 2011 surveys identified 5-6 social groups, whereas the 2015 surveys only identified two social groups. It is therefore recommended that further surveys are undertaken to confirm the current number of badger social groups and their territories.”</i>	<p>A more detailed bait-marking survey (Ref 1.5) incorporating four of the six clusters of activity identified in 2011, revealed two active badger social groups on the EDF Energy estate, these being the Ash Wood and Goose Hill groups. The Goose Hill group was considered to be a consolidation of the Grove Wood and Sandlings Walk groups, formerly thought to be separate. The status of a third group, the Upper Abbey group, was not clear as bait was not taken during the surveys and no latrines were found.</p> <p>The 2015 bait marking surveys (see Appendix 14A9 – Terrestrial Mammals) indicated the Ash Wood and Abbey Group are part of the same social group.</p> <p>A Badger Mitigation Strategy is included at Appendix 14C3A.</p> <p>Further badger surveys will be undertaken in 2020-21 to inform the necessary protected species licence(s).</p>
58	Natural England.	11 July 2018 (Letter).	<i>“The two survey visits proposed prior to trapping should be undertaken during the breeding season – one in the first half of the season (mid-April to the end of June) and one in the second half of the season (July to September inclusive). As well as searching for water vole field signs, evidence of predators (most notably mink) must be undertaken. Where there is clear evidence of mink in the area a control program should be implemented at the earliest opportunity. The survey results need to be clearly illustrated on a</i>	<p>Updated surveys would be conducted to inform the required licence from Natural England. Further details are provided in Appendix 14C6A – Water Vole Mitigation Strategy.</p> <p>These surveys would follow the water vole survey guidelines detailed within the <i>Water Vole Mitigation Handbook</i> (Ref 1.6) and results presented appropriately.</p> <p>EDF Energy currently undertake a mink control programme (see section 14.22) on the Sizewell Marshes SSSI and this would be extended as required to Aldhurst Farm, in advance of translocation of water voles to this receptor site.</p>

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			<i>plan(s) of the site.”</i>	
59	Natural England.	11 July 2018 (Letter).	<i>“There has been no information to date on the numbers of water voles predicted to be impacted by the works. The receptor area must have sufficient carrying capacity to house the captured water voles and their predicted offspring. Whilst the Lagoon creation and habitat enhancement demonstrates a net gain in suitable water voles habitat, only Lagoon A is fenced, and known to be free from water voles. Water voles of the same sex must have a minimum of 40m intervals between release pens. Therefore, if Lagoon A has 710m of bank, this will only be able to accommodate 17-18 female and 17-18 male water voles for release (this may be greater if the lagoon islands have accessible banks, suitable for soft release). Release into the additional adjacent habitat can only be considered if surveys have identified suitable unoccupied habitat.”</i>	This is further considered within the Water Vole Mitigation Strategy (Appendix 14C8). Surveys would be carried out of the wetlands within Aldhurst Farm to establish a pre-construction baseline and prior to translocation.
60	Natural England.	11 July 2018 (Letter).	<i>“Taking wild animals into captivity can be a very stressful experience for them and must only be considered as a last resort when no other options are available. This is particularly important with short lived animals, such as water voles, where any time spent in captivity would be a significant percentage of their average three year life span. The purpose of creating the water vole receptor site at Aldhurst Farm so far in advance of the</i>	This is further considered within the Water Vole Mitigation Strategy (Appendix 14C8). Direct release into the Aldhurst Farm receptor site is the proposed and preferred method for translocation. However, it is considered appropriate to have a contingency plan, involving taking water vole into captivity over Winter, if an element of the translocation is required in Autumn.

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			<i>destructive works was to ensure the habitat was suitably established for water voles prior to the commencement of any trapping, thus avoiding the need to take animal into captivity. Therefore, destructive works must be timed to allow for water voles to be relocated directly into soft release pens at Aldhurst Farm.”</i>	
61	Natural England.	11 July 2018 (Letter).	<i>“The water vole population would be lower in spring, following winter mortalities and pre-breeding. Therefore, spring trapping (from 1 March until 15 April) would be the preferred option as the number of water voles directly impacted will be lower. If undertaking relocation by trapping in the autumn, this should be timed to commence on 15 September and be completed by 31 October. It is unlikely that Natural England will consider relocation by trapping outside of this period, or taking water voles into captivity, to be appropriate. It should also be noted that if there is a large gap in the timing of release of different groups of water voles into the same receptor site there is likely to be territorial conflict.”</i>	Noted, this has been further considered within the Water Vole Mitigation Strategy (Appendix 14C8).
62	Natural England.	11 July 2018 (Letter).	<i>“Relocation of water voles by displacement could be considered at the three 30m sections of east-west running drains west of Sizewell Drain by Sizewell B. However, there will need to be sufficient alternative connecting habitat for the water voles to move to. Depending on timing of</i>	Noted, this has been further considered within the Water Vole Mitigation Strategy (Appendix 14C8) .

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			<i>works and quality of available adjacent habitat to the impacted section of Leiston Drain, which includes the SSSI crossing, Natural England may consider relocation by displacement from this area.”</i>	
63	Natural England.	11 July 2018 (Letter).	<i>“The use of ground penetrating radar to map tunnels can only be taken as a guide. If there are any setts at risk of damage, you may be able to consider temporary exclusion of badgers, excavating a trench along the development boundary, installing sub terrain proofing fencing, then re-opening unaffected entrances.”</i>	Noted, this has been further considered as relevant within the confidential Badger Mitigation Strategy (Appendix 14C3) .
64	Natural England.	11 July 2018 (Letter).	<i>“According to the plans shown, the location of the proposed artificial sett to compensate for the loss of Sett 4, is very close to the territory of the social group using Sett 3. There is therefore is a risk that badger from this neighbouring clan may occupy this sett, especially if Sett 3 is also closed at the same time.”</i>	The location of the proposed artificial sett for the Ash Wood/Upper Abbey Farm social group is indicative and could be revised. It is considered most likely that this social group would use the Ash Wood sett as their main sett. The mitigation strategy and licence documents, including the confidential Badger Mitigation Strategy (Appendix 14C3) are presented as first drafts. EDF Energy and its consultant ecologists are committed to working with Natural England and other stakeholders to develop the approaches outlined within these documents to ensure a legally robust approach to protected species before each document is finalised. Further surveys will be undertaken as relevant and these will also inform the final draft of these documents, as relevant, sufficient to inform any relevant licence.
65	Natural	11 July 2018	With regard to natterjack toads, <i>“If there is even the potential that this habitat will be lost, it is</i>	Habitat enhancements are discussed in the Natterjack Toad Mitigation

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	England.	(Letter).	<i>recommend that compensation habitat is created/enhanced ASAP to give as great lead in time as possible (as with water vole habitat)."</i>	Strategy (Appendix 14C9).
66	Natural England.	3 June 2019 (Workshop).	With regards to water vole, Natural England advised habitat enhancement in areas adjacent to where displacement will take place to provide a conservation benefit.	Habitat enhancements are discussed in the Water Vole Mitigation Strategy (Appendix 14C8).
67	Natural England.	3 June 2019 (Workshop).	Would the lagoons at Aldhurst Farm be protected from dogs and dog walkers.	The lagoons would be fenced to prevent access to dogs and dog walkers, and would be separated from the open access areas, to the south of the lagoons by dense scrub areas to maintain a buffer to the wetlands.
69	Suffolk Wildlife Trust (SWT).	3 June 2019 (Workshop).	Monitoring for mink should be conducted at Aldhurst Farm.	The requirement to monitor for mink has been included in the Water Vole Mitigation Strategy (Appendix 14C8).
70	SWT	3 June 2019 (Workshop).	Please investigate if a pond for natterjack mitigation could be provided in either the southern reptile mitigation area, or the marsh harrier mitigation area.	Habitat enhancements are discussed in the Natterjack Toad Mitigation Strategy (Appendix 14C9). A further pond is proposed in the retained areas of Retsom's Field.
71	SWT	3 June 2019 (Workshop).	Natterjacks are hibernating in a rabbit warren that is within the water management zone, and so this hibernation site would be lost as well as the foraging habitat. There may also be a need for potential further surveys to understand how far natterjack toads forage in Retsom's – i.e. what area do they forage over to inform mitigation requirements.	The main rabbit warren at the edge of the proposed WMZ would be avoided through detailed design of the WMZ profile. The impacts of the WMZ are assessed in Chapter 14 section 14.18. and in the Natterjack Toad Mitigation Strategy (Appendix 14C9). Further surveys to inform the protected species licence will be undertaken.

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72	SWT	30 May & 3 June 2019 Workshop – formal 18 June 2019.	<i>“There continues to be lack of clarity on how management of the SSSI will function practically during the period of operation. We ask EDF for clarity and consultation over this issue.”</i>	Ongoing access to the retained areas of the Sizewell Marshes SSSI will be maintained to ensure ongoing management, including grazing, during the construction process.
73	SWT	30 May & 3 June 2019 Workshop – formal 18 June 2019.	<i>“Overall, we consider the proposed mitigation strategy falling well short of Net Gain. There is very little mention of enhancement in the strategy.”</i>	A Biodiversity Net Gain assessment has been completed using the Biodiversity Metric 2.0 (Ref 1.1) and provided in Appendix 14E and demonstrates that net gain would be achieved for the operational layout. This arises primarily through the conversion of arable fields to acid grassland and through additional woodland and hedgerow plantings.
74	SWT	30 May & 3 June 2019 Workshop – formal 18 June 2019.	<i>“There appears to be no surveys planned for mollusc, in particular narrow-mouthed whorl snail (Vertigo angustior). There also appears to be no surveys planned for fish, including eels. We request these surveys are undertaken to fully consider the ecological value of the site.”</i>	No specific surveys for eels or fish have been conducted as the only locations where a direct impact on fish is likely is the SSSI crossing, the realigned Sizewell Drain and the potential for a control structure in the Sizewell drain. Impacts on eels and freshwater fish have been assessed within section 14.17 , primarily using desk study data and incidental records. In addition, primary and tertiary mitigation to minimise impacts to fish and eels, including a ‘fish rescue’ are detailed in section 14.12 . An Eels Regulations Screening Report has also been undertaken and is appended to Chapter 22 Marine Ecology Detailed invertebrate surveys have been completed for the site and are detailed in section 14.16 . Narrow-mouthed whorl snail was not recorded during baseline surveys.
75	SWT	30 May & 3 June 2019 Workshop – formal 18 June	<i>“Presence of water vole over time include the use of a regression line to describe long term decline. However, no p-values were presented alongside the Rsq values and hence it is not possible to interpret whether these declines are significant in</i>	Noted

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		2019.	<i>terms of actual probability, rather than simply goodness of fit. However, more importantly, the use of parametric linear regression is likely to be invalid using these data due to their categorical nature. It is likely that a non-parametric regression would be preferable.”</i>	
76	SWT	30 May & 3 June 2019 Workshop – formal 18 June 2019.	<i>“Despite Aldhurst Farm, Lagoon A, being fenced off and there being more mitigation land than habitat lost, it appears by no means certain that this will act as adequate mitigation. Aldhurst Farm was designed to act as compensatory habitat for the loss of reedbed and not designed specifically for water vole. Whilst it is likely to be suitable, the reedbed is unlikely to be optimal especially in terms of edge and burrowing habitat compared to the loss of 1500m of Sizewell Drain in particular. We would therefore question whether the mitigation habitat proposed is adequate to cover the proposed loss.”</i>	<p>The lagoon, ditch and reedbed habitats are optimised for this species and are greater in extent than the area of suitable habitat to be lost from the Sizewell Marshes SSSI. At least several sections of the SSSI to be lost are heavily shaded and surveys in 2019 (to locate a culvert for Site Investigation access) found only a low density in this location, confirming the position stated left.</p> <p>Part of Aldhurst Farm has been fenced to prevent the natural colonisation of water vole, and the site has been established using enhancement measures to increase carrying capacity. Prior to any water vole translocation, the habitat quality of both the receptor and donor sites would be reassessed, to ensure there is sufficient suitable habitat for water voles.</p> <p>It should be noted that Sizewell Drain would be only temporarily suitable for water voles during construction and would be reinstated along a new alignment along the western edge of the new Sizewell C platform. It would be reinstated in a condition that within several years of habitat development would be suitable for natural recolonisation by water voles.</p>
77	SWT	30 May & 3 June 2019 Workshop – formal 18 June	<i>“There appears to have been little work considering the cumulative effect of projected water level change on water voles across the SSSI. We suggest more work in this area is</i>	Hydrological modelling suggests a slight drawdown in water levels of up to 13cm during construction with mitigation in the form of a control structure to enable maintenance of water levels as required. This is considered further in Chapter 14 , which draws on the hydrological

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		2019.	<i>required to fully determine effects and mitigation required.”</i>	assessment presented in Chapter 19 Groundwater and surface water and related appendices. No significant effects on water voles are predicted as a result of waer level change, give the ability to control water levels though control structures.
78	SWT	30 May & 3 June 2019 Workshop – formal 18 June 2019.	<i>“We are concerned about the assumption that the 70m culvert will enable connectivity between populations to remain intact, even with the provision of mammal shelves. What evidence is there in the literature that water vole regularly traverse 70m culverts? We also request to see evidence that otter use culverts of 70m.”</i>	See response to No 12, above.
79	SWT	30 May & 3 June 2019 Workshop – formal 18 June 2019.	<i>“We would also strongly recommend that the Lover’s Lane culvert includes mammal shelves.”</i>	Modifying the road in this location is not part of the current proposals. Lovers Lane forms an important transport and pedestrian corrdor, particularly within the early years of the construction of the Sizewell C project. However further consideration will be given to how improvements can be made at this location to enhance connectivity for otters and water voles.
80	SWT	30 May & 3 June 2019 Workshop – formal 18 June 2019.	<i>“We are concerned over the continued use of the term ‘temporary’, especially in the context of bats. We believe the extent of the impact over the course of the 10 years, within the context of wider bat decline, means it is possible that any impact will in fact be permanent, even after construction.”</i>	Consideration of likely future baseline in the absence of development is considered. It is not considered likely that the existing baseline for bats would change significantly in the absence of development over the next decade.
81	SWT	30 May & 3 June 2019 Workshop – formal 18 June	<i>“The data continues to indicate the critical interaction between population of barbastelle and other bat species on Sizewell estate and Minsmere. The suggestion from the workshop</i>	There were no distinct commuting routes identified for any species between Minsmere and south of the temporary construction area, but it would be surprising if distinct commuting routes existed over this distance, given that foraging habitats are also present between these two areas.

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		2019.	<i>was that there was no evidence to suggest a strong commuting route for bats travelling north to south. However, it was not clear if this pertains only to barbastelle or all bat species. Whilst barbastelle are more likely to fly over open spaces than some other species, many of the species found commuting between the two sites will be heavily reliant on specific routes and for some species, any disruption of these is likely to have a deleterious impact. However, further to this, even if barbastelle are not dependent on specific routes and habitat corridors, the assessment does not to appear to consider how the development site itself might impact on connectivity and change bat behaviour. In other words, barbastelle may currently be willing to fly over open, arable fields, but may not fly over the development site itself, potentially making the corridors more important. We ask for more work to be done on this to understand the importance of current corridors against their future importance in the likely event of the development site changing bat behaviour.”</i>	Some bat species are more reliant on linear features than others, though most forage to some extent in open habitats. The ES does consider the energetic implications of longer commuting journeys as a result of bats choosing to use the SSSI crossing and the Upper Abbey Bridleway (or routes west of the site boundary), rather than crossing the construction site, and measures are proposed to protect these routes.
82	SWT	30 May & 3 June 2019 Workshop – formal 18 June 2019.	<i>“We request that clearer information is provided on the number of moderate and high value trees that will be lost. There also appear to be very little consideration of how trees that currently have moderate or high value will be impacted by noise and lighting and how this then needs to be translated into mitigation.”</i>	The number of high and moderate value trees that would be lost has been recalculated based on the application boundary and the impacts of noise and lighting on potential roost trees are considered in section 14.21 . The approach to mitigation for bats is outlined in the Bat Mitigation Strategy at Appendix 14C1A

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83	SWT	30 May & 3 June 2019 Workshop – formal 18 June 2019.	<p><i>“Given the number of trees that will be lost, the number that might be impacted by noise and light, coupled with the clear disruption between Sizewell and Minsmere for at least 10 years, we consider that the provision of 45 bat boxes and screening for noise and lighting in specific locations to be woefully inadequate. We consider that significantly more mitigation is required to off-set impacts over the course of the development. Furthermore, to our knowledge, the bat boxes previously erected have not been surveyed so there is no proof they are being used or are in the right places.</i></p> <p><i>Proposed new planting will not be used by bats for 30 years or more and there appears to be little consideration of this in the mitigation strategy.”</i></p>	<p>Mitigation includes retention of corridors to facilitate continued movement by bats during construction north-south and east-west across the site, measures to ensure these remain unlit and provision of alternative foraging habitats, in addition to provision of bat boxes and screening from noise and lighting, as detailed in section 14.21.</p> <p>Bat boxes would be monitored in the active season prior to construction commencing. A ‘bat barn’ or suitable modifications to the existing buildings at Lower Abbet Fram would be provided in advance of construction and additional bat boxes would be provided as required to compensate for any defined roost that may be identified in a tree to be felled. The approach to mitigation for bats is outlined in the Bat Mitigation Strategy at Appendix 14C1A</p> <p>The additional 50ha of woodland and scrub planting to be planted across the site would indeed take many years to mature, but as the majority of the resource for tree roosting bats within the wider EDF Energy’s estate is retained, the emphasis in the oLEMP is on provision of foraging habitat post-development.</p>
84	SWT	30 May & 3 June 2019 Workshop – formal 18 June 2019.	<p><i>“We question why surveys will be restricted to those that will be lost and not to those subject to disturbance. We consider, to properly understand impacts of the development from noise and lighting, as well as direct loss of habitat, surveys need to include all sources of impact.</i></p> <p><i>In our view, Goose Hill has currently been under-surveyed and more monitoring is required in this area.”</i></p>	<p>The approach to surveys is described in the responses above. Further survey is proposed to inform further iterations of the bat mitigation strategy and any requirement for protected species licenses.</p> <p>Monitoring surveys would be undertaken in the active season prior to construction works commencing to help inform mitigation proposals and provide an updated baseline, specifically for comparison with ‘during construction’ and ‘after construction’ monitoring. This may include the use of static detectors (see above).</p>

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85	SWT	30 May & 3 June 2019 Workshop – formal 18 June 2019.	<i>“We question whether the mitigation land for Sizewell Marshes SSSI compensation will mitigate for loss of foraging land as the bats will not only need to alter flight lines but also general direction from a north-south direction to east-west. Is there evidence in the wider literature to support this level of change in behavioural foraging?”</i>	There is little evidence in the wider literature for development-related behavioural changes, but it is generally accepted that bats have behavioural flexibility when foraging in order to exploit seasonal food sources, short-term availability of food (e.g. foraging activity following movement of livestock between fields) and in response to different weather conditions. Given the baseline situation where bats are generally foraging over the site rather than commuting across it (though commuting routes were identified in some locations), it is considered likely that foraging bats would be able to find and exploit these areas successfully.
86	SWT	30 May & 3 June 2019 Workshop – formal 18 June 2019.	<i>“Furthermore, we question the validity of the marsh harrier mitigation land for bat forage mitigation, given the area between much of the bat activity and this site will be intersected by the development area. We believe it is highly unlikely therefore, that bats will be easily able to access this land. Additionally, what evidence is there to suggest bats will forage over these drier areas enough to offset the loss of wetland forage areas?”</i>	Mitigation measures to facilitate bat movement north-south across or around the construction site are presented in section 14.21 and would enable bats roosting to the south to reach the marsh harrier habitat improvement area for foraging. Foraging recorded during surveys to date has not been restricted to wetter areas, and or is it likely to be in future.
87	SWT	30 May & 3 June 2019 Workshop – formal 18 June 2019.	<i>“Whilst some species of bats will adapt and change to use new commuting routes, some species are less adaptable than others. The rate of change, compounded by synergistic effects of tree loss, hedge line loss, lighting and noise can all impact different species in different ways. We consider only maintaining connectivity and ignoring potential impacts from the loss of current connectivity routes as over-simplistic.</i>	The principle of identifying and maintaining routes that allow connectivity for bats across development sites is well established for large residential and industrial developments, and often also for linear infrastructure projects. The proposals here are the same in principle: i.e. to ensure that bats have routes by which they can move north-south during construction, even though not every existing feature used by bats can be retained. The ES considers the implications of additional energetic costs associated with diversion of flight paths for all bat species.

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			<i>Furthermore, whilst barbastelle are likely to be less reliant on linear features and are able to travel longer distances than other species, they are unlikely to travel over large development sites. We feel this impact has been significantly underplayed and we therefore question the validity and effectiveness of the mitigation strategy.”</i>	
88	SWT	30 May & 3 June 2019 Workshop – formal 18 June 2019.	<i>“Hedge lines need to be planted now to ensure they provide new corridors that are effective during construction.”</i>	Advance planting and strengthening of hedge lines where possible has already occurred. This has included planting of two new areas of woodland (Red Rails and White Gates Fields) and two new hedges (Lower Abbey Farm track hedge and Black Walks hedge). Additional hedgerow, tree and scrub planting will form part of the wider restoration proposals outlined in the oLEMP .
89	SWT	30 May & 3 June 2019 Workshop – formal 18 June 2019.	<i>“We also challenge the statement that, ‘Extensive habitat creation and restoration post-construction is likely to deliver substantial net benefit to foraging bats’. From our understanding, post construction gain cannot be considered as mitigation for impact arising during construction.”</i>	The intention is that post-development habitat creation and restoration deliver net gain for foraging bats including enhanced foraging habitats and enhanced north-south connectivity compared to the baseline situation, not that the post-development proposals mitigate impacts during construction.
90	SWT	30 May & 3 June 2019 Workshop – formal 18 June 2019.	<i>“We strongly challenge the assumption that the SSSI crossing could provide a functional corridor for bats. Given that the crossing is a culvert over an existing SSSI, which is currently excellent bat habitat, it seems incongruous to then claim this impact as mitigation. Furthermore, there is no evidence presented to suggest that bats will use</i>	Providing a route for bats to cross at this point is mitigation for habitat fragmentation. Mitigation for habitat loss is also provided, but not at this specific location. The design of the SSSI crossing and associated lighting etc. would aim to avoid significant disturbance into adjacent areas of Sizewell Marshes SSSI and so ensure the culvert is effective for bats.

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			<i>the crossing given the potential for light and noise barriers.”</i>	
91	SWT	30 May & 3 June 2019 Workshop – formal 18 June 2019.	<i>“Overall, the bat mitigation strategy is very disappointing and falls well short of what we consider to be the likely level of impact. Not only does the mitigation fall short, there are no proposals for any enhancement measures. In our view, there needs to be serious consideration of the creation of hibernacula, e.g. bat tunnels, as part of the mitigation.”</i>	<p>Updated mitigation measures are set out in the updated Bat Mitigation Strategy (Appendix 14C1). These include the creation of a new ‘bat barn’ or adaptations to the existing farm buildings at Lower Abbey Farm to create new hibernacula, in accordance with the suggestion made by SWT and others.</p> <p>In the operational situation, the measures set out in the oLEMP represent an enhancement of foraging habitat over the existing situation; foraging habitat is more likely to limit bat populations than availability of hibernation sites and would therefore represent more effective enhancement.</p>
92	SWT	30 May & 3 June 2019 Workshop – formal 18 June 2019.	<i>“We welcome the long-term planning that has gone into the reptile mitigation strategy. However, we consider that Aldhurst Farm is of limited use for reptile translocation, or mitigation, as it will be used for recreation by walkers and dogs. If areas of Aldhurst Farm are going to be used, these will need to be fenced off from the public, or at the very least, carefully planned belts of scrub, managed in a way that naturally restricts access should be planted.”</i>	<p>Secure fencing around the wetland areas will prevent any public access compromising these areas. A management plan is in place and a further submission to ESC was made to identify the proposed approach to recreational access.</p> <p>The northern part of Aldhurst Farm with no formal public access could be used for all reptile species, including adder, whilst public access to the southern part of Aldhurst Farm means that this would only be used for non-venomous reptiles. The carrying capacity of the available habitat of this and all receptor areas is considered in the reptile mitigation strategy.</p>
93	SWT	30 May & 3 June 2019 Workshop – formal 18 June	<i>“We question whether the amount of mitigation land is sufficient, particularly for adder, given the level of estimated adder numbers that require translocation is over the ‘theoretical’ carrying capacity. We therefore ask EDF to consider</i>	The estimate of adders to be translocated is an estimate only. That the estimated population of adders slightly exceeds the ‘theoretical’ carrying capacity of the receptor sites, itself an estimate, is not considered to be undermine the conclusions reached in the Reptile Mitigation Strategy at

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		2019.	<i>further mitigation land to ensure adder populations are not impacted in the long term.”</i>	Appendix 14C2A. The receptor areas would be subject to a further assessment, likely in 2021, to further consider their carrying capacities before translocation occurs and, if required, additional lifecycle features or habitat enhancement measures would be implemented to increase carrying capacity. In addition, careful monitoring of translocation would occur and the situation reviewed when sites have reached 50% of their theoretical carrying capacity giving early warning if additional contingency is required.
94	SWT	30 May & 3 June 2019 Workshop – formal 18 June 2019.	<i>With regard to natterjack toads: “Whilst we support the monitoring and mitigation plan and post-construction restoration, we are concerned that the proposals have not fully considered alternative locations to avoid damage in the first place. We would welcome sight of how other options have been considered and then ruled out. There is also currently a lack of information as to how the water management zones will function, making it impossible to determine wider impacts.”</i>	WMZs are required in a variety of areas to support the approach to construction site drainage. The WMZ located in Retsoms is required to support the drainage in the eastern part of the temporary construction area. Further design may lead to a reduction in the size of this proposed WMZ.
95	SWT	30 May & 3 June 2019 Workshop – formal 18 June 2019.	<i>“We also consider that further monitoring would help aid refinement to maximise the mitigation benefits. Part of this should be to consider the role of the local rabbit population and their function in maintaining suitable natterjack habitat. We believe the proposed loss of the rabbit warren will significantly impact on short grass/bare ground habitat that is beneficial to natterjack. We also ask EDF to seriously consider implementing the plans to link the coastal dune systems into the Studio</i>	Habitat enhancements are discussed in the Natterjack Toad Mitigation Strategy (Appendix 14C9). A further pond is proposed in the retained areas of Retsom’s Field in accordance with SWT’s suggestion. The main rabbit warren at the edge of the proposed WMZ would be avoided through detailed design of the WMZ profile. The impacts of the WMZ are assessed in Chapter 14 section 14.18. and in the Natterjack Toad Mitigation Strategy (Appendix 14C9). Further surveys to inform the protected species licence will be

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			<i>Fields complex as this would significantly enhance connectivity as well as seeking to create new natterjack ponds wherever possible.</i>	undertaken. The suggestion in relation to the Studio Field complex is noted, but does not form any part of the proposed approach.
96	SWT	30 May & 3 June 2019 Workshop – formal 18 June 2019.	<i>“There is no mention of the loss of 1 hectare of heather heathland and ask where this habitat will be compensated for.”</i>	There would potentially be loss of heather heath from within Retsoms field to accommodate the water management zone depending on sizing and detailed design. This loss would be compensated for in the wider restoration of the EDF Energy estate as outlined in the oLEMP . The vision for the newly created areas of dry acid grassland is that ultimately, at least locally, they can be enabled to evolve into an acid grassland/heath mosaics through careful management practices although this will be dependent on soil pH and structure and would be defined in future in the detailed LEMP.
97	SWT	30 May & 3 June 2019 Workshop – formal 18 June 2019.	<i>“A badger route should be included in the culvert crossings.”</i>	The SSSI crossing has been designed to be an embankment and culvert, with the culvert of sufficient dimensions to leave the bank and channel of the Leiston Drain intact. During normal flows, badgers would be able to use the retained banksides to traverse the crossing from east to west.
98	SWT	30 May & 3 June 2019 Workshop – formal 18 June 2019.	<i>“Whilst recognising that we have been included in the exercise of choosing a mitigation site, in our opinion, a site visit to all of the short-listed sites is required to properly ascertain appropriateness. We would also recommend that a thorough hydrological survey is carried out to ensure any impacts on neighbouring land can be fully determined.”</i>	Of the five most promising short-listed sites, four were visited and surveyed in 2019. Of these, two sites (sites 10 and 11, now combined as one site) at Benhall and one site (site 28) at Halesworth were selected as they showed strong potential for the creation of new fen meadow habitats and are included in the application for development consent on that basis. Hydrological surveys at these sites are underway. The remaining 17 short-listed sites were held in reserve in case the most promising sites proved unsuitable, but given the suitability of the selected sites, further assessment was not required. A number of these sites had

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				been surveyed previously. A further 47 sites were considered at the 'long list' stage and not taken forward.
99	SWT	30 May & 3 June 2019 Workshop – formal 18 June 2019.	<i>“We are concerned over the long-term impacts on the coastal shingle and note that the area of coastal frontage is of at least SSSI quality. It is likely that disturbance will be high after construction and ask some consideration of future management is given to maximise its biodiversity value in the future and provide protection from trampling. We would also welcome a better understanding of how the area will be managed in relation to the power station operation and how EDF plan to ensure the site is protected during delivery of load via sea, using the Beach Landing Facility.”</i>	<p>Reinstatement of sand and shingle substrate habitats would occur on the completion of the hard sea defence structure to allow the reestablishment of coastal vegetation across this area and the artificial dunes to be established to the east.</p> <p>The BLF is designed to ensure there is no ongoing damage to reinstated habitats on the coastal frontage once these have been re-established and once the new coastal defences are in place.</p> <p>During the operational phase, a monitoring plan would be implemented to which would determine whether beach replenishment or nourishment is required (see Chapter 20 Coastal Geomorphology and Hydrodynamics).</p> <p>The long term situation needs to be considered in the context of coastal squeeze which will eventually cause the loss of coastal shingle and dune vegetation in this location at some point in the future due to climate induced sea level rise.</p>
100	SWT	30 May & 3 June 2019 Workshop – formal 18 June 2019.	<i>“We have considerable concerns over the potential location of flood storage and have yet to see that suitable alternative locations have been considered. We consider there is a high chance that the need for flood storage may further impact a number of receptors, such as natterjack toad (as discussed above) and these need to be fully considered.”</i>	<p>The flood storage compensation areas at the main development site no longer form part of the proposals, as the Environment Agency has indicated these are unlikely to be required. However a temporary water storage area and a wetland corridor are proposed in these locations at the northern end of the EDF Energy estate. All of these elements of the proposals have been assessed as relevant within Chapter 14.</p> <p>The potential impact of a water management zone on natterjack toads has been assessed within section 14.18.</p>

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101	SWT	30 May & 3 June 2019 Workshop – formal 18 June 2019.	<i>“The flood storage areas next to the Minsmere Levels SPA would be visible from Minsmere and Dunwich Heath and potentially be very disruptive with noise, dust and vehicle movements. We ask that these potential impacts are considered fully.”</i>	<p>The flood storage compensation areas at the main development site no longer form part of the proposals, as the Environment Agency has indicated these are unlikely to be required. However a temporary water storage area and a wetland corridor are proposed in these locations at the northern end of the EDF Energy estate.</p> <p>All of these elements of the proposals have been assessed as integral elements of the proposals, including the impacts of noise and dust, as relevant within Chapter 14.</p>
102	Royal Society for the Protection of Birds (RSPB)	3 June 2019 (Workshop).	RSPB suggested investigating the water vole carrying capacity of the lagoons at Alhurst Farm that have not been fenced.	The area of reedbed, ditch and lagoon habitat at Aldhurst Farm is similar in area to that being lost and is therefore likely to have sufficient capacity to accommodate the water vole and Lagoon A has been fenced to ensure water voles cannot colonise in the interim. Secure fencing around the wetland areas will prevent any public access compromising these areas.
103	RSPB	3 June 2019 (Workshop).	RSPB suggested consulting RSPB ecologists about current RSPB natterjack mitigation.	<p>RSPB ecologists provided helpful information on the current RSPB natterjack toad populations.</p> <p>A Natterjack Toad Mitigation Strategy (Appendix 14C7A) has been prepared that seeks to exclude natterjacks from the footprint of the water management zone during construction, create additional artificial hibernacula and a breeding pond as well as manage and enhance retained habitats.</p> <p>SZC Co will develop its mitigation strategy for natterjack toads with Natural England and is also committed to working with the RSPB and the Suffolk Wildlife Trust to develop proposals that ensure that the natterjack toad population is protected during the construction process.</p>
104	RSPB	Letter dated 10	<i>“We note that the coastal vegetation which will be</i>	Reinstatement of sand and shingle substrate habitats would occur on the

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		June 2019.	<i>removed and reinstated during construction of the sea defences is considered to be of SSSI and potentially SAC quality. We acknowledge that recovery of this habitat type did occur following the construction of Sizewell B and that management of this shingle, including through exclosures to prevent human trampling, has been important and appears to have been successful. However, there is no active management of the shingle substrate itself in front of Sizewell B, whilst the strategy for Sizewell C appears to indicate there will be a need to manage the frontage through mechanical means, so there is a need to ensure that the future management strategy arising from the coastal processes work stream is coordinated with and takes sufficient account of the issues raised in the ecological workstream.”</i>	<p>completion of the hard sea defence structure to allow the reestablishment of coastal vegetation across this area and the artificial dunes to be established to the east.</p> <p>During the operational phase, a monitoring plan would be implemented to which would determine whether beach replenishment or nourishment is required (see Chapter 20 Coastal Geomorphology and Hydrodynamics).</p> <p>The long term situation needs to be considered in the context of coastal squeeze which will eventually cause the loss of coastal shingle and dune vegetation in this location at some point in the future due to climate induced sea level rise.</p>
105	RSPB	Letter dated 27 June 2019.	<i>“The RSPB highlights our concern that the existing ecology surveys are dated and do not meet the requirements set out in the CIEEM Advice Note on the Lifespan of Ecological Reports and Surveys. The CIEEM advice note indicates that surveys over 3 years old are: “unlikely to still be valid and most, if not all, of the surveys are likely to need to be updated (subject to an assessment by a professional ecologist)”. The CIEEM Guidelines for Ecological Impact Assessment (EclA) should be followed to allow the accurate identification and description of</i>	Refer to response to No. 1, above.

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			<i>relevant sensitive receptors, together with trends in species populations, distribution and rates of potential colonisation by new species as a baseline for the assessment of construction and operational effects. We also note that the CIEEM EclA guidance states that “If there is likely to be a lengthy time between undertaking an impact assessment (for example, to inform the planning application) and project inception, potential changes in the ecological baseline during that time should be identified”.</i>	
106	RSPB	Letter dated 27 June 2019.	There were a multitude of comments related to the specific technical appendices.	These have been addressed, where feasible, within the relevant technical appendices.
107	RSPB	Letter dated 27 June 2019.	<i>“During the meeting we noted that potential interest features from the neighbouring designated site should be considered during the main development site (MDS) appraisal (e.g. the Ramsar mollusc <i>Vertigo angustior</i> which is likely to be present). EDF agreed to consider this point.”</i>	Detailed invertebrate surveys have been completed to the site and are detailed in section 14.16 . Narrow-mouthed whorl snail was not recorded during surveys.
108	RSPB	Letter dated 27 June 2019.	<i>“We consider that risks to the operational management of Sizewell Marshes SSSI may arise during construction, which could seriously impact on the site’s conservation condition (in addition to the impacts resulting from land-take from this SSSI). These risks require assessment and mitigation to ensure that management to maintain SSSI condition is not compromised by the</i>	Ongoing access to the retained areas of the Sizewell Marshes SSSI will be maintained to ensure ongoing management, including grazing, during the construction process.

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			<i>development.”</i>	
109	RSPB	Letter dated 27 June 2019.	<i>“It was reported at the MDS workshop that noise impacts on bats after dark were being considered and that it was anticipated that relevant noise thresholds may be exceeded during the hours of darkness. This is in contrast to information that was reported at the waterbirds workshop (May 2019), where in response to our concerns that noise from the site at night could impact on the movement of waterbirds (particularly European white-fronted geese flying from North Warren to Minsmere to and from their nocturnal roost), we were informed there would be no significant noise impacts during the hours of darkness. We request clarification on this aspect of the project and potential impacts.”</i>	There would be some limited nighttime working during construction and this is described in Chapter 3 Description of Construction . The impacts of this are assessed in Chapter 14 in respect of bats and birds (including European White-fronted Geese) as relevant.
110	RSPB	Letter dated 27 June 2019.	<i>“We are concerned that culverts represent a barrier to the movement of certain species, including otters, water voles and bats at the SSSI crossing on the MDS, and water vole and otters at Lover’s Lane (between Sizewell Marshes SSSI and Aldhurst Farm). We recommend that these issues are incorporated into the assessment.”</i>	The SSSI crossing on the main development site is assessed as part of the development proposals in Chapter 14 and the potential for fragmentation effects are considered. The existing Lovers Lane culvert does not form part of the development proposals.
111	RSPB	Letter dated 27 June 2019.	<i>“We note from the meeting that no supporting evidence appears to exist to demonstrate that water voles will pass through a culvert of the length proposed for the SSSI crossing. At the</i>	The SSSI crossing on the main development site is assessed as part of the development proposals in Chapter 14 and the potential for fragmentation effects are considered, including on water vole populations. Based on the literature review undertaken (see the Water Vole Mitigation

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			<i>meeting it was indicated that evidence exists for water voles passing through a 30m culvert and it was assumed that they should be able to complete the 70m required to pass through the proposed SSSI crossing culvert. We therefore remained concerned that the option chosen at this location will present a barrier to the nationally important populations at Sizewell Marshes and RSPB Minsmere which are currently functionally linked.”</i>	<p>Strategy (Appendix 14C6A) for further details), the installation of a culvert at the SSSI Crossing as part of the scheme design is not considered likely to have a detrimental effect upon the local water vole population and is not deemed likely to result in population fragmentation.</p> <p>The draft water vole protected species licence, includes details on the crossing point/culvert mitigation measures proposed, which will maximise the likelihood of its use by water vole.</p> <p>Monitoring of water voles populations would be undertaken prior to, during and after construction of the SSSI Crossing.</p>
112	RSPB	Letter dated 27 June 2019.	<i>“Currently the Sizewell estate and RSPB manage the red deer population that exists on the boundary between these two sites. Construction activity will displace deer, through physical barriers to movement, noise and visual disturbance, and direct loss of foraging and resting habitat. This could lead to potential increased impacts on the Minsmere designated sites and a need for greater resources for management by RSPB.”</i>	Deer populations are growing nationally, but there is active management of red deer and muntjac on the EDF Energy estate which would continue. EDF Energy would work with adjacent landowners, including the RSPB, to manage deer populations and so reduce any potential impact of displaced deer.

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