

Thanet Extension Offshore Wind Farm  
Development Consent Order: EN010084  
Deadline 3: 5<sup>th</sup> March 2019



**Kent Wildlife Trust post-hearing submission and responses to action points from Issue Specific Hearing 3 on Environmental Matters held on 19<sup>th</sup> February 2019 for Thanet Extension Offshore Wind Farm**

Dear Planning Inspectorate Examining Authority,

Kent Wildlife Trust attended the recent Issue Specific Hearing 3 (ISH3) on 'Environmental Matters, Ecology, HRA, physical, construction and other matters' on 19<sup>th</sup> February 2019. Those in attendance from Kent Wildlife Trust were Julia Hunt, Head of Conservation Policy & Advocacy; Vincent Ganley, Planning & Consultancy Lead; and Alice Morley, Marine Conservation Officer.

Throughout the hearing positive discussions were had between the Applicant, the Examining Authority (ExA) and the interested parties who had requested to speak. The process was facilitated well by the ExA (led by Rynd Smith) who ensured that the interested parties were given the opportunity to speak and put their points across.

We understand that the ExA needs to focus on the options that are presented in the application. However we are concerned that through the examination process we were not able to fully discuss/outline the issue regarding the consideration of viable alternative routes for the onshore cable route, as this is the area of primary concern for Kent Wildlife Trust, the National Trust and a number of other interested parties.

We have outlined our objection to the proposed onshore cable route in the Relevant and Written Representations, in particular due to the dismissal of other potential onshore routes without adequate environmental evidence demonstrating that the chosen route is the least environmentally damaging.

The rest of this response will focus on the questions/actions put to Kent Wildlife Trust at ISH3.

**1) Effects of Nemo cable connection and other cable connections on saltmarsh in Pegwell Bay**

***'Kent Wildlife Trust is to clearly document any adverse effects arising upon the saltmarsh from the previous cable connection projects passing through Pegwell Bay. What is the potential for in combination / cumulative effects with the Thanet OWFE project?'***



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It is the responsibility of the developers to clearly identify and document any long-term, short-term and permanent adverse effects caused by existing cables on the site, and to monitor these at suitable intervals over the lifetime of the project. Therefore for the site in question (Pegwell Bay Country Park, Stonelees, and the whole Sandwich and Pegwell Bay National Nature Reserve) Nemo and Vattenfall should be responsible for this, and for making this information available. However, we outline here some of our in-principle concerns relating to previous and proposed incursions on the site:

### **Nemo Impacts**

Kent Wildlife Trust do not have access to all post-construction monitoring findings/reports, in part due to confidentiality and through these reports not being publically available in many cases. Therefore for a full understanding of the findings and details of the impacts from Nemo, we suggest that the ExA contact Nemo and request their post-construction monitoring reports for the Nemo interconnector cable.

In the short term there was complete removal of the vegetation where trenching took place. The long term impact is not certain however. Kent Wildlife Trust did not undertake formal survey / monitoring of the saltmarsh vegetation as this was the responsibility of the developer. Any assertions made here would not be supported by hard data. However, *possible* impacts from this development include:

1. The loss of native saltmarsh vegetation if non-native *Spartina anglica* replaced native saltmarsh species (as it can do according to the literature due to superior colonising rate).
2. The loss of native saltmarsh vegetation due to changes in land level resulting from the work. A lowering of the ground resulting in the formation of permanent or semi-permanent pools; an increase in land level resulting in succession to maritime grassland habitat with a loss of typical saltmarsh plants like sea purslane, sea lavender etc.
3. Recorded disturbance to wintering birds during the intertidal phase of construction

In addition to these, the impact on saltmarsh vegetation near Jet Petrol Station was significant with a swathe excavated including both native and non-native saltmarsh plants.

### **Vattenfall Offshore Wind Farm**

- From previous Vattenfall cable, there was disturbance to wetland birds during intertidal construction phase, as documented during Pegwell Bay Bird Disturbance Study carried out by Kent Wildlife Trust (2010-2011). During this time a number of the observations of bird disturbance were recorded which related to motor vehicles associated with cable laying works for the offshore wind farm which took place in late January and February 2010. This involved quad bikes and excavators driving at low speed across the mudflats.
- The timing of onshore/intertidal works of the previous cable installation was inappropriate and poorly timed as the cables were installed in the middle of the

overwintering period. Given the known importance of the site for overwintering bird populations, this failure in timing and construction planning has resulted in a lack of confidence that the applicant will secure suitable mitigation through timing of works if the current proposal is consented.

However, whilst overwintering period is a particularly sensitive time of year for bird population, it is also important to note that no time of the year is without impact to birds, as the site is used year-round by different groups and species of birds, highlighting the overall importance of this site. For these reasons we would like to re-affirm our position that this site should not be subject to yet more disturbance activities and that it should be protected from further incursions.

### **Vattenfall Extension Impacts**

- There will be temporary loss of saltmarsh vegetation if excavation is used, including possibly small areas of native saltmarsh vegetation and other coastal plants on sea wall. If native saltmarsh vegetation is removed recolonization by non-native species is possible resulting in permanent loss of native saltmarsh habitat.
- The saltmarsh vegetation will be completely removed if trenching is adopted. It may recover over time, however uncertainty arises as to whether it will return to its original condition.
- The saltmarsh / maritime grassland / intertidal zone is used by breeding redshank and skylark and a range of invertebrates, some of which are of national importance e.g. moths.
- In-combination effects: The impact of elements of this development are described as “minor adverse” but we are deeply concerned about the ‘in combination effect’ of a whole plethora of other developments, past and present affecting the site. These include: the hoverpad; road widening; local housing / increased recreational pressure; repeated cable laying works; Coast Path; cycle track; and Manston Airport.

### **2) Thanet Coast and Sandwich Bay Ramsar**

*‘Kent Wildlife Trust is to document specific concerns about any permanent effects on bird species in the intertidal zone. A basis for these concerns should be set out.’*

There will be a temporary impact from the proposed development on birds using the intertidal zone and an ‘in combination’ impact with other developments and disturbance pressures. Our main concerns relating to bird species are outlined below:

- Indirect impacts on birds including disturbance to migratory, wintering and possibly breeding wetland birds.
- Trenching could result in damage to the invertebrate community and a reduction in food availability for birds. It is thought that Horizontal Directional Drilling (HDD) will probably have a negligible direct impact.
- Possible disturbance to redshank and skylark breeding in saltmarsh / maritime grassland whilst work is taking place (depending on timing of works).

- Damage to benthic invertebrate community in mud / saltmarsh caused by cable installation due to direct damage to invertebrates and disturbance to (reordering of) or compaction of the sediment, resulting in a loss of food for wetland birds. The scale of impact will depend on the cable installation method used.
- Damage to reedbed habitat at base of sea wall which is used by breeding reed warbler and possibly reed bunting.
- Either method of cable installation will result in disturbance to feeding, roosting and possibly nesting birds while the work is taking place.
- Wintering / migratory birds: e.g. turnstone, golden plover, sanderling, ringed plover, grey plover. The mudflats immediately in front of the bird hide are favoured by **golden plover** for roosting.
- Breeding birds: **redshank** several pairs nest on saltings though possibly not in the area directly affected by the works. The same also applies to skylark.
- A small area outside the sea wall was not within the recording area. This may be the reason why reed warbler was not recorded as the reedbed at the base of the sea wall supports this species.
- Internationally important designated (Ramsar, SPA) site for wintering/migratory wetland birds. Several recorded in nationally significant numbers (golden plover, grey plover, ringed plover, sanderling, Lapland bunting).
- Damage to reedbed habitat at base of sea wall (used by breeding reed warbler and possibly reed bunting)
- The intertidal phase of work will result in disturbance to feeding, roosting and possibly nesting birds depending on the timing.
- The Ornithological Report provided by the Applicant states:

“Mitigation embedded into the proposed development from an early stage includes a **timing restriction on works** within intertidal habitats to avoid significant disturbance to non-breeding waterfowl. Construction works on the intertidal will therefore not be undertaken during the period October to March. As such, **no quantitative assessment of disturbance to wintering waterfowl due to cable-laying within intertidal habitats has been undertaken as no effects are predicted**”

We have little confidence in the proposed mitigation of timing restrictions of intertidal works based on our experiences from the timing of the previous cable installation for the Thanet Offshore Wind Farm. What guarantees can the Applicant offer that the schedule will be adhered to? Nemo did not commit to their proposed timeline for construction and onshore works and there was recorded disturbance to wintering birds during the intertidal phase of construction for this development.

### **3) Site Selection and Alternatives**

*‘The National Trust and Kent Wildlife Trust are to set out the specific policy basis (including references to National Policy Statements) for their objections to site selection conclusions, specifically in relation to the export cable landfall location. To include Habitats Regulation Assessment effects where relevant.’*

We endorse the response submitted to the ExA by The National Trust regarding this point and fully support the comments made by them.

As mentioned in Kent Wildlife Trust’s Written Representation, the proposed cable route will impact numerous environmentally designated sites; the Sandwich and Pegwell Bay National

Nature Reserve, Sandwich Bay to Hacklinge Marshes SSSI, Sandwich Bay SAC, Thanet Coast and Sandwich Bay Ramsar site, and the Thanet Coast and Sandwich Bay SPA. We believe that the current proposal will have numerous disruptive impacts on land designated for nature conservation – designations that have been determined objectively against criteria which have national and international recognition.

The NPS EN-1 outlines that ‘the most important sites for biodiversity are those identified through international conventions and European Directives’<sup>1</sup>. The Habitats Directive provides statutory protection for these sites which include Special Protection Areas, Ramsar sites and Special Areas of Conservation which are known as ‘European Sites’. Many SSSIs are also designated as sites of international importance and all National Nature Reserves, are notified as SSSIs<sup>1</sup>.

We would also like to reinforce the points put across by The National Trust in their response to this question arising from ISH3, in that although the NPS EN1<sup>1</sup> does not contain any general requirement to consider alternatives, it would be appropriate and good practice to do so, as investigating Site Selection Alternatives is a generally accepted and normal practice for Environmental Impact Assessments (EIA).

Under the Habitats Directive, when considering granting consent for a development that may adversely impact on European sites, there must be sufficient evidence that ‘there are no feasible alternative solutions to the plan or project which are less damaging’ which includes using different routes<sup>2</sup>. We do not believe that the project has adequately demonstrated that the chosen route is the least environmentally damaging, or that the alternative onshore route options are not feasible.

We believe it is not possible to state that the proposed development will not damage the integrity of the site, and we believe that feasible alternative route solutions exist that were prematurely discounted.

Ecological surveys were focused on one onshore cable route (Pegwell Bay) resulting in a lack of comparable ecological data. Without comparable ecological data for other proposed onshore cable routes and landfall options, we cannot accept that the route chosen is the least environmentally damaging.

Overall, we believe that given the importance of this site; the numerous designations and the cumulative disturbance caused by several other large scale developments affecting the site, a precautionary approach should be taken and this area should be protected and an alternative route proposed that has less impact on these environmental designations.

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[https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/47854/1\\_938-overarching-nps-for-energy-en1.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/47854/1_938-overarching-nps-for-energy-en1.pdf)

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[https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/82647/habitats-directive-iropi-draft-guidance-20120807.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/82647/habitats-directive-iropi-draft-guidance-20120807.pdf)

#### **4) Post-construction Monitoring of Fish and Shellfish and Benthic Ecology**

*'KWT is to document the monitoring sought, the reasons for it and to draw attention to the best practice examples that you wish the ExA to refer to'*

Please note that the comments made here are not exhaustive and are suggestions/recommendations to be considered in potential monitoring plans. The onus is on the Applicant to ensure suitable monitoring has been considered and incorporated into proposals.

#### **Proposed Monitoring**

We would like to propose the following to be included or considered in monitoring plans for the proposed development:

- Comparison of sites within the array area and OECC and with 'reference' areas outside of the footprint of the development
- Monitoring to incorporate pre, during and post construction phases
- Longer term monitoring studies that cover the lifetime of the project over suitable intervals
- Fish monitoring surveys should consider pelagic and demersal fish species
- Combine surveying expeditions (e.g. for underwater noise, benthic, and fish surveys) where possible, and also monitor both wind farms (the existing Thanet Offshore Wind farm and the proposed Thanet Extension) at the same time. This will be less resource intensive, prevent 'doubling up' on effort, and potentially allow comparisons to be made between the two wind farms

Effective and useful monitoring plans should include pre-construction; during-construction; and post-construction monitoring studies. It is current practice to undertake up to three years' post-construction monitoring studies<sup>3</sup>. However, ideally, longer term monitoring should also occur at other relevant intervals throughout the lifetime of the wind farm, for instance after every five years of operation. As there can be initial fluctuations in populations and benthic composition following construction, longer term monitoring of offshore winfarms is required to see if conditions return to pre-construction levels over time, or if the changes seen are long-term or potentially permanent.

Longer term monitoring studies would also help to determine if any variations experienced following construction of the turbines is likely to be attributed to natural variability or anthropogenic causes. It would also add to the existing data available and encourage other wind farm developments to incorporate longer term monitoring plans into their development proposals.

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<sup>3</sup> [https://www.researchgate.net/publication/281507987\\_Review\\_of\\_Post-Consent\\_Offshore\\_Wind\\_Farm\\_Monitoring\\_Data\\_Associated\\_with\\_Licence\\_Conditions](https://www.researchgate.net/publication/281507987_Review_of_Post-Consent_Offshore_Wind_Farm_Monitoring_Data_Associated_with_Licence_Conditions)

Ongoing monitoring surveys should, if possible, be carried out at the same time of year or in the same season as the pre-construction surveys<sup>4</sup> in order to make them more beneficial and comparable.

### **Reasons for Monitoring**

Monitoring should be conducted and incorporated into the DCO for the following reasons:

- To determine if the environmental predictions and assumptions made in the ES are correct
- To add to the long-term monitoring evidence for offshore wind farms to help inform future developments
- To follow a precautionary approach and to follow good practice
- To ensure that additional mitigation measures can be incorporated/considered if required, for instance if habitats have been noticeably altered or degraded due to the development
- To determine impacts of the development throughout the lifetime of the wind farm, and the monitor the impacts at different phases
- To monitor any cumulative/in-combination effects of both wind farm developments

Despite the proposed Thanet Extension development being an extension to an existing wind farm, there is still a requirement for post-construction monitoring. Through installation of the wind turbine generators and offshore substation, there will be new physical structures in place, the impacts of which should be monitored. We do not believe that it is sufficient to predict that there will be no adverse effects or long term change and therefore state that no monitoring is required.

The development will involve a different design of turbines using newer technologies, and they will be larger than the existing ones. Because of these differences, there is the potential for different environmental outcomes compared to those experienced following construction of the existing Thanet Offshore Wind Farm. Following the announcement of the next round

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<sup>4</sup> (Cefas (2012). Guidelines for data acquisition to support marine environmental assessments of offshore renewable energy projects. Cefas contract report: ME5403 – Module 15. Version 11 pp 99 .) -

[http://www.google.co.uk/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&ved=2ahUKewjGw5iV2ejgAhWnUxUIHZW8DB4QFjAAegQIBBAC&url=http%3A%2F%2Frandd.defra.gov.uk%2FDocument.aspx%3FDocument%3D13548\\_ME5403Module15OffshoreRenewableDataAcquisitionGuidelines.pdf&usg=AOvVaw3Py-X8qtVR1T5L5ODWa\\_18](http://www.google.co.uk/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&ved=2ahUKewjGw5iV2ejgAhWnUxUIHZW8DB4QFjAAegQIBBAC&url=http%3A%2F%2Frandd.defra.gov.uk%2FDocument.aspx%3FDocument%3D13548_ME5403Module15OffshoreRenewableDataAcquisitionGuidelines.pdf&usg=AOvVaw3Py-X8qtVR1T5L5ODWa_18)



of offshore wind farm seabed leasing (Round 4) by The Crown Estate<sup>5</sup> (Nov 2018), it is imperative to monitor the cumulative impacts of numerous wind farms in the region.

Disturbance to the seabed will be caused through the installation of turbines and the offshore cable, the impacts of which will need to be examined. Noise disturbances will need to be monitored during the construction and operation phases, primarily to determine if the ES predictions are accurate and to add to the limited existing.

For the Kentish Flats Wind Farm, the developer (Vattenfall) produced a FEPA (Food and Environmental Protection Act) monitoring summary report<sup>6</sup>. We believe that a similar benthic monitoring methodology should be developed and carried out for the Thanet Extension development, if consent is given. The methodology used for determining benthic macroinvertebrate communities for the Kentish Flats Wind Farm involved sampling at a number of different sites within the array, OECC and some nearby sites to allow comparisons to be made. A similar approach could be taken for the Thanet Extension Offshore Wind Farm.

For the Thanet Extension Wind Farm, an in-principle monitoring plan (IPMP) has not been produced. An IMPM was produced for the Norfolk Vanguard Offshore Wind Farm (another Vattenfall development)<sup>7</sup> which includes a summary/outline of all monitoring to be undertaken during the construction and operational phases of the wind farm. We believe that for ease of understanding and consistency across projects, an IPMP should be produced for the Thanet Extension Offshore Wind Farm.

This opinion was shared by the ExA at the Issue Specific Hearing on Environmental Matters (ISH 3, 19<sup>th</sup> February 2019) who also mentioned that an IPMP would be a useful document to allow the ExA and other interested parties to understand succinctly the during and post-construction monitoring plans, in a single document where such plans are clearly defined and laid out.

Post-construction monitoring can be revised if necessary. It is easier to remove or reduce the DCO DML conditions if the monitoring in place is deemed to be unnecessary than it is to incorporate new conditions into the DML. With this in mind, we believe a precautionary approach should be taken to construction and post-construction monitoring for this development.

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<sup>5</sup> <https://www.thecrownestate.co.uk/en-gb/media-and-insights/news/2018-the-crown-estate-shares-further-detail-on-plans-for-round-4-including-proposed-locations-to-be-offered-for-new-seabed-rights/>

<sup>6</sup> <https://corporate.vattenfall.co.uk/globalassets/uk/projects/fepa-monitoring-summary-report.pdf>

<sup>7</sup> <https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN010079/EN010079-001937-8.12%20In%20Principle%20Monitoring%20Plan.pdf>



## **Fish Monitoring**

With respect to fish and shellfish, best practice is currently considered to be the most recently developed and current Cefas Guidance<sup>2</sup>. To evaluate the ecological impacts of wind farms on fish and shellfish populations, a BACI (Before, After, Control, Impact) strategy has been designed and utilised for other windfarms<sup>2</sup>. This 'BACI' approach is based on repeated samplings (annually and at some sites seasonally, before and after impact) in array areas and reference areas<sup>2</sup>.

Post-construction monitoring of fish is beneficial to see if the windfarm affects the aggregation of fish populations, and the extent to which this may occur.

The Strategic Review of Offshore Wind Farm Monitoring Data Associated with FEPA Licence Conditions states with regards to fish monitoring that 'It is not possible to conclude that any impacts on fish have been demonstrated to be negligible and therefore to recommend that conditions can be removed'<sup>8</sup>. We appreciate that this report was published in 2009, however, we believe that a precautionary approach should be taken and that relevant monitoring of fish species and abundance should be undertaken as part of the conditions for the Thanet Extension Offshore Wind Farm.

Monitoring of fish and shellfish populations during the operational phase of the windfarm is a good way to determine the 'effects of operational noise on fish enhancement and aggregation'<sup>1</sup>. This can then provide valuable information about the effects of different/newer types of wind farm technology and infrastructure on fish populations.

One of the recommendations from the 'Strategic Review of Offshore Wind Farm Monitoring Data Associated with FEPA Licence Conditions' is to monitor 'over several sites to give better spatial coverage, greater allowance for temporal variability, utilisation of larger control areas, regional approaches and distribute monitoring requirements of different issues amongst specific sites. Longer time series or spatial extent for surveys may also add value to these surveys (both in terms of baseline and post-construction monitoring)<sup>6</sup>

In terms of other examples where fish monitoring has been undertaken for offshore wind farms, the Burbo Bank monitoring plan involved conducting two marine fish surveys annually for three years post-construction<sup>9</sup>. Suitable non-destructive monitoring/sampling methods that could be utilised for the Thanet Extension Offshore Wind Farm include fish traps or underwater video systems.

## **Benthic monitoring**

As described in the Review of Post-Consent Offshore Wind Farm Monitoring Data Associated with Licence Conditions<sup>1</sup>, 'particularly good examples of monitoring have been based on a before and after impact survey design, with selected reference sites, well defined impact areas, including those within the boundary of the development site comprising stations selected for scour assessment, sites within the cable corridor and the secondary impact areas (outside the development site and either side of the cable corridor). These methodologies are consistent with the current Cefas (2012) guidelines.'

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<sup>8</sup> <https://tethys.pnnl.gov/sites/default/files/publications/Walker-2009-Fish.pdf>

<sup>9</sup> <https://tethys.pnnl.gov/sites/default/files/publications/Burbo-Monitoring-2008.pdf>

It is of some concern that ‘**no best practice with respect to intertidal monitoring currently exists that applies to cable landfalls**’<sup>3</sup>. With the announcement of Round 4 of offshore wind farm seabed leasing<sup>5</sup>, the issue surrounding cable landfall sites and the impact on the intertidal zone will become more prominent and should be addressed.

Some appropriate methodologies for intertidal monitoring are available in the JNCC Marine Monitoring Handbook (Davies *et al.*, 2001), and include standard intertidal survey techniques such as biotope mapping and core sampling<sup>10</sup>. Disturbance to habitats or species of conservation importance should be avoided, Impacts on biotopes should be recorded, supported by photographic records<sup>10</sup> and submitted to the competent authorities.

### **Marine mammals monitoring**

In relation to marine mammals, we would like to echo the advice given by our colleagues at The Wildlife Trusts for offshore wind farms. Together, we believe that pre, during and post construction monitoring of both noise and harbour porpoise activity should be conducted in parallel, and suggest that marine mammal/porpoise monitoring includes hydrophones and boat/aerial surveys.

We would also like to highlight that at present developers are only required to monitor the noise output from the first four piles to verify the underwater noise modelling results, which is arguably not adequate or representative. Instead there should be regular monitoring of the level of noise throughout the construction period to get a full picture of the noise levels being emitted and the duration during the construction phase. This idea is reinforced in the Review of Post-Consent Offshore Wind Farm Monitoring Data Associated with Licence Conditions<sup>1</sup> where it is acknowledged that ‘monitoring of only the ‘first few’ foundations may not capture the highest noise levels during construction as this depends on parameters such as hammer blow energy, pile locations etc., and the worst case (i.e. the noisiest piling event) may not occur at the first few piles’. It is important that representative noise outputs from construction activities over the complete construction phase are obtained.

Thank you for considering our response to the points raised in at ISH3.

Yours sincerely,

Alice Morley  
Marine Conservation Officer  
Kent Wildlife Trust

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<sup>10</sup> Davies, J., Baxter, J., Bradley, M., Connor, D., Khan, J., Murray, E., Sanderson, W., Turnbull, C. and Vincent, M. (2001) Marine Monitoring Handbook. JNCC. Peterborough.  
(<http://jncc.defra.gov.uk/page-2430>).