

Kommentering af udkast til produkt af forskningsbaseret faglig rådgivning fra DCE, Aarhus Universitet

Titel på produkt	Offshore surveys of Birds, Bats and Marine Mammals for Offshore Wind Farms in Danish Waters, LOT 1 – North Sea I: WP BIRDS		
Ansvarlig for produktet (projektleder i DCE)	Ib Krag Petersen		
Rekvirent	Energinet Eltransmission A/S		
Kontaktperson hos rekvirent	Majken Them Tøttrup		
Deadline for fremsendelse af kommentarer	27. juli 2024	Dato for afslutning af håndtering af kommentarer	15. september 2024

Husk venligst at kommentering skal foretages på baggrund af rapportens PDF-version.

Rekvirent		DCE		
	Kommentar	Placering i produktet	Håndtering af kommentar	Ansvarlig for håndtering af kommentar
1	Regarding title: please delete Lot 1 and WP as these are internal project designations. Please do this throughout the report.		Lot 1 and WP have been deleted in the title and throughout the report.	IKP
2	Oprindelig kommentar slettet af Energinet			
3	Please include in the text that NIRAS has been contracted by Energinet to undertake baseline studies of birds in relation to NSI.	78	This has been included.	IKP
4	It should not be necessary to make it explicit that Energinet provide introduction (a generic test included in all the reports).	83	AU must declare where clients have asked for specific text or, in other ways, influenced the project's contents or report. This sentence, therefore, remains in the text.	IKP



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5	Oprindelig kommentar slettet af Energinet			
6	Please correct the text: The baseline surveys which is reported in the document are not for the purpose SEA. The purpose of the surveys is to provide baseline data for EIA of offshore wind farms in the NSI area.	85-88	Now changed to “was to provide baseline data for EIA of future offshore wind farms in the NSI area, located in the eastern part of the Danish North Sea”.	IKP
7	Please use the word ‘studies’ (like in line 85) instead of ‘assessments’.	89	The word has been changed per the suggestion.	HMT
8	Please check the text. The same text section seems to be included twice.	89 – 99 100 - 110	The redundant text has been deleted.	HMT
9	Please elaborate on why aerial survey data from 2019 are used to estimate abundance and distribution. Why is it not the new data?	127 - 131	This has been changed. Since the “Entire DK North Sea 2019 data set was presented in the North Sea Energy Island report, we decided to take it out of this report and refer to it there. “This report also presents a description of existing data. An overview of existing ornithological data from the Danish North Sea is presented. Data from an aerial survey in April/May 2019 was used to estimate abundances and distributions for selected species and species groups across the entire Danish part of the North Sea. For that dataset, total abundances and distribution of the following species could be generated: red-throated/black-throated diver, northern fulmar, northern gannet, black-legged kittiwake and razorbill/common guillemot. The total estimated abundances for these species were 22,648 divers, 46,437 northern fulmars, 31,723 northern gannets, 4,472 black-legged kittiwakes	IKP



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			and 89,681 razorbills/common guillemots (Reference to the NSEI). This data can provide perspective on bird abundance within the NSI area with densities and distributions in other parts of the Danish North Sea.”	
10	Please check the sentence ‘For that data set the following species could be used’.	128	Changed to “. On the basis of that dataset...”	IKP
11	Please consider adding a few sentences regarding the conclusions / key findings from the 1 st year baseline surveys of birds.	131	The aerial survey results are summarised in lines 100-110.	IKP
12	Please consider using the work ‘objective’ rather than ‘aim’.	133	The section has been renamed per the suggestion.	HMT
13	Please change the introduction to the text from Energinet (see green text below this table)	133	The desired text has been included.	IKP
14	Please make is clear that NIRAS is the Service provider to Energinet (the Client). The study is undertaken by DCE and CREEM, being subcontracted by NIRAS.	142	Text changed to: “Aarhus University (DCE) and the University of St. Andrews (CREEM), under a subcontract with NIRAS, carried out the study”.	IKP
15	What is meant by ‘extended study area’Please consider to describe the survey area in the same way as in the report on Marine mammals.	145	We have included the following: “through aerial surveys, comprised of the NSI pre-investigation area and a buffer of 20 km around that”	IKP
16	Please provide argumentation for why the aerial survey from April/May 2019 covering the entire North Sea is ‘notably’ important / relevant.	150	Since the description of the 2019 data was taken out of this report, this sentence has been deleted: “The results from the field surveys were supplemented with existing data and information compiled from available sources, including a series of survey campaigns in the North Sea, notably an aerial survey of the entire Danish North Sea, conducted in April and May 2019.”	IKP



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17	Please consider moving this section up, as the first paragraph under 1.1 Aim (and maybe change to Objective).	152-156	The section has been moved to the beginning of chapter 1.1 and renamed per the suggestion.	HMT
18	Please correct throughout the report: North Sea I/NSI – not North Sea 1 /NS1.	158 (+ general)	North Sea I and NSI are now consistently used throughout the report.	HMT, IKP
19	Please consider using HR3 OWF as abbreviation for Horns Rev 3 Offshore Wind Farm.	166	Horns Rev 3 offshore wind farm has been abbreviated to HR3 OWF throughout the report.	HMT
20	Please consider using OWF as abbreviation every time the words offshore wind farm is used in the report.	166	OWF is now used as an abbreviation for offshore wind farms throughout the report.	HMT
21	Regarding Figure 1.1: Something is wrong with the color of the Birds Directive area #113 – and please consider using OWF instead for ‘Marine turbines’-	172-	I have changed the signature for the SPA to a “no fill” and more distinct perimetry.	IKP
22	Please consider if the N2000 113 area should just be indicated on the map, without wording it as ‘the extension’ as it is confusing when the extension is not obvious on the map.	175	We changed the colour to no fill and a more obvious perimetry. Remember “extended bird survey area” and NSI pre-investigation area”	IKP
23	Extended study area = survey area as defined earlier? Please be consistent with terminology	181 (and on Figure 1-1)	Changed to “and the extended bird survey area were...”	IKP
24	Regarding the sentence ‘ <i>The surveys are designed to provide data...</i> ’, please add <i>baseline</i> before <i>data</i> .	180-182	This has been added.	IKP
25	Please elaborate on what is means for the completeness that band D is removed for all species except Northern Gannet?	233-234	Added the text “, with no adverse effects on the results.” To the sentence.	IKP
26	Consider adding to the figure text; Figure 2.2 Example of (all) segment based...	241	The figure text remains, as the figure indeed shows all segment points by survey and all observations of the selected species are shown.	IKP
27	Unclear what is meant here – please consider rephrasing and provide better explanation.	257-259	Changed to this text: “The candidate variables trialed as covariates were bird group size,	IKP



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			behaviour, observer, glare and sea state as the incorporation of these variables are often seen to improve the model (Table 4.2). There were too few observations for some observers, so in those cases, the observers' observations were combined with the observer with the next smallest number of observations. Observations with a sea state greater than four were removed from the analysis. Sea state is a measure of wave activity, and the more wave" activity the more difficult it becomes to detect birds with increased distance away from the survey track line.	
28	Please consider moving much of the explanatory text of the statistical analysis into an appendix – only providing a short text in the main report to explain the tests used and why - what do they show? Refer readers to the appendix if they are interested in the statistical details.	245 - 415	These statistical analyses are crucial to the presented results, and we would like to keep them in this section.	IKP
29	Something wrong with the literature reference – please correct.	420	The reference has been corrected.	HMT
30	Please add reference to figure with the stations. Consider inserting a map at this point, only showing these three stations. Figure 1.1 is far away in terms of pages	429	A reference to the map (Figure 1.1) has been added. The method chapter has been restructured to make the survey descriptions more cohesive, bringing the map closer to this section.	HMT
31	Please consider to make it clear in the beginning of the section (2.1.2.2.1) that the survey is done using two methods 1) transect surveys and 2) stationary surveys.	436-444	We have emphasised that these are ship-based surveys.	IKP
32	Please consider to stick to 'transect surveys' and 'stationary surveys'.....instead of 'active sailing' and 'stationary periods'. Just because it makes it easier to read.	446	We have specified that most observations were made from stationary positions.	IKP



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33	What was the reason for 'gap in recording from the morning of the 19 September to the morning of 21 September'....The number of images seem to be as high as e.g. the survey in August, but there is no annotator. Please elaborate.	460-461	Changed to: "The September 2023 session had a relatively low number of images due to a gap in recording from the morning of 19 September to the morning of 21 September due to technical problems."	IKP
34	Consider removing names on specific annotators and simply call them experienced annotators/ornithologists	469	The annotator names have been removed, and are now referred to as experienced observers.	HMT
35	Please make it clear that annotations were made for all the radar recording sessions (except September where there is no data?)...and not only October and September.	470	It has been clarified that annotators annotated all radar recording sessions except September 2023.	HMT
36	Consider moving much of the explanatory text of the Computer Vision into an appendix – only providing a short text in the main report on why it was developed, what it can do and how it was implemented - and refer readers to the appendix if they are interested in more details	509-628	The vertical radar computer vision explanatory text has been moved to an executive summary appendix.	HMT
37	Are all data from February then omitted from further analysis? How many images were excluded/not analyzed out of the image numbers presented in table 2.5? Suggest referring back to Table 2-5 to make it clear to the reader which of the eight radar recording sessions have provide useful data.	609	We have added this text: "Therefore, data from the manual annotation was used." Thus, data was incorporated but derived from the manual annotation of the images.	IKP
38	Consider presenting this information in the summary at the beginning of the report	632-633	This has been included in the summary.	IKP
39	Unclear language – what is meant by ' <i>The total number of observed species or species group is indicated and not estimations of total abundance</i> '. Please clarify.	635-636	Changed: "The number of observed individuals per species or species group is indicated. The numbers thus is not an estimation of total abundances of birds."	IKP
40	Please explain why? What determines whether it is possible to model detection functions and spatial distribution?	641-642	Added: "To model a detection function, there needs to be a minimum number of observations,	IKP



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			which was the case for these species and species groups.”	
41	Where are the breeding grounds for these divers? (explaining the difference in distribution).	652	The breeding ground for these birds can vary enormously, from northeast Greenland to Siberia. The specification of changes in distribution in the study area is an observation, but it can't be related to the choice of breeding ground. Therefore, no changes have been made.	IKP
42	Consider moving the more technical parts of the current text to an appendix. Instead, please explain in the text, in layman terms, what the figures show and why you perform the different analysis - fx what does a low persistence score for divers mean - what is the relation between estimated abundance and actual observations etc.?	661-999	We feel that the chapters are well named, and the reader not interested in the statistical details can easily pass that. The persistence maps are important to have in the main text, as these show differences over the annual cycle and across the survey area.	IKP
43	Regarding 'For two of the eight surveys....' Please specify which months, e.g. by referring to a table.	667	Added text: “model, namely the July and September surveys in 2023 (Table 5.2).” Has also been improved for the other modelled species	IKP
44	What is the lower limit for making abundance and distribution estimations?	716-717	There is no set limit for when there are too few observations, and it considers the nature of the data, such as cluster sizes, division between transect bands and other issues. We prefer to leave it with the “low number of observations” as this is the primary cause.	IKP



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45	Please explain the grouping of numbers: 34 and 67....is it up to?	719+722	The legend indicates numbers for specific cluster sizes, such as 34 and 67. The size of the dot represents the cluster size by the point size.	IKP
46	It is difficult to see which dots are pale purple – consider changing to more bright/different colors – or other symbols	Figure 3.19	Pale purple has been changed to “grey”.	IKP
47	Regarding ‘ <i>This shows there was compelling evidence for non-uniform spatial patterns in each survey</i> ’: What is the compelling evidence and how can the non-uniform spatial pattern be explained – food abundance?	669-671	The statistical evidence show that we lack knowledge to covariates that are important factors to the distribution of the birds. That could for instance be food availability. We have added the following sentence: “Thus, other important factors are driving the distribution of the birds, factors that we do not have access to, such as for instance food availability.”	IKP
48	Consider moving Section 4 up (or most of it) in the start of the report – as background information. Consider extending it, so it also addresses the overall findings of these prior studies – and how it relates to the findings of our study. Please also include which species are of particular interest – and why	1471	Existing data has been moved to the start of the report.	HMT
49	Please relate the map(s) of this study area to the present survey area of NSI – where is the survey area in relation to NSI?	1513	The chapter was removed from the report.	IKP
50	Consider moving the more technical parts of the text to an appendix. Instead, please explain in the text, in layman terms, what the figures show and how the findings from the 2019 arial surveys relate to our study? Similarities or not?	1500 - 1735	The chapter was removed from the report.	IKP
51	It is suggested to also include in the discussion/conclusion the results of the modellings. What do the results indicate about bird distribution in the surveys area? Are there certain factors which influence the distribution?	1738-1751	A section on species area utilization has been included in Chapter 7.	IKP



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52	It is suggested to include references to existing studies about the impacts of offshore wind and other permanent structures on bird species and populations.	1745-1751	A section on effects on birds from wind farms has been added in Chapter 7.	IKP
53	What about occurrences of species of special interest, e.g. divers and common scoter? – these will be the focus of future EIA. Please consider referring to the ongoing habituation study on Horns Rev 3.	1745-1751	The ongoing habituation to wind farms by red-throated diver and common scoter is now mentioned.	IKP
54	Consider combining sections 5 and 6, as there is not much discussion and it could easily be integrated in the conclusion.	1737-1768	The two chapters have been merged.	IKP
55	Is it expected or surprising that the bird abundance in the study area is higher in winter and spring than in summer and autumn? Is there an explanation for this distribution.	1741	Included in the section mentioned under comment 51 Chapter 7).	
56	Please explain how the data from 2019 relates to the new data....are they comparable....?	1764-1768	The 2019 data have been omitted from this report.	IKP
57	Please make a summary of the results from the ship-based surveys, something like “most species were recorded to fly below 25 meter...” – and what does that mean in regard to an offshore wind farm and potential collision risk.	1769	The conclusion now includes a summary of the species composition and flight altitude results from the ship-based surveys.	HMT
58	Decisions made in another project (Energy Island) are not relevant to this report – please delete	1777-1778	There is a desire to unify methods between projects. If the digital image method had been chosen for the NSEI project, it would also have been chosen for the NSI project and <i>vice versa</i> . Data from digital surveys may also have challenges. However, reduced confidence intervals on density estimates will improve our ability to detect potential changes for future before-after comparisons of bird densities. This will also be important in discussions about cumulative effects and, thus, is an appropriate point to raise here. We have been specifically asked to	IKP



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			address knowledge gaps. Thus, this item was raised, and we find it appropriate to keep the chapter. The chapter has been modified to avoid specifying where the decision came from.	
59	Decisions made on a project level are not relevant to this report – please delete. Besides, the decision to abort the radar, was due to the fact that DCE had not shown due diligence in terms of securing a contract with the radar supplier and in an agreement with the OWF that should house the radar	1787-1788	This point is relevant and forward-looking. We appreciate that there is disagreement about why this was never accomplished, and thus, changes in the text have been made accordingly.	IKP
60	Please consider rephrasing these sections, so that they are concise and forward-looking – the history of decision making in this project is not relevant in this report. This means that 7.1 should be left out, as digital surveys have not been considered for this project.	1775-1802	Please refer to the responses to comments 58 and 59.	IKP
61	The text is probably too detailed for the report, but why is it called Executive Summary? The reference should be to the North Sea I area – not North Sea in general. Maybe it is a generic text from Uni of St Andrews – please ensure that the relevance is clear to the reader.	1830-1881	The chapter name was misleading and has now been changed to “Detailed summary of bird density modelling methods”. We appreciate that this is of less importance to most readers. It has, therefore, been placed under the Appendix. We feel this chapter will be helpful for readers who are more familiar with modelled approaches, and therefore, we want to keep it in.	IKP
62	It says ‘animal counts’ – should it be counts of birds?	1831	Has been corrected to bird counts.	HMT

UK Introduction – Technical reports



In order to accelerate the expansion of Danish offshore wind production, it was decided with the agreement on the Finance Act for 2022 to offer an additional 2 GW of offshore wind for establishment before the end of 2030. In addition, the parties behind the Climate Agreement on Green Power and Heat 2022 of 25 June 2022 (hereinafter Climate Agreement 2022) decided, that areas that can accommodate an additional 4 GW of offshore wind must be offered for establishment before the end of 2030. Most recently, a political agreement was concluded on 30 May 2023, which establishes the framework for the Climate Agreement 2022 with the development of 9 GW of offshore wind, which potentially can be increased to 14 GW or more if the concession winners – i.e. the tenderers who will set up the offshore wind turbines – use the freedom included in the agreement to establish capacity in addition to the tendered minimum capacity of 1 GW per tendered area.

In order to enable the realization of the political agreements on significantly more energy production from offshore wind before the end of 2030, the Danish Energy Agency has drawn up a plan for the establishment of offshore wind farms in three areas in the North Sea, the Kattegat and the Baltic Sea respectively.

The North Sea I area has a total area of 1.400 km² which is divided into three sub-areas planned for offshore wind farms. The North Sea I area is located 20-80 km off the coast of West Jutland and from each of the three sub-areas there will be corridors for export cables connecting the offshore wind farms to the onshore grid.

PLEASE INCLUDE MAP SHOWING THE OVERALL AREA

IKP: The chapter has been entered in the introduction.