

# **East Anglia ONE North Offshore Windfarm**

## **Chapter 11**

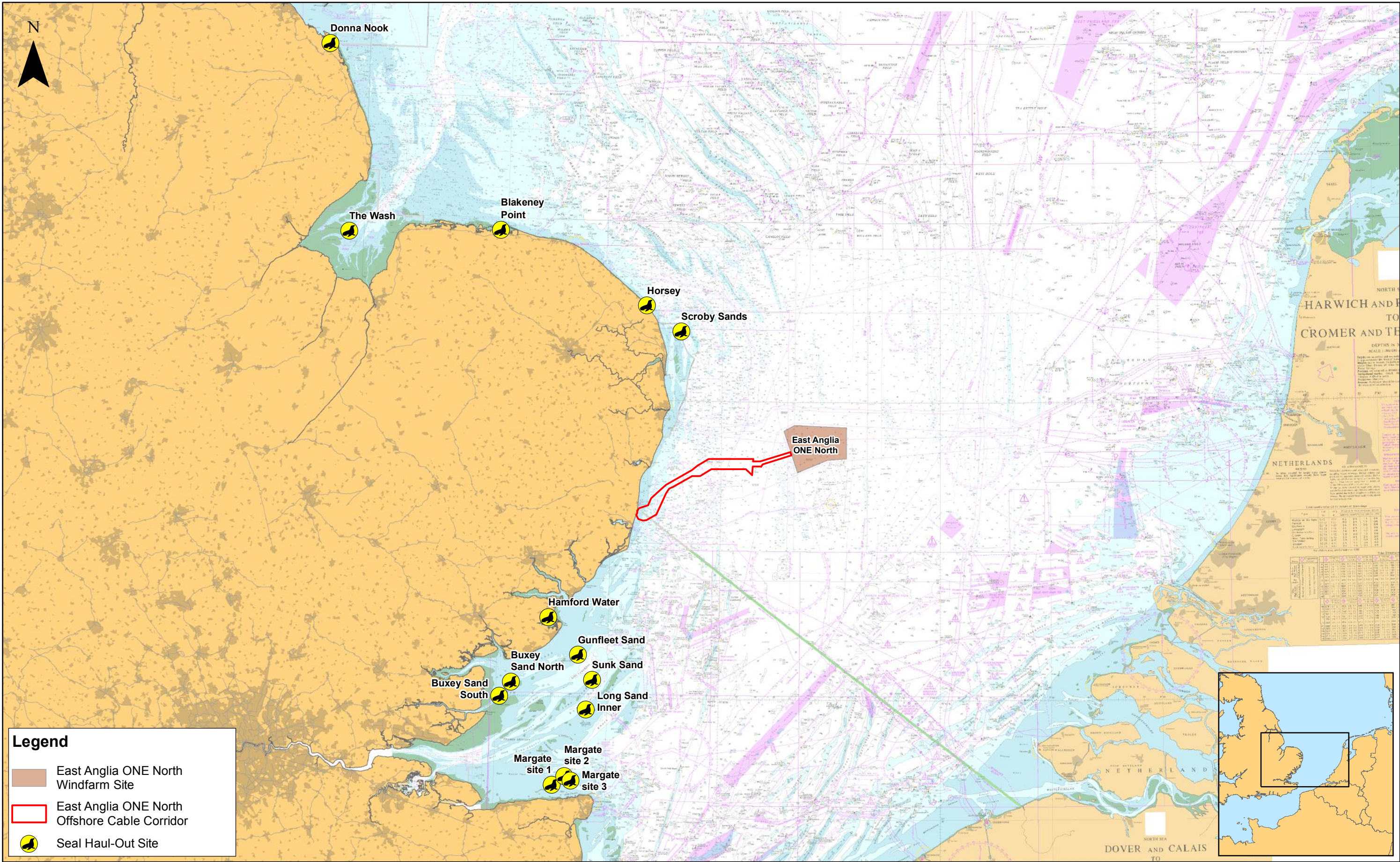
### **Marine Mammals**



### **Figures**

Preliminary Environmental Information  
Volume 2

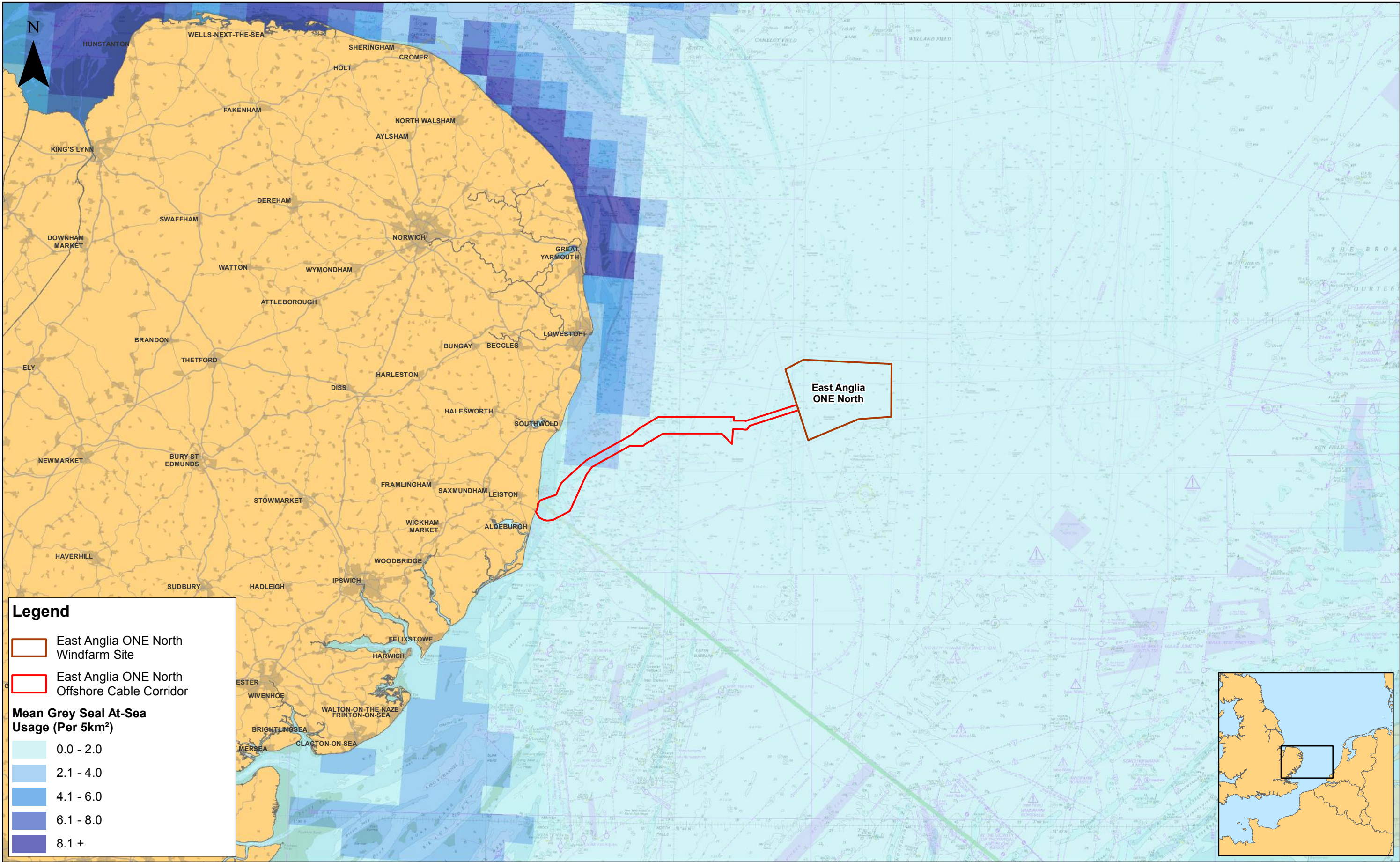
**This page is intentionally blank**





 <b>SCOTTISHPOWER</b> <b>RENEWABLES</b>							1:1,100,000		<b>East Anglia ONE North</b>  <b>Grey and Harbour Seal Haul-Out Sites</b>	<b>Drg No</b>	EA1N-DEV-DRG-IBR-000178	
					Prepared:	FC	Scale @ A3			<b>Rev</b>	1	Datum: WGS 1984 Projection: Zone 31N
	1	15/10/2018	FC	First Issue.	Checked:	JL	Source: © SMRU, 2018. © The Crown Estate, 2017. Charts from MarineFIND.co.uk Licence No EK001-0645-MF0095. Not to be used for navigation. This map has been produced to the latest known information at the time of issue, and has been produced for your information only. Please consult with the SPR Offshore GIS team to ensure the content is still current before using the information contained on this map. To the fullest extent permitted by law, we accept no responsibility or liability (whether in contract, tort (including negligence) or otherwise) in respect of any errors or omissions in the information contained in the map and shall not be liable for any loss, damage or expense caused by such errors or omissions.			<b>Date</b>	15/10/18	
	<b>Rev</b>	<b>Date</b>	<b>By</b>	<b>Comment</b>	<b>Approved:</b>	PP				<b>Figure</b>	11.1	





1	15/10/2018	FC	First Issue.
Rev	Date	By	Comment

Prepared: FC  
Checked: JL  
Approved: PP

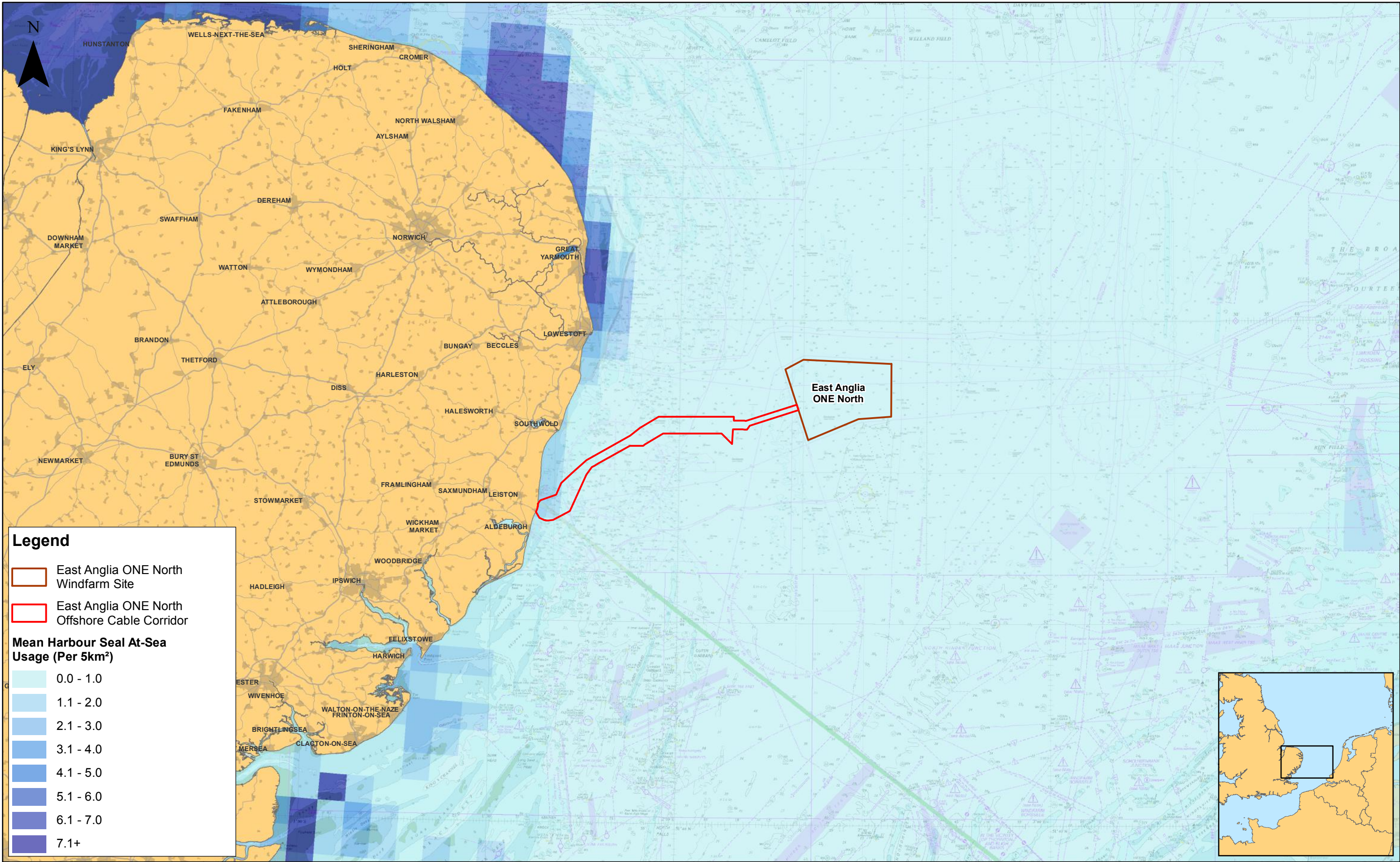
1:650,000  
Scale @ A3  
Source: © SMRU and Marine Scotland, 2017. © The Crown Estate, 2017. Charts from MarineFIND.co.uk Licence No EX001-0645-MF0095. Not to be used for navigation.  
This map has been produced to the latest known information at the time of issue, and has been produced for your information only. Please consult with the SPR Offshore GIS team to ensure the content is still current before using the information contained on this map. To the fullest extent permitted by law, we accept no responsibility or liability (whether in contract, tort (including negligence) or otherwise in respect of any errors or omissions in the information contained in the map and shall not be liable for any loss, damage or expense caused by such errors or omissions.


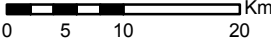
## East Anglia ONE North

### Mean Grey Seal At-Sea Usage

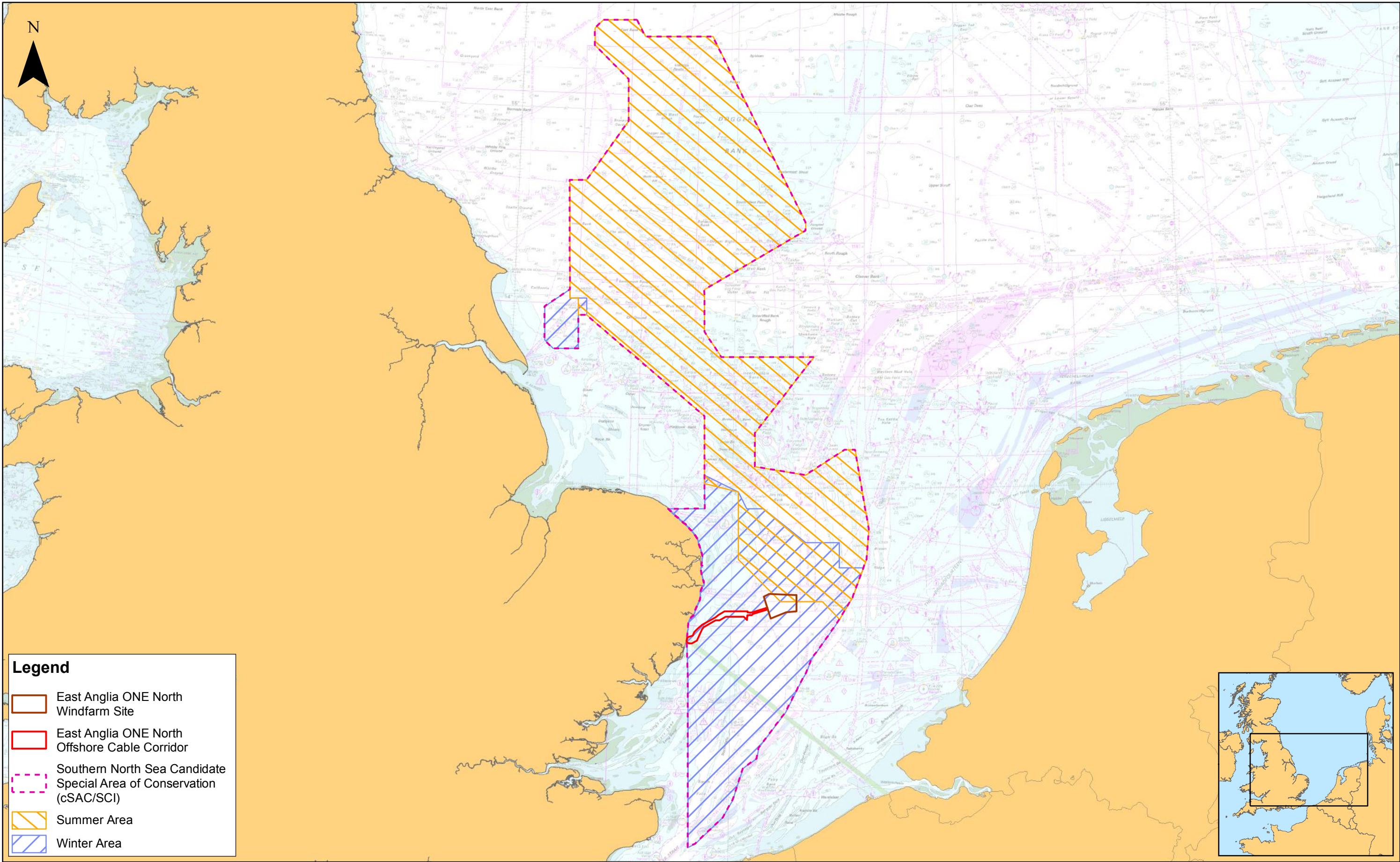
Drg No	EA1N-DEV-DRG-IBR-000176	
Rev	1	Datum: WGS 1984 Projection: Zone 31N
Date	15/10/18	
Figure	11.2	





				1:650,000 Scale @ A3				<b>East Anglia ONE North</b> Mean Harbour Seal At-Sea Usage		<b>Drg No</b>	EA1N-DEV-DRG-IBR-000177	
				Prepared:	FC	<small>Source: © SMRU and Marine Scotland, 2017. © The Crown Estate, 2017. Charts from MarineFIND.co.uk Licence No EK001-0645-MF0095. Not to be used for navigation. This map has been produced to the latest known information at the time of issue, and has been produced for your information only. Please consult with the SPR Offshore GIS team to ensure the content is still current before using the information contained on this map. To the fullest extent permitted by law, we accept no responsibility or liability (whether in contract, tort (including negligence) or otherwise in respect of any errors or omissions in the information contained in the map and shall not be liable for any loss, damage or expense caused by such errors or omissions.</small>				<b>Rev</b>	1	Datum: WGS 1984 Projection: Zone 31N
1	15/10/2018	FC	First Issue.	Checked:	JL					<b>Date</b>	15/10/18	
Rev	Date	By	Comment	Approved:	PP					<b>Figure</b>	11.3	





**Legend**


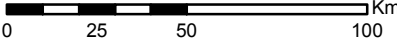
East Anglia ONE North Windfarm Site

East Anglia ONE North Offshore Cable Corridor

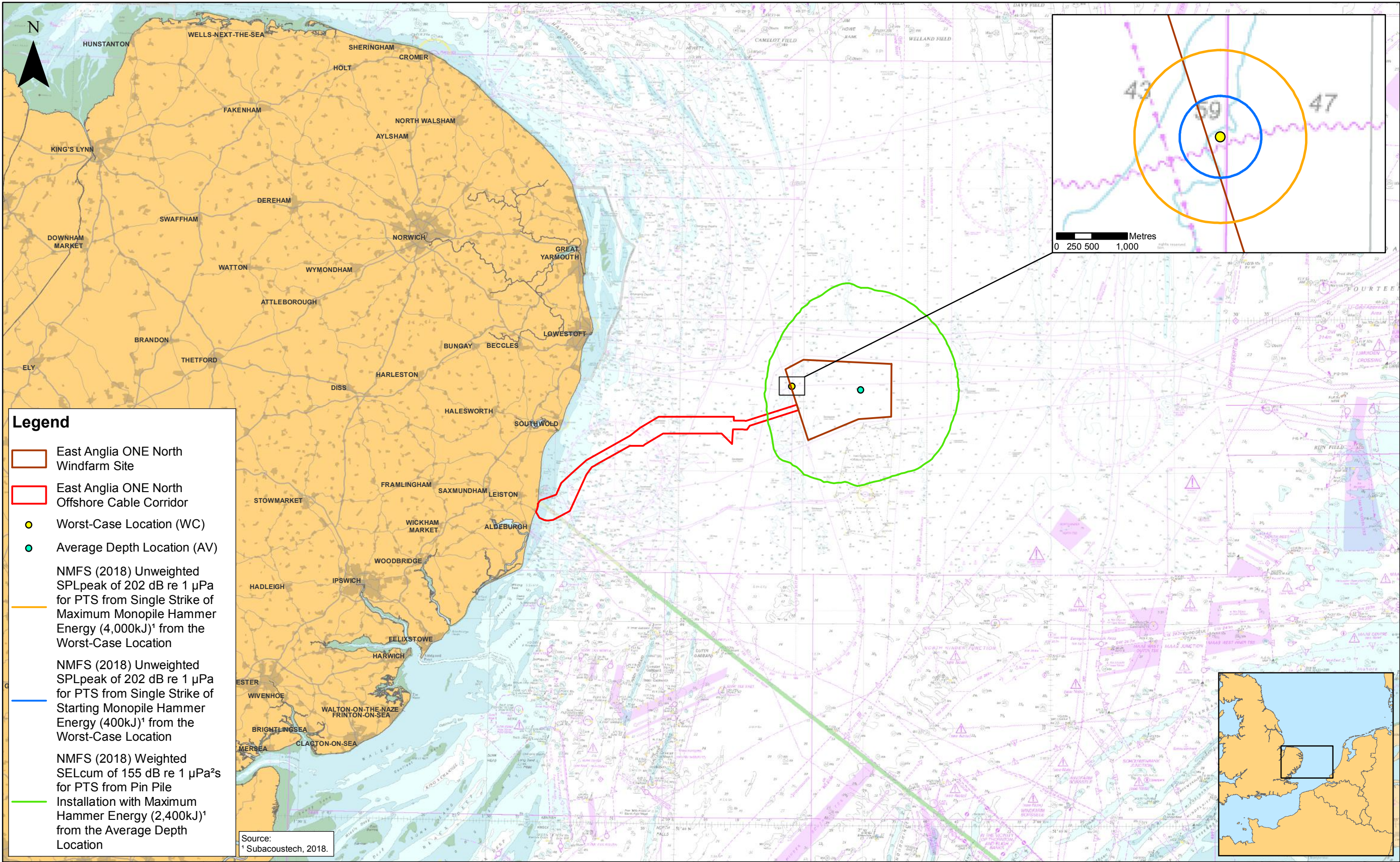
Southern North Sea Candidate Special Area of Conservation (cSAC/SCI)

Summer Area

Winter Area

				1:2,100,000 Scale @ A3				<b>East Anglia ONE North</b> Southern North Sea cSAC/SCI for Harbour Porpoise		<b>Drg No</b>	EA1N-DEV-DRG-IBR-000179	
				Prepared:	FC	<small>Source: © SMRU and Marine Scotland, 2017. © The Crown Estate, 2017. Charts from MarineFIND.co.uk Licence No EK001-0645-MF0095. Not to be used for navigation. This map has been produced to the latest known information at the time of issue, and has been produced for your information only. Please consult with the SPR Offshore GIS team to ensure the content is still current before using the information contained on this map. To the fullest extent permitted by law, we accept no responsibility or liability (whether in contract, tort (including negligence) or otherwise in respect of any errors or omissions in the information contained in the map and shall not be liable for any loss, damage or expense caused by such errors or omissions.</small>				<b>Rev</b>	1	Datum: WGS 1984 Projection: Zone 31N
1	15/10/2018	FC	First Issue.	Checked:	JL					<b>Date</b>	15/10/18	
Rev	Date	By	Comment	Approved:	PP					<b>Figure</b>	11.4	





Legend

East Anglia ONE North Windfarm Site

East Anglia ONE North Offshore Cable Corridor

Worst-Case Location (WC)

Average Depth Location (AV)



NMFS (2018) Unweighted SPLpeak of 202 dB re 1 µPa for PTS from Single Strike of Maximum Monopile Hammer Energy (4,000kJ)<sup>1</sup> from the Worst-Case Location

NMFS (2018) Unweighted SPLpeak of 202 dB re 1 µPa for PTS from Single Strike of Starting Monopile Hammer Energy (400kJ)<sup>1</sup> from the Worst-Case Location

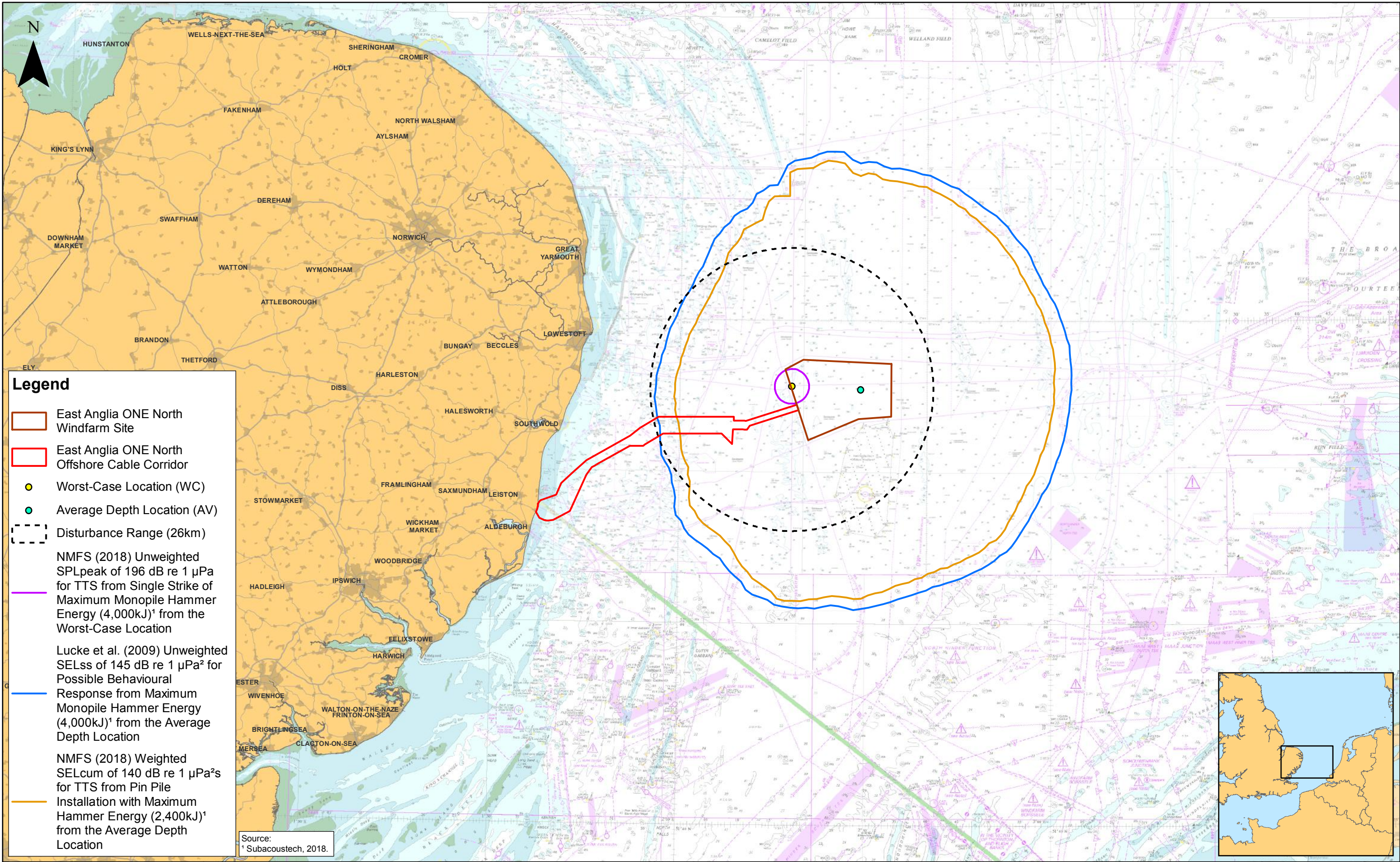
NMFS (2018) Weighted SELcum of 155 dB re 1 µPa²s for PTS from Pin Pile Installation with Maximum Hammer Energy (2,400kJ)<sup>1</sup> from the Average Depth Location

Source:

<sup>1</sup> Subacoustech, 2018.

							1:650,000 Scale @ A3		<b>East Anglia ONE North</b> Harbour Porpoise PTS Ranges Based on Worst-Case Scenarios	<b>Drg No</b>	EA1N-DEV-DRG-IBR-000180	
					Prepared:	FC				<b>Rev</b>	1	Datum: WGS 1984 Projection: Zone 31N
	1	28/11/2018	FC	First Issue.	Checked:	GS	<small>Source: © Subacoustech, 2018. © The Crown Estate, 2017. Charts from MarineFIND.co.uk Licence No EK001-0645-MF0095. Not to be used for navigation.</small>			<b>Date</b>	28/11/18	
					Approved:	PP	<small>This map has been produced to the latest known information at the time of issue, and has been produced for your information only. Please consult with the SPR Offshore GIS team to ensure the content is still current before using the information contained on this map. To the fullest extent permitted by law, we accept no responsibility or liability (whether in contract, tort (including negligence) or otherwise in respect of any errors or omissions in the information contained in the map and shall not be liable for any loss, damage or expense caused by such errors or omissions.</small>			<b>Figure</b>	11.5	
	<b>Rev</b>	<b>Date</b>	<b>By</b>	<b>Comment</b>								

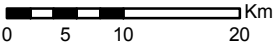




Rev	Date	By	Comment
1	28/11/2018	FC	First Issue.

Prepared:	FC
Checked:	GS
Approved:	PP

1:650,000  
Scale @ A3

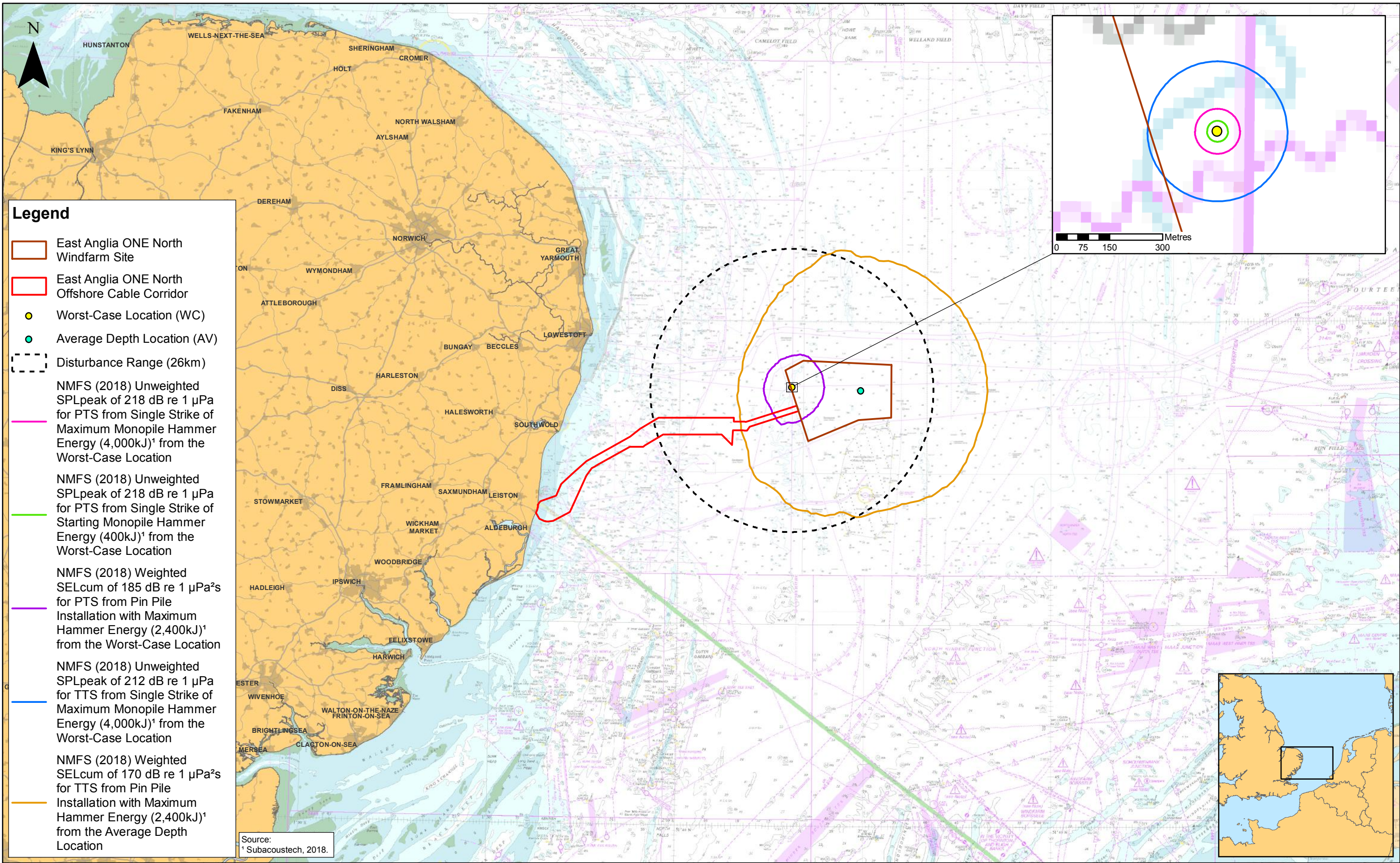




## East Anglia ONE North

Harbour Porpoise TTS Ranges Based on Worst-Case Scenarios

Drg No	EA1N-DEV-DRG-IBR-000454	
Rev	1	Datum: WGS 1984 Projection: Zone 31N
Date	28/11/18	
Figure	11.6	





						1:650,000 Scale @ A3		<b>East Anglia ONE North</b> Seal PTS and TTS Ranges Based on Worst-Case Scenarios	<b>Drg No</b>	EA1N-DEV-DRG-IBR-000455	
				Prepared:	FC				<b>Rev</b>	1	Datum: WGS 1984 Projection: Zone 31N
	1	28/11/2018	FC	First Issue.	Checked:	GS	<small>Source: © Subacoustech, 2018. © The Crown Estate, 2018. Charts from MarineFIND.co.uk Licence No EK001-0545-MF0095. Not to be used for navigation.</small>		<b>Date</b>	28/11/18	
	<b>Rev</b>	<b>Date</b>	<b>By</b>	<b>Comment</b>	<b>Approved:</b>	PP	<small>This map has been produced to the latest known information at the time of issue, and has been produced for your information only. Please consult with the SPR Offshore GIS team to ensure the content is still current before using the information contained on this map. To the fullest extent permitted by law, we accept no responsibility or liability (whether in contract, tort (including negligence) or otherwise in respect of any errors or omissions in the information contained in the map and shall not be liable for any loss, damage or expense caused by such errors or omissions.</small>		<b>Figure</b>	11.7	



**This page is intentionally blank**