



codling  
wind park



# Environmental Impact Assessment Report

## Volume 4

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Appendix 13.3 Offshore Bat  
Results Tables





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## Abbreviations

Abbreviation	Term in Full
BAI	Bat Activity Index
CWP	Codling Wind Park
EIAR	Environmental Impact Assessment Report
E-SE	East-Southeast
NE-E	Northeast-East
OWF	Offshore wind farm
SW-W	Southwest-West
W-NW	West-Northwest

## Definitions

Glossary	Meaning
Codling Wind Park (CWP) Project	The proposed development as a whole is referred to as the Codling Wind Park (CWP) Project, comprising of the offshore infrastructure, the onshore infrastructure and any associated temporary works.
Environmental Impact Assessment (EIA)	A systematic means of assessing the likely significant effects of a proposed project, undertaken in accordance with the EIA Directive and the relevant Irish legislation.
Environmental Impact Assessment Report (EIAR)	The report prepared by the Applicant to describe the findings of the EIA for the CWP Project.
offshore development area	The total footprint of the offshore infrastructure and associated temporary works including the array site and the Offshore Export Cable Corridor (OECC).
offshore export cable corridor (OECC)	The area between the array site and the landfall, within which the offshore export cables will be installed along with cable protection and other temporary infrastructure for construction.

## APPENDIX 13.3 OFFSHORE BATS RESULTS TABLES

### 1 Introduction

1. Codling Wind Park Limited (hereafter 'the Applicant') is proposing to develop the Codling Wind Park (CWP) Project, which is located in the Irish sea approximately 13 - 22 km off the east coast of Ireland, at County Wicklow.
2. This appendix forms part of **Chapter 13 Offshore Bats** of the Environmental Impact Assessment Report (EIAR) for the CWP Project.

### 2 CWP Static Detector Results

#### 2.1 Summary of weather conditions

3. In addition to the information provided in **Chapter 13 Section 13.4**, further information regarding the suitability of the weather for migration during the CWP baseline surveys is provided in **Table 1**. Wind directions suitable for movement towards Ireland are considered to be east-southeast and north-east-east. While west-north westerlies / southwest-westerly winds were considered potentially favourable for migration towards Wales.

Table 1 Count of night-time hours with different weather conditions and suitability for migration during the bat detector deployments.

Number of hours		Weather conditions		Wind direction			Suitable weather and direction for migration through CWP		Hours with weather or wind direction not suitable for bat migration through CWP
		Suitable for migration - Above 13°C and below 5 m/s	Not suitable for migration - Below 13°C and/or above 5 m/s	Suitable for travel Ireland to Wales (W-NW/SW-W)	Suitable for travel Wales to Ireland (E-SE/NE-E)	Other	Suitable for travel Ireland to Wales (W-NW/SW-W)	Suitable for travel Wales to Ireland (E-SE/NE-E)	
Spring	Ireland	117	721	389	177	272	61	15	762
	Wales	38	766	179	198	427	7	13	703
Autumn	Ireland	234	867	345	176	580	32	89	980
	Wales	218	989	249	203	755	17	88	1102



## 2.2 Species by weather conditions

4. Additional information on the bat passes recorded during different weather conditions is provided in **Table 2**.
5. Information on the wind direction during recordings is provided in **Table 3**.

Table 2 Bat passes recorded as part of the CWP baseline during different weather conditions.

	Species	Spring				Autumn			
		13°C or above	Below 13°C	Wind speeds equal or less than 5 m / s	Wind speeds greater than 5 m / s	13°C or above	Below 13°C	Wind speeds equal or less than 5 m / s	Wind speeds greater than 5 m / s
Ireland	Common pipistrelle	7290	31995	23959	15326	18562	16840	22640	12762
	Soprano pipistrelle	1034	5466	3989	2511	3469	8595	7305	4759
	Nathusius' pipistrelle	10	76	63	23	18	18	30	6
	Pipistrellus sp.,	712	1748	1479	981	463	72	425	110
	Leisler's	4960	3895	5818	3037	3335	2798	4719	1414
	Noctule	-	-	-	-	-	-	-	-
	Nyctalus sp.,	279	331	470	140	291	219	414	96
	Myotis sp.,	0	10	7	3	10	15	22	3
	Brown long-eared	4	2	3	3	39	29	56	12
Wales	Common pipistrelle	705	3280	3758	227	1708	1288	2815	181
	Soprano pipistrelle	0	2	1	1	11	3	12	2
	Nathusius' pipistrelle	15	20	34	1	2	2	2	2
	Pipistrellus sp.,	31	133	156	8	6	18	24	0
	Leisler's	-	-	-	-	-	-	-	-
	Noctule	77	383	358	102	131	12	125	18
	Nyctalus sp.,	3	28	29	2	32	3	32	3
	Myotis sp.,	22	114	113	23	113	78	143	48
Brown long-eared	4	13	13	4	110	147	216	41	

Table 3 All bat passes recorded during different wind directions.

	Species	Wind direction - Spring							Wind direction - Autumn								
		N - NE	NE - E	E - SE	SE - S	S - SW	SW - W	W - NW	NW - N	N - NE	NE - E	E - SE	SE - S	S - SW	SW - W	W - NW	NW - N
Ireland	Common pipistrelle	159	<b>1041</b>	<b>2729</b>	3269	12294	<b>18271</b>	<b>1346</b>	176	137	<b>1061</b>	<b>1284</b>	4675	20409	<b>6906</b>	<b>838</b>	92
	Soprano pipistrelle	7	<b>11</b>	<b>255</b>	675	2177	<b>3284</b>	<b>77</b>	14	59	<b>109</b>	<b>424</b>	3264	6540	<b>1575</b>	<b>87</b>	6
	Nathusius' pipistrelle	2	<b>3</b>	<b>1</b>	1	21	<b>54</b>	<b>4</b>	0	2	<b>2</b>	<b>2</b>	1	14	<b>4</b>	<b>11</b>	0
	Pipistrellus sp.,	8	<b>15</b>	<b>28</b>	282	1209	<b>851</b>	<b>45</b>	22	14	<b>53</b>	<b>33</b>	43	289	<b>74</b>	<b>9</b>	20
	Leisler's	60	<b>271</b>	<b>225</b>	272	2019	<b>4260</b>	<b>1588</b>	160	66	<b>360</b>	<b>430</b>	600	2516	<b>1511</b>	<b>501</b>	149
	Nyctalus sp.,	19	<b>78</b>	<b>13</b>	21	114	<b>254</b>	<b>103</b>	8	16	<b>59</b>	<b>19</b>	40	181	<b>154</b>	<b>38</b>	3
	Myotis sp.,	0	<b>0</b>	<b>0</b>	0	2	<b>7</b>	<b>0</b>	1	1	<b>4</b>	<b>1</b>	2	6	<b>6</b>	<b>5</b>	0
	Brown long eared	0	<b>1</b>	<b>0</b>	0	3	<b>2</b>	<b>0</b>	0	3	<b>5</b>	<b>7</b>	8	23	<b>10</b>	<b>10</b>	2
Wales	Common pipistrelle	617	<b>717</b>	<b>315</b>	211	1397	<b>286</b>	<b>191</b>	251	569	<b>485</b>	<b>409</b>	461	284	<b>164</b>	<b>249</b>	375
	Soprano pipistrelle	0	<b>1</b>	<b>0</b>	0	1	<b>0</b>	<b>0</b>	0	1	<b>5</b>	<b>4</b>	1	2	<b>0</b>	<b>1</b>	0
	Nathusius' pipistrelle	18	<b>1</b>	<b>11</b>	0	4	<b>1</b>	<b>0</b>	0	0	<b>0</b>	<b>0</b>	0	2	<b>1</b>	<b>0</b>	1
	Pipistrellus sp.,	48	<b>8</b>	<b>24</b>	2	67	<b>6</b>	<b>7</b>	2	3	<b>2</b>	<b>8</b>	2	1	<b>0</b>	<b>4</b>	4
	Noctule	8	<b>74</b>	<b>170</b>	50	81	<b>60</b>	<b>7</b>	10	51	<b>26</b>	<b>39</b>	0	18	<b>0</b>	<b>2</b>	7
	Nyctalus sp.,	5	<b>10</b>	<b>5</b>	0	8	<b>3</b>	<b>0</b>	0	13	<b>12</b>	<b>3</b>	2	3	<b>0</b>	<b>0</b>	2
	Myotis sp.,	31	<b>48</b>	<b>5</b>	5	20	<b>12</b>	<b>9</b>	6	41	<b>34</b>	<b>19</b>	21	43	<b>8</b>	<b>7</b>	18
	Brown long eared	3	<b>5</b>	<b>0</b>	2	5	<b>0</b>	<b>0</b>	2	61	<b>41</b>	<b>15</b>	32	19	<b>7</b>	<b>28</b>	54

## 2.3 Peak nights in activity by each species

6. Peak nights of activity and maximum number of passes for all potentially migratory species is provided in **Table 4**.

Table 4 Peak activity by night of migratory species

Species	Peak night in spring – Wales (number of passes)	Peak night in spring – Ireland (number of passes)	Peak night in autumn – Wales (number of passes)	Peak night in autumn – Ireland (number of passes)
Common pipistrelle	13/05/2022 (378)	13/04/2022 (1838) *11/04/2022 (322)	02/10/2022 (355)	22/08/2022 (1809) *04/10/2022 (1060)
Soprano pipistrelle	08/05/2022 (1) 14/05/2022 (1)	18/05/2022 (375) 20/05/2022 (375) *15/04/2022 (23) 22/05/2022 (23)	21/08/2022 (3)	05/11/2022 (1163) *08/10/2022 (626)
Nathusius' Pipistrelle	14/06/2022 (16)	20/05/2022 (20) *15/06/2022 (10)	20/09/2022 (1) 28/09/2022 (1) 02/10/2022 (1) 11/10/2022 (1)	09/09/2022 (3) *02/10/2022 (3)
Pipistrellus sp.,	15/06/2022 (55)	28/06/2022 (307) *14/06/2022 (42)	19/09/2022 (8)	20/09/2022 (82) *04/10/2022 (53)
Leisler's	-	16/06/2022 (654) *17/06/2022 (645)	-	22/08/2022 (553) *22/08/2022 (433)
Nyctalus sp.,	08/05/2022 (8)	20/06/2022 (654) *21/06/2022 (40)	10/09/2022 (8)	22/08/2022 (52) *22/08/2022 (47)

\*Peak nights when Ireland 4 results are removed.

## 2.4 Detailed Nathusius' pipistrelle passes

7. Further information on the Nathusius bat passes during suitable weather conditions for migration, including the time of each call and weather conditions used to assess suitability for migration is provided in **Table 5**.

Table 5 Nathusius' calls during weather conditions suitable for migration.

Location	Date	Time	Number of passes	Wind speed m/s	Wind direction	Direction of travel suggested by wind direction	Temp °C	Sunset	Minutes after sunset	Possible migration through the CWP project area?
Ireland 2	22/05/2022	04:12	1	4.5	S-SW	Ireland to Isle of Man	13.1	21:25	407	No – Wind not towards Wales
Ireland 1	21/06/2022	22:53	1	1.9	NE-E	Wales to Ireland	15.6	21:55	58*	No – too early to have arrived that night and wind direction unsuitable for migration out of Ireland
Ireland 4	02/07/2022	23:33	1	4.1	SW-W	Ireland to Wales	13	21:53	100*	Yes
Ireland 1	08/07/2022	01:30	1	2.8	W-NW	Ireland to Wales	14	21:49	211	Yes
Ireland 1	09/07/2022	04:13	1	3.2	W-NW	Ireland to Wales	15.3	21:49	384	Yes
Ireland 4	09/07/2022	23:14	1	2.4	W-NW	Ireland to Wales	16.7	21:48	86*	Yes
Ireland 4	11/07/2022	23:12	1	4.2	S-SW	Ireland to Isle of Man	19.9	21:47	85*	No
Ireland 2	12/07/2022	22:27	1	4.2	SW-W	Ireland to Wales	16.5	21:46	41*	Yes
Ireland 3	29/08/2022	23:35	1	3.1	NE-E	Wales to Ireland	14.7	20:20	195	Yes
Ireland 4	29/08/2022	23:36	1	3.1	NE-E	Wales to Ireland	14.7	20:20	196	Yes
Ireland 3	03/09/2022	00:10	1	3.6	NE-E	Wales to Ireland	16	20:08	242	Yes

Location	Date	Time	Number of passes	Wind speed m/s	Wind direction	Direction of travel suggested by wind direction	Temp °C	Sunset	Minutes after sunset	Possible migration through the CWP project area?
Ireland 3	03/09/2022	01:46	1	3.1	NE-E	Wales to Ireland	14.6	20:08	338	Yes
Ireland 3	08/09/2022	22:18	1	2.3	W-NW	Ireland to Wales	13.5	19:57	141	Yes
Ireland 3	09/09/2022	22:59	1	1.8	W-NW	Ireland to Wales	14	19:54	185 – 204	Yes
Ireland 3	09/09/2022	23:18	1	1.8	W-NW	Ireland to Wales	14	19:54	185 – 204	Yes
Ireland 4	10/09/2022	21:36	1	2.2	E-SE	Wales to Ireland	13.1	19:52	104 - 134	Yes
Ireland 4	10/09/2022	22:06	1	2.2	E-SE	Wales to Ireland	13.1	19:52	104 - 134	Yes
Ireland 3	15/09/2022	20:02	1	3.3	W-NW	Ireland to Wales	13.1	19:40	22*	Yes
Ireland 3	20/09/2022	01:21	1	1.9	S-SW	Ireland to Isle of Man	13.8	19:30	351	No
Ireland 1	20/09/2022	23:25	1	2.9	S-SW	Ireland to Isle of Man	13.1	19:27	238	No
Ireland 2	02/10/2022	19:53	2	1.7	S-SW	Ireland to Isle of Man	13.4	18:58	55*	No
Ireland 3	02/10/2022	23:09	1	1.6	SE-S	Wales to Ireland**	13	18:58	251	No – southern Wales to Ireland if crossing at this location winds would push bats south of CWP.
Wales 1	02/06/2022	23:16 - 23:36	12 (9 after 23:20)	2.9	E-SE	Wales to Ireland	13.7	21:37	98* - 118	Yes, but also likely foraging
Wales 2	21/06/2022	22:27	1	2.6	N-NE	Wales to Ireland**	13.6	21:50	37*	No – if crossing at this location the winds would push bats south.
Wales 1	01/07/2022	00:14	1	3.6	S-SW	Ireland to Isle of Man	13.7	21:49	144	No



Location	Date	Time	Number of passes	Wind speed m/s	Wind direction	Direction of travel suggested by wind direction	Temp °C	Sunset	Minutes after sunset	Possible migration through the CWP project area?
Wales 3	02/10/2022	21:01	1	1.5	SW-W	Ireland to Wales	13.6	18:53	128	Yes

\*passes within 103 minutes of sunset are only considered migratory if in conditions suitable for leaving the country not arriving.

\*\* wind direction would push bats out of the proposed landfalls and away from CWP offshore development area.

### 3 Dublin Array OWF - Static Detector Results

8. Additional information on the bat passes recorded during different weather conditions is provided in **Table 6**.

Table 6 Bat passes recorded as part of the CWP baseline during different weather conditions.

	Species	Spring				Autumn			
		13°C or above	Below 13°C	Wind speeds equal or less than 5 m / s	Wind speeds greater than 5 m / s	13°C or above	Below 13°C	Wind speeds equal or less than 5 m / s	Wind speeds greater than 5 m / s
Dublin Array OWF	Common pipistrelle	2328	6106	8065	369	4261	2291	5773	779
	Soprano pipistrelle	7	9	16	0	90	39	128	1
	Nathusius' pipistrelle	28	64	87	5	51	14	45	20
	Pipistrellus sp.,	81	248	325	4	122	39	104	57
	Leisler's	4203	7806	10549	1460	2266	1398	3001	663
	Noctule	0	0	0	0	0	0	0	0
	Nyctalus sp.,	74	114	183	5	59	76	132	3
	Myotis sp.,	1	2	3	0	1	4	5	0
	Brown long-eared	4	7	10	1	16	1	16	1



9. Detailed information on the number of passes recorded during suitable weather for migration at each detector is provided in **Table 7**.

Table 7 Passes recorded at Dublin Array OWF by potentially migratory bats.

	Number during unsuitable weather	Wind direction during suitable weather				Total passes overall	Calls that are within 103 minutes of sunset and winds going towards Ireland during suitable weather conditions	Passes considered potentially migratory (passes during suitable weather and wind directions – calls within 103 minutes)*	
		Suitable weather and wind for migration towards GB (NW - N, SW – W)	Suitable weather and winds towards Ireland (E - SE, NE - E)	Other winds	Total passes during suitable weather				
<b>Spring</b>									
Sorrento (onshore)	Common pipistrelle	4470	777	191	201	1169	5639	62	906
	Soprano pipistrelle	6	2	1	0	3	9	0	3
	Nathusius' pipistrelle	35	16	2	2	20	55	1	17
	Pipistrellus sp.,	142	28	5	9	42	184	3	30
	Leisler's	7446	2265	340	509	3114	10560	151	2454
	Nyctalus sp.,	2	3	1	0	4	6	1	3
Dalkey Island (0.39 km from shore)	Common pipistrelle	1816	390	405	163	958	2774	270	525
	Soprano pipistrelle	2	2	1	1	4	6	0	3
	Nathusius' pipistrelle	31	1	2	1	4	35	2	1
	Pipistrellus sp.,	109	18	14	4	36	145	10	22

	Number during unsuitable weather	Wind direction during suitable weather				Total passes overall	Calls that are within 103 minutes of sunset and winds going towards Ireland during suitable weather conditions	Passes considered potentially migratory (passes during suitable weather and wind directions – calls within 103 minutes)*	
		Suitable weather and wind for migration towards GB (NW - N, SW – W)	Suitable weather and winds towards Ireland (E - SE, NE - E)	Other winds	Total passes during suitable weather				
	Leisler' s	907	218	159	52	429	1336	128	249
	Nyctalus sp.,	117	17	40	6	63	180	27	30
Muglins Lighthouse (1.13 km from shore)	Common pipistrelle	5	5	2	9	16	21	1	6
	Soprano pipistrelle	1	0	0	0	0	1	0	0
	Nathusius' pipistrelle	2	0	0	0	0	2	0	0
	Leisler' s	58	4	3	2	9	67	1	6
Kish Lighthouse (11.89 km from shore)*	Leisler' s	7	12	13	14	39	46	13	46*
	Nyctalus sp.,		2	0	0	2	2	0	2

### Autumn

Sorrento (onshore)	Common pipistrelle	1219	578	327	293	1198	2417	109	<b>796</b>
	Soprano pipistrelle	13	10	18	15	43	56	14	<b>14</b>
	Nathusius' pipistrelle	26	9	5	10	24	50	2	<b>12</b>
	Pipistrellus sp.,	66	12	6	10	28	94	3	<b>15</b>

	Number during unsuitable weather	Wind direction during suitable weather				Total passes overall	Calls that are within 103 minutes of sunset and winds going towards Ireland during suitable weather conditions	Passes considered potentially migratory (passes during suitable weather and wind directions – calls within 103 minutes)*	
		Suitable weather and wind for migration towards GB (NW - N, SW – W)	Suitable weather and winds towards Ireland (E - SE, NE - E)	Other winds	Total passes during suitable weather				
	Leisler' s	1142	551	385	321	1257	2399	210	<b>726</b>
	Nyctalus sp.,	8	1	3	1	5	13	1	<b>3</b>
Dalkey Island (0.39 km from shore)	Common pipistrelle	1668	330	1246	766	2342	4010	881	<b>695</b>
	Soprano pipistrelle	21	8	23	10	41	62	23	<b>8</b>
	Nathusius' pipistrelle	5	3	3	3	9	14	3	<b>3</b>
	Pipistrellus sp.,	29	7	11	19	37	66	8	<b>10</b>
	Leisler' s	473	293	119	104	516	989	67	<b>345</b>
	Nyctalus sp.,	46	2	21	23	46	92	10	<b>13</b>
Muglins Lighthouse (1.13 km from shore)	Common pipistrelle	39	9	12	64	85	124	12	<b>9</b>
	Soprano pipistrelle	6	3	0	2	5	11	0	<b>3</b>
	Pipistrellus sp.,		0	1	0	1	1	1	<b>0</b>
	Leisler' s	59	9	19	6	34	93	17	<b>11</b>
Kish Lighthouse	Common pipistrelle	1	0	0	0	0	1	0	1*
	Nathusius' pipistrelle	1	0	0	0	0	1	0	1*

	Number during unsuitable weather	Wind direction during suitable weather				Total passes overall	Calls that are within 103 minutes of sunset and winds going towards Ireland during suitable weather conditions	Passes considered potentially migratory (passes during suitable weather and wind directions – calls within 103 minutes)*	
		Suitable weather and wind for migration towards GB (NW - N, SW – W)	Suitable weather and winds towards Ireland (E - SE, NE - E)	Other winds	Total passes during suitable weather				
(11.89 km from shore)8	Leisler' s	120	4	38	21	63	183	33	183*
	Nyctalus sp.,	25	0	3	2	5	30	2	30*
<b>Total passes</b>	<b>20123</b>	<b>5589</b>	<b>3419</b>	<b>2643</b>	<b>11651</b>	<b>31774</b>	<b>2066</b>	<b>7181</b>	

\*with the exception of Kish where all passes are considered potentially migratory.