codling wind park

EIAR Addendum

Appendix 10-G Regional Population Assessment

codling
wind park

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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. On Friday 6th September 2024 CWPL (referred to hereafter as the 'Applicant') applied for planning permission to An Coimisiún Pleanála (ACP) (referred to hereafter as the 'Commission') under Section 291 of the Planning and Development Act (PDA) 2000, as amended, for the construction, operation and decommissioning of the CWP Project.

3. On 1st August 2025, having reviewed the application documentation, including the Environmental Impact Assessment Report (EIAR) and the Natura Impact Statement (NIS), the Commission issued a Further Information Request (FIR) in relation to the CWP Project.

4. This document has been prepared in response to requests made in Item 7 of the Commission's FIR and in support of **Section 10** of the **EIAR Addendum**.

2 Impacts to regional populations

5. **Volume 3**, **Chapter 10 Ornithology** of the EIAR includes an assessment of construction phase disturbance impacts to intertidal waterbirds in South Dublin Bay. This includes assessments for both visual and acoustic impacts, as well as impacts arising from the preferred alignment and alternative alignment for the purposes of modelling scenarios.

6. Conclusions as to the significance of effect (pertaining to EIAR) were based on the number of individuals within the South Dublin Bay area which were predicted to be impacted by disturbance arising from construction phase activities, as a proportion of the relevant population. Population estimates were informed by both baseline surveys and data obtained from the Irish Wetland Bird Survey (I-WeBS), coordinated by BirdWatch Ireland (see **Volume 4**, **Appendix 10.5 Baseline Characterisation Report** of the EIAR).

7. In the EIAR context, the metrics used to assign levels of impact magnitude were defined as follows.

Table 1 Impact parameter ranges used for the conversion of disturbance impact metrics into relative metrics to describe those impacts

Relative metric	Impact parameter type	
	Percentage of regional population utilising South Dublin Bay or proportion impacted	Value
Very small	<5%	<10 individuals
Small	5-10%	10-25 individuals
Medium	10-20%	25-100 individuals
Large	20-50%	100-500 individuals
Very large	>50%	>500 individuals

8. Where peak counts were found to be less than 5% of the regional population, the South Dublin Bay area is assessed as being utilised by a "very small" proportion of that regional population. Similarly,

where disturbance is predicted to impact less than 5% of individuals present within the South Dublin Bay area, or fewer than 10 individuals in total, the proportion and absolute number of individuals potentially impacted, respectively, is assessed to be “very small”. Conversely, where peak counts were found to be greater than 50% of the regional population, the South Dublin Bay area is assessed as being utilised by a “very large” proportion of that regional population. Furthermore, disturbance stimuli are predicted to result in potential impacts to more than 50% of individuals present within the South Dublin Bay area, or more than 500 individuals in total, the proportion and absolute number of individuals potentially impacted, respectively, is assessed to be “very large”.

9. Regional populations of all species assessed are provided in **Table 2**, below.

Table 2 Regional populations of species assessed in relation to disturbance impacts during the construction phase at the intertidal landfall location

Species	Regional population	Source
Light-bellied Brent Goose	35,150	Burke *et al*., 2018
Shelduck	10,160	Burke *et al*., 2018
Shoveler	2,020	Burke *et al*., 2018
Pintail	1,570	Burke *et al*., 2018
Teal	35,740	Burke *et al*., 2018
Oystercatcher	60,540	Burke *et al*., 2018
Golden plover	92,060	Burke *et al*., 2018
Grey plover	2,940	Burke *et al*., 2018
Ringed plover	11,660	Burke *et al*., 2018
Curlew	35,240	Burke *et al*., 2018
Bar-tailed godwit	16,530	Burke *et al*., 2018
Black-tailed godwit	19,800	Burke *et al*., 2018
Turnstone	9,480	Burke *et al*., 2018
Knot	16,270	Burke *et al*., 2018
Sanderling	8,420	Burke *et al*., 2018
Dunlin	45,760	Burke *et al*., 2018
Redshank	23,800	Burke *et al*., 2018
Black-headed gull	100,000	Stroud *et al*., 2016
Sterna terns	152,599	Furness, 2015
Great crested grebe	2,930	Burke *et al*., 2018
red-breasted merganser	2,430	Burke *et al*., 2018
Red-throated diver	770	Burke *et al*., 2018
Herring gull	187,090	Furness, 2015
Little egret	1,390	Burke *et al*., 2018

Species	Regional population	Source
Greenshank	1,320	Burke *et al*., 2018
Mediterranean gull	229	Lewis *et al*., 2019
Common gull	67,500	Stroud *et al*., 2016
Great black-backed gull	53,405	Furness, 2015
Lesser black-backed gull	171,513	Furness, 2015
Sandwich tern	14,535	Furness, 2015
Shag	17,104	Furness, 2015
Black guillemot	1,043	Burnell *et al*., 2023
Common scoter	10,640	Burke *et al*., 2018
Grey heron	2,610	Burke *et al*., 2018

10. By definition, the number of individuals of any species whose biogeographic range includes South Dublin Bay will always be a subset of its regional population. The proportion of the regional population of each species occupying South Dublin Bay was conservatively estimated using the peak count of individuals recorded during the baseline survey period (**Table 3**). It is noted that data collected during the baseline survey period have been validated by a suite of contemporary intertidal surveys, the details of which can be found in **Appendix 10-D Baseline and contemporary survey data comparison** of the **EIAR Addendum**.

Table 3 Proportion of each species' regional population represented by the peak count recorded during baseline surveys at South Dublin Bay

Species	Peak count	Proportion of regional population	Relative metric (See Table 1)
Light-bellied Brent Goose	602	1.72%	Very small
Shelduck	45	0.45%	Very small
Shoveler	6	0.30%	Very small
Pintail	16	1.02%	Very small
Teal	71	0.20%	Very small
Oystercatcher	3,677	6.00%	Small
Golden plover	475	0.50%	Very small
Grey plover	45	1.50%	Very small
Ringed plover	398	3.30%	Very small
Curlew	237	0.70%	Very small
Bar-tailed godwit	1260	7.40%	Small
Black-tailed godwit	589	4.20%	Very small
Turnstone	310	3.3%	Very small

Species	Peak count	Proportion of regional population	Relative metric (See Table 1)
Knot	10,890	66.90%	Very large
Sanderling	408	4.90%	Very small
Dunlin	5,495	11.90%	Medium
Redshank	709	5.60%	Small
Black-headed gull	3,826	3.83%	Very small
Sterna terns	4,686	3.07%	Very small
Great crested grebe	912	30.40%	Large
Red-breasted merganser	147	6.20%	Small
Red-throated diver	71	0.56%	Very small
Herring gull	5,646	3.02%	Very small
Little egret	150	0.29%	Very small
Greenshank	109	8.30%	Small
Mediterranean gull	87	38.00%	Large
Common gull	512	0.78%	Very small
Great black-backed gull	241	0.45%	Very small
Lesser black-backed gull	150	0.29%	Very small
Sandwich tern	462	3.18%	Very small
Shag	83	0.49%	Very small
Black guillemot	32	3.07%	Very small
Common scoter	99	0.93%	Very small
Grey heron	25	0.96%	Very small

11. For the majority of species, the proportion of the regional population occurring within South Dublin Bay during the baseline period was very small. Species whose proportional regional occurrence was observed to be small were oystercatcher, bar-tailed godwit, redshank, greenshank and red-breasted merganser. Dunlin occurrence was categorised as having medium proportional occurrence, and great crested grebe and Mediterranean gull were categorised as occurring as a large proportion of the regional population. One species, knot, was categorised as having a very large occurrence as a proportion of the regional population.

12. The above summarises the approach taken within the EIAR, which is and was considered appropriate and robust. As requested by the Commission **Table 4** below considers the regional population further and provides a breakdown of the proportion of each regional population predicted to be impacted by acoustic and visual disturbance during the construction phase at the intertidal landfall area within South Dublin Bay. Impact estimates are provided for both the preferred alignment and an alternative alignment (included for the purposes of modelling the maximum possible – albeit unrealistic – impacts). The original assessment estimates of acoustic impacts included numbers of individuals impacted by an average of all piling activities (which will not be concurrent) and the piling location which was found

to be most impactful for each species, based on both their observed distributions within South Dublin Bay and their individual sensitivities.

Table 4 Proportion of each regional population predicted to be impacted by acoustic and visual disturbance during the construction phase at the intertidal landfall area within South Dublin Bay

Species	Scenario		Regional population	Number of individuals affected by disturbance	Proportion of regional population affected by disturbance
Light-bellied brent goose	Preferred alignment	Acoustic all piling average	35,150	16.70	0.048
		Acoustic most sensitive		21.59	0.061
		Visual		19.05	0.054
	Alternative alignment	Acoustic all piling average		19.93	0.057
		Acoustic most sensitive		21.98	0.063
		Visual		23.18	0.066
Shelduck	Preferred alignment	Acoustic all piling average	10,160	1.64	0.016
		Acoustic most sensitive		2.17	0.021
		Visual		1.95	0.019
	Alternative alignment	Acoustic all piling average		1.85	0.018
		Acoustic most sensitive		2.01	0.020
		Visual		1.95	0.019
Shoveler	Preferred alignment	Acoustic all piling average	2,020	0.00	0.000
		Acoustic most sensitive		0.00	0.000
		Visual		0.00	0.000
	Alternative alignment	Acoustic all piling average		0.00	0.000
		Acoustic most sensitive		0.00	0.000
		Visual		0.00	0.000
Pintail	Preferred alignment	Acoustic all piling average	1,570	0.00	0.000
		Acoustic most sensitive		0.00	0.000
		Visual		0.00	0.000
	Alternative alignment	Acoustic all piling average		0.00	0.000
		Acoustic most sensitive		0.00	0.000
		Visual		0.00	0.000
Teal	Preferred alignment	Acoustic all piling average	35,740	<0.01	<0.01
		Acoustic most sensitive		0.03	0.000

Species	Scenario		Regional population	Number of individuals affected by disturbance	Proportion of regional population affected by disturbance
		Visual		0.04	0.000
	Alternative alignment	Acoustic all piling average		<0.01	<0.01
		Acoustic most sensitive		0.03	0.000
		Visual		0.04	0.000
Oystercatcher	Preferred alignment	Acoustic all piling average	60,540	40.22	0.066
		Acoustic most sensitive		71.9	0.119
		Visual		176.02	0.291
	Alternative alignment	Acoustic all piling average		50.88	0.084
		Acoustic most sensitive		109.1	0.180
		Visual		250.42	0.414
Golden plover	Preferred alignment	Acoustic all piling average	92,060	0.21	0.000
		Acoustic most sensitive		0.55	0.001
		Visual		0.89	0.001
	Alternative alignment	Acoustic all piling average		0.44	0.000
		Acoustic most sensitive		0.48	0.001
		Visual		24.14	0.026
Grey plover	Preferred alignment	Acoustic all piling average	2,940	0.12	0.004
		Acoustic most sensitive		0.55	0.019
		Visual		0.49	0.017
	Alternative alignment	Acoustic all piling average		0.22	0.007
		Acoustic most sensitive		0.95	0.032
		Visual		1.1	0.037
Ringed plover	Preferred alignment	Acoustic all piling average	11,660	0.01	0.000
		Acoustic most sensitive		0.02	0.000
		Visual		1.08	0.009
	Alternative alignment	Acoustic all piling average		0.01	0.000
		Acoustic most sensitive		0.04	0.000

Species	Scenario		Regional population	Number of individuals affected by disturbance	Proportion of regional population affected by disturbance
		Visual		4.36	0.037
Curlew	Preferred alignment	Acoustic all piling average	35,240	1.61	0.005
		Acoustic most sensitive		2.02	0.006
		Visual		7.35	0.021
	Alternative alignment	Acoustic all piling average		2.12	0.006
		Acoustic most sensitive		2.13	0.006
		Visual		11.2	0.032
Bar-tailed godwit	Preferred alignment	Acoustic all piling average	16,530	1.69	0.010
		Acoustic most sensitive		4.5	0.027
		Visual		7.91	0.048
	Alternative alignment	Acoustic all piling average		4.26	0.026
		Acoustic most sensitive		14.86	0.090
		Visual		24.69	0.149
Black-tailed godwit	Preferred alignment	Acoustic all piling average	19,800	0.62	0.003
		Acoustic most sensitive		0.76	0.004
		Visual		3.52	0.018
	Alternative alignment	Acoustic all piling average		1.38	0.007
		Acoustic most sensitive		4.25	0.021
		Visual		8.44	0.043
Turnstone	Preferred alignment	Acoustic all piling average	9,480	0.01	0.000
		Acoustic most sensitive		0.11	0.001
		Visual		0.61	0.006
	Alternative alignment	Acoustic all piling average		0.03	0.000
		Acoustic most sensitive		0.28	0.003
		Visual		0.74	0.008
Knot	Preferred alignment	Acoustic all piling average	16,270	116.06	0.713
		Acoustic most sensitive		283.89	1.745

Species	Scenario		Regional population	Number of individuals affected by disturbance	Proportion of regional population affected by disturbance
		Visual		15.42	0.095
	Alternative alignment	Acoustic all piling average		136.83	0.841
		Acoustic most sensitive		251.98	1.549
		Visual		77.16	0.474
Sanderling	Preferred alignment	Acoustic all piling average	8,420	0.01	0.000
		Acoustic most sensitive		0.07	0.001
		Visual		0.58	0.007
	Alternative alignment	Acoustic all piling average		0.04	0.000
		Acoustic most sensitive		0.29	0.003
		Visual16270		1.77	0.021
Dunlin	Preferred alignment	Acoustic all piling average	45,760	1.62	0.004
		Acoustic most sensitive		4.2	0.009
		Visual		99.1	0.217
	Alternative alignment	Acoustic all piling average		1.74	0.004
		Acoustic most sensitive		4.2	0.009
		Visual		160.17	0.350
Redshank	Preferred alignment	Acoustic all piling average	23,800	49.6	0.208
		Acoustic most sensitive		61.47	0.258
		Visual		18.41	0.077
	Alternative alignment	Acoustic all piling average		54.48	0.229
		Acoustic most sensitive		81.28	0.342
		Visual		26.74	0.112
Black-headed gull	Preferred alignment	Acoustic all piling average	100,000	2.03	0.002
		Acoustic most sensitive		6.35	0.006
		Visual		81.07	0.081
	Alternative alignment	Acoustic all piling average		2.08	0.002
		Acoustic most sensitive		4.56	0.005

Species	Scenario		Regional population	Number of individuals affected by disturbance	Proportion of regional population affected by disturbance
		Visual		116.94	0.117
Sterna terns	Preferred alignment	Acoustic all piling average	152,599	0.19	0.000
		Acoustic most sensitive		0.58	0.000
		Visual		1.25	0.001
	Alternative alignment	Acoustic all piling average		0.3	0.000
		Acoustic most sensitive		0.99	0.001
		Visual		2.2	0.001
Great crested grebe	Preferred alignment	Acoustic all piling average	2,930	0.87	0.030
		Acoustic most sensitive		3.09	0.105
		Visual		6.13	0.209
	Alternative alignment	Acoustic all piling average		1.34	0.046
		Acoustic most sensitive		3.09	0.105
		Visual		14.18	0.484
Red-breasted merganser	Preferred alignment	Acoustic all piling average	2,430	2.86	0.118
		Acoustic most sensitive		4.50	0.185
		Visual		3.00	0.123
	Alternative alignment	Acoustic all piling average		3.69	0.152
		Acoustic most sensitive		5.97	0.246
		Visual		3.65	0.150
Red-throated diver	Preferred alignment	Acoustic all piling average	770	0.07	0.009
		Acoustic most sensitive		0.21	0.027
		Visual		0.07	0.009
	Alternative alignment	Acoustic all piling average		0.20	0.026
		Acoustic most sensitive		0.32	0.042
		Visual		0.09	0.012
Herring gull	Preferred alignment	Acoustic all piling average	187,090	0.34	0.000
		Acoustic most sensitive		1.18	0.001

Species	Scenario		Regional population	Number of individuals affected by disturbance	Proportion of regional population affected by disturbance
		Visual		29.14	0.016
	Alternative alignment	Acoustic all piling average		0.47	0.000
		Acoustic most sensitive		0.40	0.000
		Visual		38.99	0.021
Little egret	Preferred alignment	Acoustic all piling average	1,390	0.29	0.021
		Acoustic most sensitive		0.45	0.032
		Visual		1.17	0.084
	Alternative alignment	Acoustic all piling average		0.33	0.024
		Acoustic most sensitive		0.40	0.029
		Visual		1.17	0.084
Greenshank	Preferred alignment	Acoustic all piling average	1,320	0.69	0.052
		Acoustic most sensitive		1.01	0.077
		Visual		0.73	0.055
	Alternative alignment	Acoustic all piling average		0.74	0.056
		Acoustic most sensitive		1.02	0.077
		Visual		0.73	0.055
Mediterranean gull	Preferred alignment	Acoustic all piling average	229	0.01	0.004
		Acoustic most sensitive		0.14	0.061
		Visual		0.35	0.153
	Alternative alignment	Acoustic all piling average		0.01	0.004
		Acoustic most sensitive		0.09	0.039
		Visual		0.39	0.170
Common gull	Preferred alignment	Acoustic all piling average	67,500	0.03	0.000
		Acoustic most sensitive		0.14	0.000
		Visual		2.31	0.003
	Alternative alignment	Acoustic all piling average		0.03	0.000
		Acoustic most sensitive		0.09	0.000

Species	Scenario		Regional population	Number of individuals affected by disturbance	Proportion of regional population affected by disturbance
		Visual		2.73	0.004
Great black-backed gull	Preferred alignment	Acoustic all piling average	53,405	0.03	0.000
		Acoustic most sensitive		4.94	0.009
		Visual		1.65	0.003
	Alternative alignment	Acoustic all piling average		0.04	0.000
		Acoustic most sensitive		3.70	0.007
		Visual		2.17	0.004
Lesser black-backed gull	Preferred alignment	Acoustic all piling average	171,513	0.01	0.000
		Acoustic most sensitive		0.02	0.000
		Visual		0.98	0.001
	Alternative alignment	Acoustic all piling average		0.01	0.000
		Acoustic most sensitive		0.06	0.000
		Visual		1.42	0.001
Sandwich tern	Preferred alignment	Acoustic all piling average	14,535	0.07	0.000
		Acoustic most sensitive		0.18	0.001
		Visual		0.47	0.003
	Alternative alignment	Acoustic all piling average		0.11	0.001
		Acoustic most sensitive		0.24	0.002
		Visual		0.95	0.007
Shag	Preferred alignment	Acoustic all piling average	17,104	0.04	0.000
		Acoustic most sensitive		0.22	0.001
		Visual		0.33	0.002
	Alternative alignment	Acoustic all piling average		0.06	0.000
		Acoustic most sensitive		0.22	0.001
		Visual		0.39	0.002
Black guillemot	Preferred alignment	Acoustic all piling average	1,043	<0.01	<0.01
		Acoustic most sensitive		0.02	0.002

Species	Scenario		Regional population	Number of individuals affected by disturbance	Proportion of regional population affected by disturbance
		Visual		0.02	0.002
	Alternative alignment	Acoustic all piling average		<0.01	<0.01
		Acoustic most sensitive		0.02	0.002
		Visual		0.02	0.002
Common scoter	Preferred alignment	Acoustic all piling average	10,640	0.36	0.003
		Acoustic most sensitive		1.13	0.011
		Visual		0.40	0.004
	Alternative alignment	Acoustic all piling average		0.69	0.006
		Acoustic most sensitive		2.97	0.028
		Visual		0.40	0.004
Grey heron	Preferred alignment	Acoustic all piling average	2,610	0.09	0.003
		Acoustic most sensitive		0.18	0.007
		Visual		0.38	0.015
	Alternative alignment	Acoustic all piling average		0.09	0.003
		Acoustic most sensitive		0.15	0.006
		Visual		0.39	0.015

3 Conclusions

13. Conclusions have been drawn on impacts associated with the preferred alignment. The greatest proportion of the regional population of any species predicted to be impacted by disturbance during the construction phase of the intertidal landfall within South Dublin Bay is 1.74% of the regional population of knot (i.e. 283.89 individuals from a regional wintering population of 16,270). Specifically, this level of disturbance is associated with acoustic impacts arising from the most impactful piling location for this species, and in the absence of any mitigation.

14. For all other species, every acoustic and visual disturbance impact scenario (from the preferred alignment) resulted in impacts of less than 0.8% of the regional population. The worst-case assessment scenario is based on pre-mitigation, as mitigation has been proposed to restrict construction to outside of the wintering period. The resulting residual levels of impact are assessed as being **not significant** in EIA terms in all cases.

4 References

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