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## APPENDIX 8 -3 (SUMMARY TABLE)

Table 1 Survey Effort Summary Table

Data Set (Seasons)	Months	Effort/month	Total hours per VP
2016/2017 Non-Breeding Season (10VPs)	Sep-Mar	6 hours/VP/month	42
2017 Breeding Season (10VPs)	Apr-Aug	6 hours/VP/month	30
2017 Breeding Season Continued (6VPs)	September	6 hours/VP/month	36
2017/2018 Non-Breeding Season (6VPs)	Oct-Mar	6 hours/VP/month	36
2018 Breeding Season (6VPs)	Apr-Sep	6 hours/VP/month	36
2018 Non-Breeding Season (6VPs)	Oct-Dec	3 hours/VP/month	9
All vantage point watches had the required 6 hour minimum per vantage point per month (VP). Surveys on VP3 only began in January 2017 but was surveyed in full every month from January onwards. VP1 and VP2 was surveyed consecutively from March 2016 through to January 2018			

Table 2 Monthly distribution of flight activity recorded for the target species during vantage point surveys

Species	Year	Standardised	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Totals	
Golden Plover	2016	records											1	3	1	5
		Secs (PCH)											360	19,420	19,080	38,860
	2017	records	1										1		2	4
		Secs (PCH)	270										6,750		3,600	10,620
	2018	records				1										1
		Secs (PCH)				4,290										4,290
Whooper Swan	2016	records												1		1
		Secs (PCH)												180		180
	2017	records														0
		Secs (PCH)														0
	2018	records														0
		Secs (PCH)														0
Hen Harrier	2016	records										1	1	1	1	4
		Secs (PCH)										0	0	0	0	0
	2017	records	1											1		2
		Secs (PCH)	0											0		0
	2018	records														0
		Secs (PCH)														0
Merlin	2016	records														0
		Secs (PCH)														0
	2017	records													1	1
		Secs (PCH)													0	0
	2018	records														0
		Secs (PCH)														0

Species	Year	Standardised	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Totals	
Peregrine	2016	records											1			1
		Secs (PCH)											200			200
	2017	records		1							1	1		2		5
		Secs (PCH)		0							40	0		180		220
	2018	records										1				1
		Secs (PCH)										45				45
Black-headed Gull	2016	records												1	1	2
		Secs (PCH)												360	100	460
	2017	records														0
		Secs (PCH)														0
	2018	records														0
		Secs (PCH)														0
Lesser Black-backed Gull	2016	records										7	2	1	6	16
		Secs (PCH)										7,268	5,960	5,400	17,990	36,618
	2017	records	1		1				3	6	1	1		1	14	
		Secs (PCH)	90		36,000				462	4,835	240	105		0	41,732	
	2018	records	1	1		1		1		2	8				14	
		Secs (PCH)	60	60		1,680		300		30	6,109				8,239	
Buzzard	2016	records											5	3	4	12
		Secs (PCH)											855	2,015	170	3,040
	2017	records	3	5	6	8	8	9	5	7	9	2	2	2	66	
		Secs (PCH)	80	894	402	1,124	875	455	940	215	3,320	127	35	158	8,625	
	2018	records	5	5	8	6	6	5	8	4	3				50	
		Secs (PCH)	300	1,560	1,180	295	640	545	1,170	390	275				6,355	

Species	Year	Standardised	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Totals	
Sparrowhawk	2016	records											3	3	2	8
		Secs (PCH)											7	0	35	42
	2017	records	6	3	1		1	2		1	2	1	1	2	20	
		Secs (PCH)	25	133	30		0	90		360	0	0	0	0	638	
	2018	records	1	1	1											3
		Secs (PCH)	15	0	0											15
Kestrel	2016	records										11	4	3	4	22
		Secs (PCH)										97	35	139	145	416
	2017	records	2	1			3	2	1	4		2	3	1	19	
		Secs (PCH)	15	0			150	165	0	140		0	740	0	1,210	
	2018	records	5	1	6	2	2	4	4	7	4					35
		Secs (PCH)	850	45	240	60	75	125	0	55	675					2,125
<p>Based on analysis of all flight activity data within focus area, including data from VPs at Site 2 and Site 3, and observations of flights below and above the collision risk height band. Survey period = September 2016 - September 2018 (Shaded Cells were months not surveyed). Records = No. of Observations. Bird-secs = (Total Duration of Flight(s) between 25-175m X No. of Birds in Observation). Non-flight observations are excluded from records above.</p>																

Table 3 VP observations of target species within PCH and proximity of development site.

Species	Values	Site 2		Site 3			Totals
		VP1	VP2(a)	VP1	VP2	VP3	
Golden Plover	Observations (All Bands)	4	2	1		3	10
	Duration in PCH (Band 2+3, in Seconds)	20780	22,280	360		10,350	53,770
Whooper Swan	Observations (All Bands)		1				1
	Duration in PCH (Band 2+3, in Seconds)		180				180
Hen Harrier	Observations (All Bands)	1		2	1	2	6
	Duration in PCH (Band 2+3, in Seconds)	0		0	0	0	0
Merlin	Observations (All Bands)			1			1
	Duration in PCH (Band 2+3, in Seconds)			0			0
Peregrine	Observations (All Bands)	1	1	1	1	3	7
	Duration in PCH (Band 2+3, in Seconds)	180	0	0	0	285	465
Black-headed Gull	Observations (All Bands)		2				2
	Duration in PCH (Band 2+3, in Seconds)		460				460
Lesser Black-backed Gull	Observations (All Bands)	8	8	10	5	12	43
	Duration in PCH (Band 2+3, in Seconds)	1,105	38,780	8,527	7,722	30,395	86,529
Buzzard	Observations (All Bands)	37	43	23	8	17	128
	Duration in PCH (Band 2+3, in Seconds)	2,880	6,689	5,532	1,605	1,314	18020
Sparrowhawk	Observations (All Bands)	7	9	5	7	3	31
	Duration in PCH (Band 2+3, in Seconds)	40	523	0	42	90	695
Kestrel	Observations (All Bands)	7	10	22	14	25	78
	Duration in PCH (Band 2+3, in Seconds)	285	351	1,415	295	1,405	3751

Based on analysis of all flight data inside focus area flying at PCH for each target species during Vantage Point surveys at Sites 1, 2 & 3 between September 2016 and September 2018. Any non-flight observations were excluded from data analysis. PCH = (no. of birds x total duration in PCH). PCH (Potential Collision Height) is considered as all flights which occurred between 25m and 175m as a worst-case scenario for swept height of the turbine blades. Flights associated with Sites 1, 4, 5, 6 & 7 were not included in Collision Risk Modelling and time from these observations is not included in PCH figures above.

Table 4 Golden Plover Observations during Waterbird Survey

Location	Distance from Site (km)	Year	Standardised	Jan	Feb	Mar	Sep	Oct	Nov	Dec	Totals for each year
Newport East	4.8km	2016	No. of Birds						1429	5	<b>1434</b>
		2017	No. of Birds								<b>0</b>
		2018	No. of Birds								<b>0</b>
Ferrypoint	9.4km	2016	No. of Birds								<b>0</b>
		2017	No. of Birds			9					<b>9</b>
		2018	No. of Birds								<b>0</b>

Table 5 Whooper Swan observations during Waterbird Surveys

Location	Distance from Site (km)	Year	Standardised	Jan	Feb	Mar	Sep	Oct	Nov	Dec	Totals for each year
Tallow Bridge	4.5km	2016	No. of Birds							20	20
		2017	No. of Birds	21	22	23					66
		2018	No. of Birds								0
Ballinvella	5.1km	2016	No. of Birds								0
		2017	No. of Birds	5		5					10
		2018	No. of Birds								0
Camphire	5.3km	2016	No. of Birds						174		174
		2017	No. of Birds	89	9						98
		2018	No. of Birds								0
Towers Area	9.6km	2016	No. of Birds						44		44
		2017	No. of Birds		42	209					251
		2018	No. of Birds								0
Ballyduff	11km	2016	No. of Birds								0
		2017	No. of Birds	31							31
		2018	No. of Birds								0
Ballyneroon	11.9km	2016	No. of Birds								0
		2017	No. of Birds	7	68						75
		2018	No. of Birds								0
Kilmurry	15.4km	2016	No. of Birds							7	7
		2017	No. of Birds		13						13
		2018	No. of Birds								0



Location	Distance from Site (km)	Year	Standardised	Jan	Feb	Mar	Sep	Oct	Nov	Dec	Totals for each year
Careysville	16.8km	2016	No. of Birds							23	23
		2017	No. of Birds	48	91						139
		2018	No. of Birds								0
Ballyderown	19km	2016	No. of Birds							38	38
		2017	No. of Birds	60							60
		2018	No. of Birds								0

Table 6 Black-headed Gull Observations during Waterbird Surveys

Location	Distance from Site (km)	Year	Standardised	Jan	Feb	Mar	Sep	Oct	Nov	Dec	Totals for each year
Lackaroe	3.1km	2016	No. of Birds				96	9	6	9	120
		2017	No. of Birds	14	8						22
		2018	No. of Birds								0
Glendine Bridge	3.6km	2016	No. of Birds				1				1
		2017	No. of Birds								0
		2018	No. of Birds								0
Kilmanicholas	4.4km	2016	No. of Birds				117	1	39	3	160
		2017	No. of Birds	132	1						133
		2018	No. of Birds								0
Tallow Bridge	4.5km	2016	No. of Birds							204	204
		2017	No. of Birds		237						237
		2018	No. of Birds								0
Ballinvella	5.1km	2016	No. of Birds								0
		2017	No. of Birds		25						25
		2018	No. of Birds								0
Newport East	4.8km	2016	No. of Birds				162	88	28	8	286
		2017	No. of Birds	18	23	9					50
		2018	No. of Birds								0
Camphire	5.3km	2016	No. of Birds				2	1	6	10	19
		2017	No. of Birds		6						6
		2018	No. of Birds								0

Location	Distance from Site (km)	Year	Standardised	Jan	Feb	Mar	Sep	Oct	Nov	Dec	Totals for each year
Ballyphilip East	5.4km	2016	No. of Birds						6	55	61
		2017	No. of Birds	1							1
		2018	No. of Birds								0
Tourig Estuary	6km	2016	No. of Birds				76	111	24	7	218
		2017	No. of Birds	34	120	9					163
		2018	No. of Birds								0
Foxhole	6.8km	2016	No. of Birds				1	34	1		36
		2017	No. of Birds	2	2						4
		2018	No. of Birds								0
Kinsalebeg	7.7km	2016	No. of Birds				6	32	19	157	214
		2017	No. of Birds	78	52						130
		2018	No. of Birds								0
Ferrypoint	9.3km	2016	No. of Birds				111	55	27		193
		2017	No. of Birds	141							141
		2018	No. of Birds								0
Towers Area	9.6km	2016	No. of Birds								0
		2017	No. of Birds		24						24
		2018	No. of Birds								0
Ballyderown	19km	2016	No. of Birds								0
		2017	No. of Birds		150						150
		2018	No. of Birds								0

Table 7 Lesser Black-backed Gull Observations during Waterbird Surveys

Location	Distance from Site (km)	Year	Standardised	Jan	Feb	Mar	Sep	Oct	Nov	Dec	Totals for each year
Kilmanicholas	4.4km	2016	No. of Birds				6	2	15		23
		2017	No. of Birds								0
		2018	No. of Birds								0
Tallow Bridge	4.5km	2016	No. of Birds							39	39
		2017	No. of Birds		347						347
		2018	No. of Birds								0
Newport East	4.8km	2016	No. of Birds				122	126			248
		2017	No. of Birds								0
		2018	No. of Birds								0
Ballyphilip East	5.4km	2016	No. of Birds				18				18
		2017	No. of Birds			2					2
		2018	No. of Birds								0
Tourig Estuary	6km	2016	No. of Birds					16		155	171
		2017	No. of Birds	9	6	17					32
		2018	No. of Birds								0
Kinsalebeg	7.7km	2016	No. of Birds				1		4	10	15
		2017	No. of Birds								0
		2018	No. of Birds								0
Towers Area	9.6km	2016	No. of Birds								0
		2017	No. of Birds		26						26
		2018	No. of Birds								0

Table 8 Buzzard Observations during Waterbird Surveys

Location	Distance from Site (km)	Year	Standardised	Jan	Feb	Mar	Sep	Oct	Nov	Dec	Totals for each year
Lackaroe	3.1km	2016	No. of Birds								0
		2017	No. of Birds			1					1
		2018	No. of Birds								0
Tallow Bridge	4.5km	2016	No. of Birds							2	2
		2017	No. of Birds								0
		2018	No. of Birds								0
Camphire	5.3km	2016	No. of Birds						1		1
		2017	No. of Birds			2					2
		2018	No. of Birds								0
Tourig Estuary	6km	2016	No. of Birds						1		1
		2017	No. of Birds								0
		2018	No. of Birds								0
Kinsalebeg	7.7km	2016	No. of Birds						2		2
		2017	No. of Birds								0
		2018	No. of Birds								0
Towers Area	9.6km	2016	No. of Birds							1	1
		2017	No. of Birds								0
		2018	No. of Birds								0