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## Appendix 7-4 – Survey Data

Carrig Renewables Wind  
Farm

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# GOLDEN PLOVER

Table 7-4-1-1 Golden Plover Vantage Point Survey Data

Vantage Point Surveys												
Ref.	VP	Date	Time	Species	Number	Duration of flight (s)	Band 1 (0-15m)	Band 2 (15-25m)	Band 3 (25-200m)	Band 4 (>200m)	Habitat and activity	Surveyor
GP001	VP1	14/10/2020	18:34	Golden Plover	45	400	0	0	0	400	wet grassland; travelling, skimming 500m above pch, larger numbers further off site going same direction	TR
GP002	VP2	28/11/2020	08:35	Golden Plover	70	15	0	0	15	0	improved agricultural grassland; travelling	AR
GP003	VP1	13/01/2021	12:51	Golden Plover	117	42	0	0	42	0	improved agricultural grassland, highly modified/non-native woodland and bogs; travelling	AR
GP004	VP1	13/01/2021	13:02	Golden Plover	40	10	0	0	10	0	improved agricultural grassland, highly modified/non-native woodland and bogs; travelling	AR
GP005	VP1	13/01/2021	14:09	Golden Plover	37	5	5	0	0	0	improved agricultural grassland, hedgerows and bogs; travelling	AR
GP006	VP2	16/01/2021	11:53	Golden Plover	53	30	0	0	30	0	improved agricultural grassland, highly modified/non-native woodland and hedgerows; travelling	AR
GP007	VP4	28/01/2021	09:17	Golden Plover	17	60	0	0	60	0	improved agricultural grassland, highly modified/non-native woodland and bogs; travelling	AR
GP008	VP1	25/09/2021	13:33	Golden Plover	36	60	0	0	60	0	improved grassland; travelling	AR
GP009	VP1	25/09/2021	14:41	Golden Plover	130	120	0	0	0	120	improved grassland; travelling	AR
GP010	VP3	30/09/2021	14:02	Golden Plover	32	60	0	0	60	0	bogs; travelling	AR

Vantage Point Surveys												
Ref.	VP	Date	Time	Species	Number	Duration of flight (s)	Band 1 (0-15m)	Band 2 (15-25m)	Band 3 (25-200m)	Band 4 (>200m)	Habitat and activity	Surveyor
GP011	VP3	30/09/2021	14:57	Golden Plover	115	120	0	0	80	40	improved grassland, bogs and hedgerows; travelling	AR
GP012	VP3	30/09/2021	15:26	Golden Plover	28	60	0	0	60	0	improved grassland, bogs and hedgerows; travelling	AR
GP013	VP3	30/09/2021	18:06	Golden Plover	6	180	0	0	180	0	improved grassland, bogs and hedgerows; travelling	AR
GP014	VP2	19/10/2021	09:02	Golden Plover	40	10	0	0	10	0	highly modified/non-native woodland; travelling, picked up whilst watching bz. only briefly seen, lost against low cloud.	PDC
GP015	VP2	19/10/2021	09:54	Golden Plover	1	0	0	0	0	0	bogs; calling, heard calling in front of vp but couldn't locate it	PDC
GP016	VP2	21/10/2021	09:21	Golden Plover	3	10	0	0	10	0	improved grassland; flying	CF
GP017	VP1	21/10/2021	09:39	Golden Plover	40	25	0	0	25	0	bogs; travelling, picked up in distance when watching k.	PDC
GP018	VP1	09/11/2021	12:37	Golden Plover	14	30	0	0	0	0	improved grassland, hedgerows and bogs; travelling	AR
GP019	VP1	09/11/2021	15:45	Golden Plover	160	60	0	0	60	0	improved grassland and hedgerows; travelling	AR
GP020	VP1	09/11/2021	16:00	Golden Plover	250	120	0	0	120	0	improved grassland and hedgerows; circling	AR
GP021	VP1	06/01/2022	13:56	Golden Plover	61	15	0	15	0	0	improved grassland, hedgerows and bogs; travelling	AR
GP022	VP1	06/01/2022	14:42	Golden Plover	2	90	0	90	0	0	improved grassland, hedgerows and bogs; travelling	AR
GP023	VP3	08/01/2022	13:10	Golden Plover	5	60	0	0	60	0	improved grassland, hedgerows and bogs; travelling	AR
GP024	VP4	08/02/2022	09:44	Golden Plover	30	40	0	0	40	0	bogs; flying	AR



Vantage Point Surveys												
Ref.	VP	Date	Time	Species	Number	Duration of flight (s)	Band 1 (0-15m)	Band 2 (15-25m)	Band 3 (25-200m)	Band 4 (>200m)	Habitat and activity	Surveyor
GP025	VP4	03/03/2022	13:26	Golden Plover	150	60	0	0	60	0	improved grassland and hedgerows; circling	AR
GP026	VP4	03/03/2022	14:02	Golden Plover	60	50	0	0	50	0	improved grassland and hedgerows; circling	AR
GP027	VP4	03/03/2022	16:52	Golden Plover	150	70	0	0	70	0	improved grassland and hedgerows; circling	AR
GP028	VP3	12/03/2022	13:42	Golden Plover	200	20	0	0	20	0	improved grassland and hedgerows; travelling	AR
GP029	VP2	29/03/2022	16:20	Golden Plover	350	180	0	0	180	0	bogs, highly modified/non-native woodland and improved grassland; circling	AR
GP030	VP2	29/03/2022	16:51	Golden Plover	350	90	0	0	90	0	improved grassland and conifer plantation; circling	AR
GP031	VP2	29/03/2022	19:03	Golden Plover	90	60	0	0	60	0	improved grassland, hedgerows and conifer plantation; flying	AR
GP032	VP3	19/04/2022	10:00	Golden Plover	32	63	63	0	0	0	improved agricultural grassland; fly, circle	ZE
GP033	VP3	27/10/2022	07:30	Golden Plover	1	0	0	0	0	0	bogs; flying calling	CF
GP034	VP1	17/11/2022	16:53	Golden Plover	30	20	0	0	20	0	improved grassland; flying	CF
GP035	VP1a	22/02/2023	09:20	Golden Plover	500	90	0	0	90	0	improved grassland; flying, flying w; estim. number	ZE

Table 7-4-1-2 Golden Plover Winter Walkover Survey Data

Winter Walkover Surveys						
Ref.	Date	Time	Species	Number	Habitat and activity	Surveyor
GP001	31/01/2021	08:10	Golden Plover	18	improved agricultural grassland; roosting (wintering)	AR
GP002	16/02/2021	07:55	Golden Plover	101	improved agricultural grassland and hedgerows; small flock roosting (wintering)	AR

Table 7-4-1-3 Golden Plover Waterbird Distribution Survey Data

Waterbird Distribution Surveys							
Ref.	Location	Date	Time	Species	Number	Habitat and activity	Surveyor
GP001	Little Brosna Callows	09/10/2020	10:05	Golden Plover	1200	depositing/lowland rivers; flight, flying over broсна and landing on callows	TR
GP002	Little Brosna Callows	09/10/2020	13:07	Golden Plover	1500	depositing/lowland rivers; flying over callows, landing in large flock	TR
GP003	Little Brosna Callows	23/10/2020	11:04	Golden Plover	940	depositing/lowland rivers and wet grassland; landing, commuting westwards over broсна callows landing	TR
GP004	Little Brosna Callows	23/10/2020	16:18	Golden Plover	650	wet grassland; roost	TR
GP005	Little Brosna Callows	11/11/2020	10:30	Golden Plover	3000	watercourses, wet grassland, and marsh; flying/landing	AR
GP006	Little Brosna Callows	11/11/2020	11:52	Golden Plover	2000	watercourses and improved agricultural grassland; feeding/roosting	AR
GP007	Little Brosna Callows	11/11/2020	12:10	Golden Plover	100	watercourses and improved agricultural grassland; feeding/roosting	AR
GP008	Little Brosna Callows	11/11/2020	12:31	Golden Plover	200	wet grassland and improved agricultural grassland; roosting	AR
GP009	Little Brosna Callows	14/11/2020	12:25	Golden Plover	200	watercourses and improved agricultural grassland; roosting	AR

Waterbird Distribution Surveys							
Ref.	Location	Date	Time	Species	Number	Habitat and activity	Surveyor
GP010	Little Brosna Callows	14/11/2020	12:46	Golden Plover	1000	watercourses and improved agricultural grassland; flying/landing	AR
GP011	Little Brosna Callows	14/11/2020	12:57	Golden Plover	500	improved agricultural grassland; roosting	AR
GP012	Little Brosna Callows	14/11/2020	13:20	Golden Plover	2000	watercourses and improved agricultural grassland; flying/landing	AR
GP013	Little Brosna Callows	27/11/2020	10:00	Golden Plover	2500	watercourses and improved agricultural grassland; roosting	AR
GP014	Little Brosna Callows	27/11/2020	10:30	Golden Plover	700	improved agricultural grassland; feeding /roosting	AR
GP015	Little Brosna Callows	27/11/2020	10:50	Golden Plover	10	improved agricultural grassland; roosting	AR
GP016	Little Brosna Callows	27/11/2020	11:15	Golden Plover	70	watercourses and improved agricultural grassland; feeding	AR
GP017	Little Brosna Callows	27/11/2020	11:42	Golden Plover	100	watercourses and improved agricultural grassland; feeding	AR
GP018	Little Brosna Callows	27/11/2020	12:15	Golden Plover	3000	watercourses and improved agricultural grassland; flying /roosting/feeding	AR
GP019	Little Brosna Callows	15/12/2020	10:50	Golden Plover	50	improved agricultural grassland; feeding	AR
GP020	Little Brosna Callows	15/12/2020	11:27	Golden Plover	60	watercourses and improved agricultural grassland; roosting	AR
GP021	Little Brosna Callows	15/12/2020	12:43	Golden Plover	300	watercourses and improved agricultural grassland; feeding/roosting	AR
GP022	Ballylina	17/12/2020	13:20	Golden Plover	2000	watercourses and improved agricultural grassland; flying	AR
GP023	Lackabrack	29/12/2020	13:55	Golden Plover	150	improved agricultural grassland; flying	AR

Waterbird Distribution Surveys							
Ref.	Location	Date	Time	Species	Number	Habitat and activity	Surveyor
GP024	Little Brosna Callows	31/12/2020	11:20	Golden Plover	100	improved agricultural grassland; roosting	AR
GP025	Little Brosna Callows	31/12/2020	12:15	Golden Plover	1300	watercourses and improved agricultural grassland; flying	AR
GP026	Little Brosna Callows	31/12/2020	14:35	Golden Plover	100	improved agricultural grassland; flying	AR
GP027	Rathcabban	31/12/2020	15:20	Golden Plover	368	improved agricultural grassland; feeding	AR
GP028	Ballylina	12/01/2021	14:20	Golden Plover	600	improved agricultural grassland; feeding	AR
GP029	Little Brosna Callows	14/01/2021	10:20	Golden Plover	3	improved agricultural grassland; feeding/roosting, feeding	AR
GP030	Little Brosna Callows	14/01/2021	12:05	Golden Plover	3500	watercourses and improved agricultural grassland; t, flying/landing	AR
GP031	Little Brosna Callows	30/01/2021	09:15	Golden Plover	1100	improved agricultural grassland and watercourses; feeding/roosting, roosting	AR
GP032	Little Brosna Callows	30/01/2021	11:42	Golden Plover	30	watercourses and improved agricultural grassland; feeding/roosting, roosting	AR
GP033	Little Brosna Callows	30/01/2021	12:06	Golden Plover	260	improved agricultural grassland and watercourses; feeding/roosting, roosting	AR
GP034	Little Brosna Callows	30/01/2021	13:00	Golden Plover	150	improved agricultural grassland; feeding/roosting, feeding/roosting	AR
GP035	Ballylier	30/01/2021	13:46	Golden Plover	600	improved agricultural grassland and hedgerows; flying	AR
GP036	Ballylina	14/02/2021	12:01	Golden Plover	160	watercourses and improved agricultural grassland; roosting	AR
GP037	Ballylina	14/02/2021	12:30	Golden Plover	2500	improved agricultural grassland; roosting/feeding	AR

Waterbird Distribution Surveys							
Ref.	Location	Date	Time	Species	Number	Habitat and activity	Surveyor
GP038	Lackabrack	14/02/2021	15:00	Golden Plover	460	improved agricultural grassland; roosting	AR
GP039	Little Brosna Callows	15/02/2021	09:10	Golden Plover	700	semi-natural grassland, improved agricultural grassland and watercourses; roosting	AR
GP040	Little Brosna Callows	15/02/2021	09:41	Golden Plover	50	semi-natural grassland, improved agricultural grassland and watercourses; feeding	AR
GP041	Little Brosna Callows	15/02/2021	10:07	Golden Plover	100	semi-natural grassland, improved agricultural grassland and watercourses; feeding	AR
GP042	Little Brosna Callows	15/02/2021	10:30	Golden Plover	2100	semi-natural grassland and watercourses; roosting	AR
GP043	Little Brosna Callows	15/02/2021	11:00	Golden Plover	200	semi-natural grassland, watercourses, and improved agricultural grassland; flying	AR
GP044	Ballylina	24/02/2021	12:20	Golden Plover	36	improved agricultural grassland and watercourses; flying	AR
GP045	Little Brosna Callows	26/02/2021	09:30	Golden Plover	120	improved agricultural grassland, semi-natural grassland, and watercourses; flying	AR
GP046	Little Brosna Callows	26/02/2021	12:00	Golden Plover	40	improved agricultural grassland and watercourses; flying	AR
GP047	Little Brosna Callows	20/03/2021	12:46	Golden Plover	700	watercourses and improved agricultural grassland; flying	AR
GP048	Little Brosna Callows	28/09/2021	11:03	Golden Plover	5	wet grassland and watercourses; flying	AR
GP049	Little Brosna Callows	13/10/2021	09:05	Golden Plover	250	bogs; travelling, large flock picked up in distance; count is an estimate	PDC
GP050	Little Brosna Callows	26/10/2021	11:38	Golden Plover	2000	wet grassland and improved grassland; travelling, large flocks in flight	PDC
GP051	Little Brosna Callows	26/10/2021	12:43	Golden Plover	1500	wet grassland; travelling, at least 1500 went over in three large flocks.	PDC

Waterbird Distribution Surveys							
Ref.	Location	Date	Time	Species	Number	Habitat and activity	Surveyor
GP052	Little Brosna Callows	08/11/2021	09:08	Golden Plover	1500	wet grassland; flying/landed	AR
GP053	Little Brosna Callows	08/11/2021	09:50	Golden Plover	3000	wet grassland; flying/landed	AR
GP054	Little Brosna Callows	08/11/2021	10:38	Golden Plover	2000	wet grassland; roosting	AR
GP055	Little Brosna Callows	11/11/2021	08:32	Golden Plover	300	wet grassland; feeding	AR
GP056	Little Brosna Callows	11/11/2021	10:25	Golden Plover	6000	wet grassland; roosting/flying	AR
GP057	Little Brosna Callows	11/11/2021	12:00	Golden Plover	500	wet grassland; feeding	AR
GP058	Little Brosna Callows	11/11/2021	12:46	Golden Plover	800	improved grassland and wet grassland; flying	AR
GP059	Little Brosna Callows	11/11/2021	12:52	Golden Plover	3000	improved grassland and wet grassland; roosting/flying	AR
GP060	Little Brosna Callows	24/11/2021	11:42	Golden Plover	3000	wet grassland and watercourses; flying/landed	AR
GP061	Little Brosna Callows	24/11/2021	12:05	Golden Plover	2000	wet grassland; roosting	AR
GP062	Lackabrack	24/11/2021	13:46	Golden Plover	100	improved grassland; feeding	AR
GP063	Little Brosna Callows	29/11/2021	10:05	Golden Plover	4000	wet grassland and improved grassland; roosting/flying	AR
GP064	Little Brosna Callows	06/12/2021	12:35	Golden Plover	6000	improved grassland; feeding/roosting	AR
GP065	Little Brosna Callows	21/12/2021	10:20	Golden Plover	2000	wet grassland and watercourses; flying	AR

Waterbird Distribution Surveys							
Ref.	Location	Date	Time	Species	Number	Habitat and activity	Surveyor
GP066	Little Brosna Callows	21/12/2021	12:00	Golden Plover	6000	wet grassland; feeding/flying	AR
GP067	Little Brosna Callows	07/01/2022	09:50	Golden Plover	70	watercourses and wet grassland; feeding	AR
GP068	Little Brosna Callows	07/01/2022	10:46	Golden Plover	70	watercourses and wet grassland; feeding	AR
GP069	Little Brosna Callows	07/01/2022	11:15	Golden Plover	600	wet grassland; feeding	AR
GP070	Little Brosna Callows	07/01/2022	12:46	Golden Plover	86	improved grassland and hedgerows; feeding	AR
GP071	Kylebeg	09/01/2022	09:17	Golden Plover	46	improved grassland, wet grassland, and watercourses; feeding	AR
GP072	Carrig	30/01/2022	09:10	Golden Plover	2	watercourses; flying	AR
GP073	Lackabrack	30/01/2022	10:05	Golden Plover	130	improved grassland and hedgerows; flying	AR
GP074	Little Brosna Callows	31/01/2022	10:36	Golden Plover	8000	wet grassland; flying/feeding	AR
GP075	Little Brosna Callows	31/01/2022	11:40	Golden Plover	1000	wet grassland; feeding	AR
GP076	Little Brosna Callows	31/01/2022	12:34	Golden Plover	500	wet grassland; roosting	AR
GP077	Little Brosna Callows	06/02/2022	08:00	Golden Plover	2000	wet grassland and watercourses; feeding/flying	AR
GP078	Little Brosna Callows	06/02/2022	09:40	Golden Plover	1500	wet grassland; feeding	AR
GP079	Little Brosna Callows	06/02/2022	10:00	Golden Plover	5000	wet grassland and improved grassland; flying/landed	AR

Waterbird Distribution Surveys							
Ref.	Location	Date	Time	Species	Number	Habitat and activity	Surveyor
GP080	Little Brosna Callows	06/02/2022	10:51	Golden Plover	1500	wet grassland; feeding	AR
GP081	Little Brosna Callows	06/02/2022	12:22	Golden Plover	100	wet grassland; feeding	AR
GP082	Rathvickeen	06/02/2022	13:20	Golden Plover	200	improved grassland; roosting	AR
GP083	Little Brosna Callows	18/02/2022	10:17	Golden Plover	100	wet grassland; roosting	AR
GP084	Little Brosna Callows	18/02/2022	10:23	Golden Plover	3000	wet grassland and watercourses; feeding/flying	AR
GP085	Little Brosna Callows	18/02/2022	11:30	Golden Plover	1500	wet grassland and watercourses; flying	AR
GP086	Little Brosna Callows	18/02/2022	12:32	Golden Plover	2000	wet grassland and watercourses; roosting/flying	AR
GP087	Little Brosna Callows	10/03/2022	09:20	Golden Plover	3000	wet grassland; roosting/feeding	AR
GP088	Little Brosna Callows	10/03/2022	11:35	Golden Plover	150	wet grassland; flying	AR
GP089	Lackabrack	30/03/2022	12:07	Golden Plover	44	improved grassland and hedgerows; roosting	AR
GP090	Little Brosna Callows	31/03/2022	09:00	Golden Plover	400	wet grassland; feeding	AR
GP091	Little Brosna Callows	25/10/2022	10:36	Golden Plover	800	marsh and watercourses; flying and feeding	NL
GP092	Little Brosna Callows	25/10/2022	10:55	Golden Plover	3	marsh and watercourses; flying	NL
GP093	Little Brosna Callows	25/10/2022	11:46	Golden Plover	3	marsh and watercourses; feeding	NL



Waterbird Distribution Surveys							
Ref.	Location	Date	Time	Species	Number	Habitat and activity	Surveyor
GP094	Little Brosna Callows	25/10/2022	11:50	Golden Plover	400	marsh and improved agricultural grassland; flying over	NL
GP095	Little Brosna Callows	25/10/2022	12:08	Golden Plover	110	marsh and improved agricultural grassland; roosting and feeding	NL
GP096	Little Brosna Callows	25/10/2022	12:43	Golden Plover	500	watercourses and marsh; flying	NL
GP097	Little Brosna Callows	28/10/2022	10:11	Golden Plover	1000	watercourses and marsh; feeding and roosting, occupying every inch of land near water	NL
GP098	Little Brosna Callows	03/11/2022	12:08	Golden Plover	2000	lakes and ponds; flying	CF
GP099	Little Brosna Callows	09/11/2022	11:10	Golden Plover	1000	lakes and ponds; roosting	CF
GP100	Little Brosna Callows	22/11/2022	10:11	Golden Plover	1000	marsh and watercourses; feeding & roosting	NL
GP101	Little Brosna Callows	29/11/2022	10:21	Golden Plover	1000	marsh and watercourses; flying, feeding & roosting	NL
GP102	Little Brosna Callows	05/12/2022	13:03	Golden Plover	2000	lakes and ponds; roosting	CF
GP103	Little Brosna Callows	21/12/2022	15:03	Golden Plover	1000	lakes and ponds; roosting	CF
GP104	Little Brosna Callows	04/01/2023	12:06	Golden Plover	2000	lakes and ponds; in flight	CF
GP105	Little Brosna Callows	02/02/2023	17:35	Golden Plover	500	lakes and ponds; feeding	CF
GP106	Little Brosna Callows	08/02/2023	17:42	Golden Plover	400	lakes and ponds; feeding	CF
GP107	Little Brosna Callows	14/02/2023	17:50	Golden Plover	4000	lakes and ponds; feeding	CF

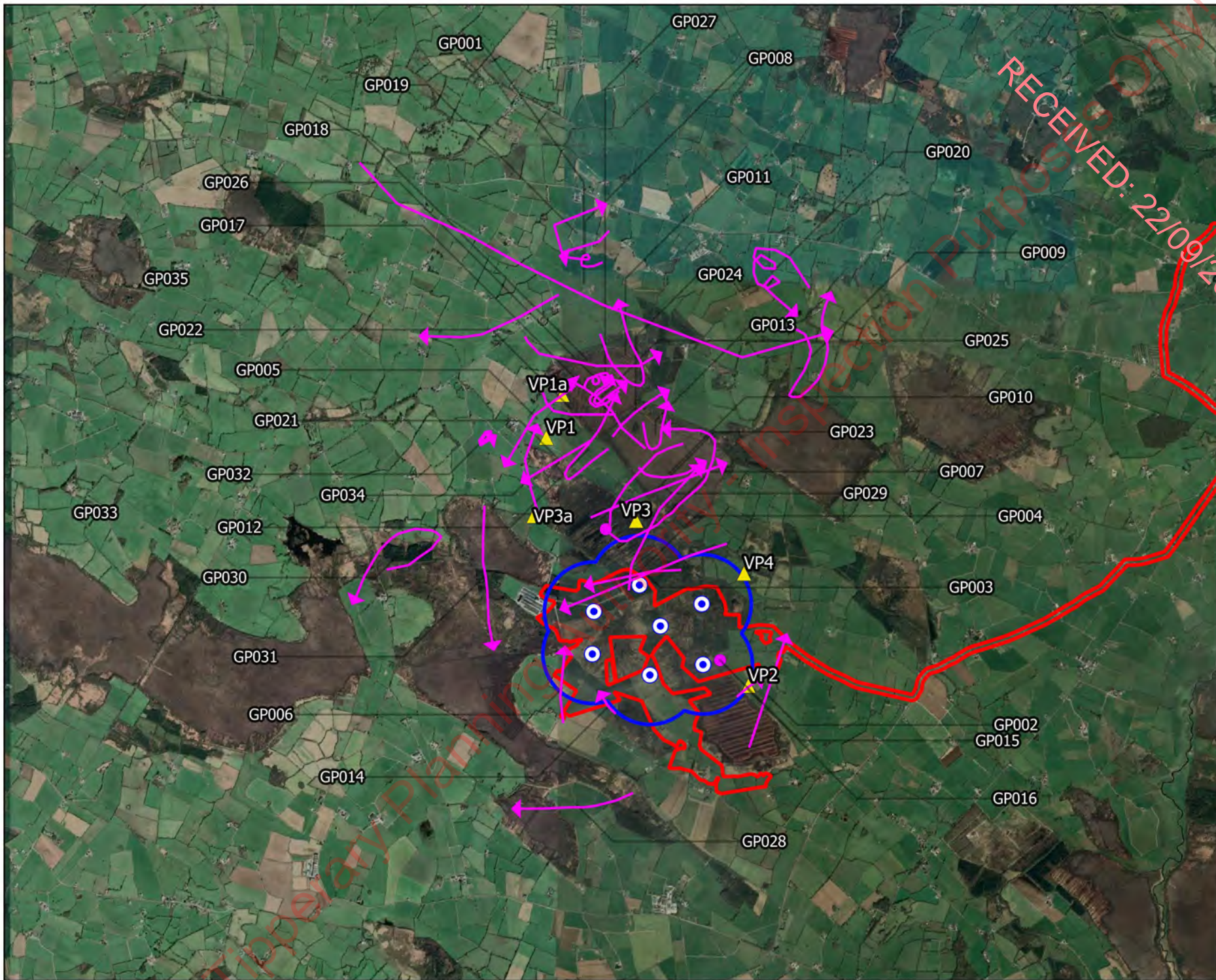
Waterbird Distribution Surveys							
Ref.	Location	Date	Time	Species	Number	Habitat and activity	Surveyor
GP108	Little Brosna Callows	22/02/2023	17:54	Golden Plover	2000	lakes and ponds; feeding	CF
GP109	Little Brosna Callows	02/03/2023	16:03	Golden Plover	4000	lakes and ponds; flying	CF
GP110	Little Brosna Callows	10/03/2023	16:07	Golden Plover	80	lakes and ponds; feeding	CF

Table 7-4-1-4 Golden Plover Incidental Observations

Incidental Observations							
Ref.	Location	Date	Time	Species	Number	Habitat and activity	Surveyor
GP001	Hen Harrier Roost Survey; HHVP1	27/10/2020	16:30	Golden Plover	320	bogs; commuting over bog southwards through site at pch at 16:30	TR
GP002	Hen Harrier Roost Survey; HHVP3	28/11/2020	16:14	Golden Plover	300	bogs; travelling	AR
GP003	Breeding Raptor Survey; BRVP1	21/04/2021	12:35	Golden Plover	42	bogs and mixed broadleaved/conifer woodland; travelling	AR
GP004	Vantage Point Survey; VP4	15/10/2021	11:41	Golden Plover	2	improved agricultural grassland; calling, sounded like they flew past, behind the VP, but didn't see them	PDC
GP005	Vantage Point Survey; Behind VP1	21/10/2021	09:23	Golden Plover	3	improved grassland and bogs; travelling	PDC
GP006	Hen Harrier Roost Survey; HHVP1	26/10/2021	08:44	Golden Plover	160	bogs; travelling, flew over VP from behind me.	PDC
GP007	Hen Harrier Roost Survey; Sharragh	17/02/2022	16:38	Golden Plover	60	improved grassland, bogs, and hedgerows; flying	AR
GP008	Hen Harrier Roost Survey; HHVP2	25/10/2022	17:14	Golden Plover	1	cutover bog; heard calling in flight	PM

Incidental Observations							
Ref.	Location	Date	Time	Species	Number	Habitat and activity	Surveyor
GP009	Hen Harrier Roost Survey; HHVP2	25/10/2022	17:33	Golden Plover	35	cutover bog; travelling high	PM
GP010	Hen Harrier Roost Survey; HHVP2	25/10/2022	18:38	Golden Plover	1	cutover bog; heard calling in flight	PM
GP011	Hen Harrier Roost Survey; HHVP4a	26/10/2022	17:48	Golden Plover	1	improved agricultural grassland; calling in flight	PM
GP012	Hen Harrier Roost Survey; HHVP1	27/10/2022	17:52	Golden Plover	100	improved agricultural grassland and cutover bog; travelling	PM
GP013	Hen Harrier Roost Survey; HHVP1	27/10/2022	17:58	Golden Plover	100	cutover bog; travelling	PM
GP014	Hen Harrier Roost Survey; HHVP1	27/10/2022	18:08	Golden Plover	50	wet grassland; travelling	PM
GP015	Hen Harrier Roost Survey; HHVP2	14/02/2023	14:07	Golden Plover	45	bogs; flying over	CF

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- EIA Site Boundary
  - Turbine Layout
  - 500m Radius of Turbines
  - Flight Observation
  - Non-Flight Observation



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<b>Drawing Title:</b> Golden Plover Observations Vantage Point Surveys	
<b>Project Title:</b> Carrig Renewables Wind Farm	
<b>Drawn By:</b> S. Duff	<b>Checked By:</b> D. Woods
<b>Project No.:</b> 211016	<b>Drawing No.:</b> 7.4.1.1
<b>Scale:</b> 1:50000	<b>Date:</b> 28.07.2023
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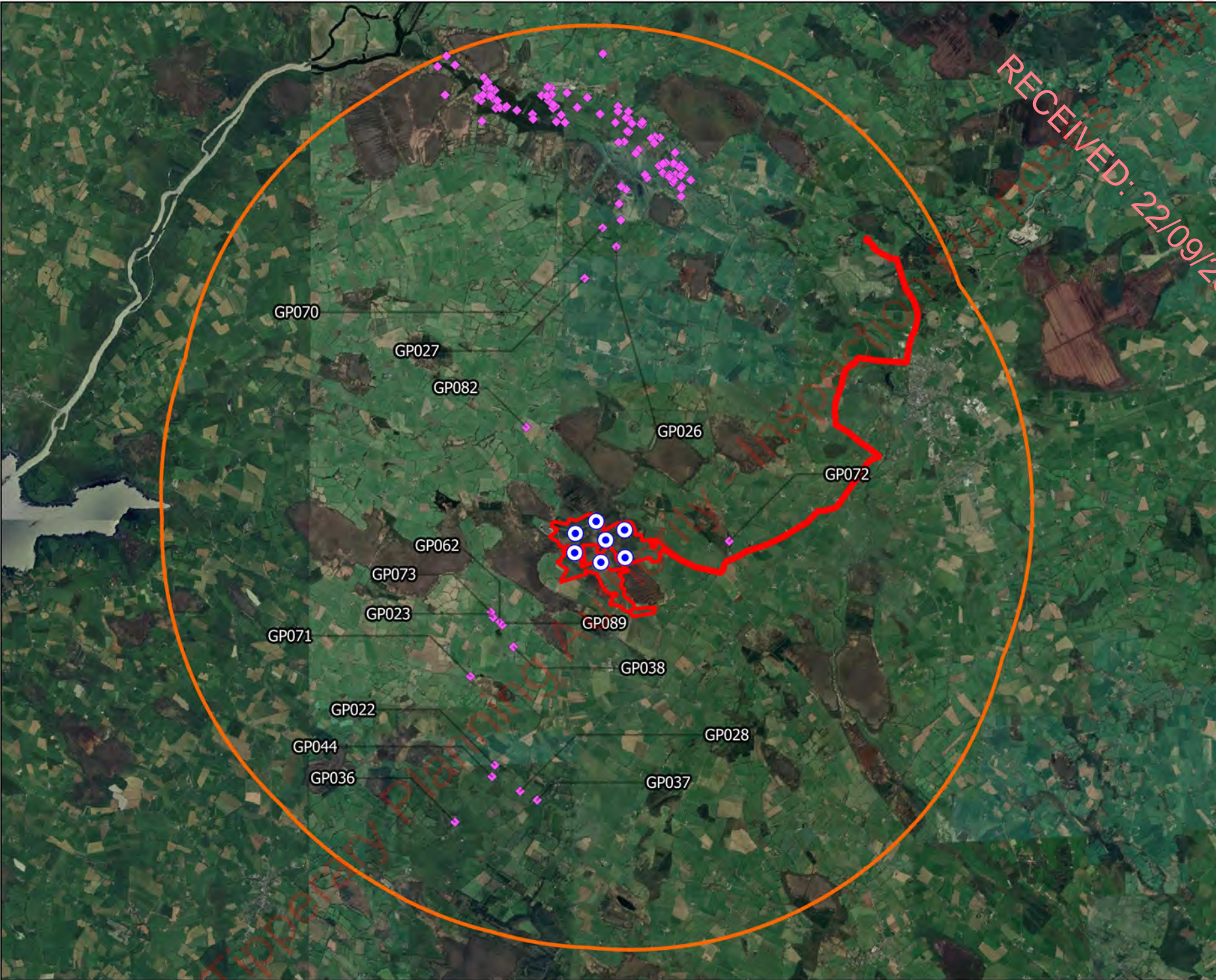
**Map Legend**

- EIA Site Boundary
- Turbine Layout
- 500m Survey Area
- Flight Observation



Drawing Title:	
<b>Golden Plover Observations Winter Walkover Surveys</b>	
Project Title:	
Carrig Renewables Wind Farm	
Drawn By:	Checked By:
S. Duff	D. Woods
Project No.:	Drawing No.:
211016	7.4.1.2
Scale:	Date:
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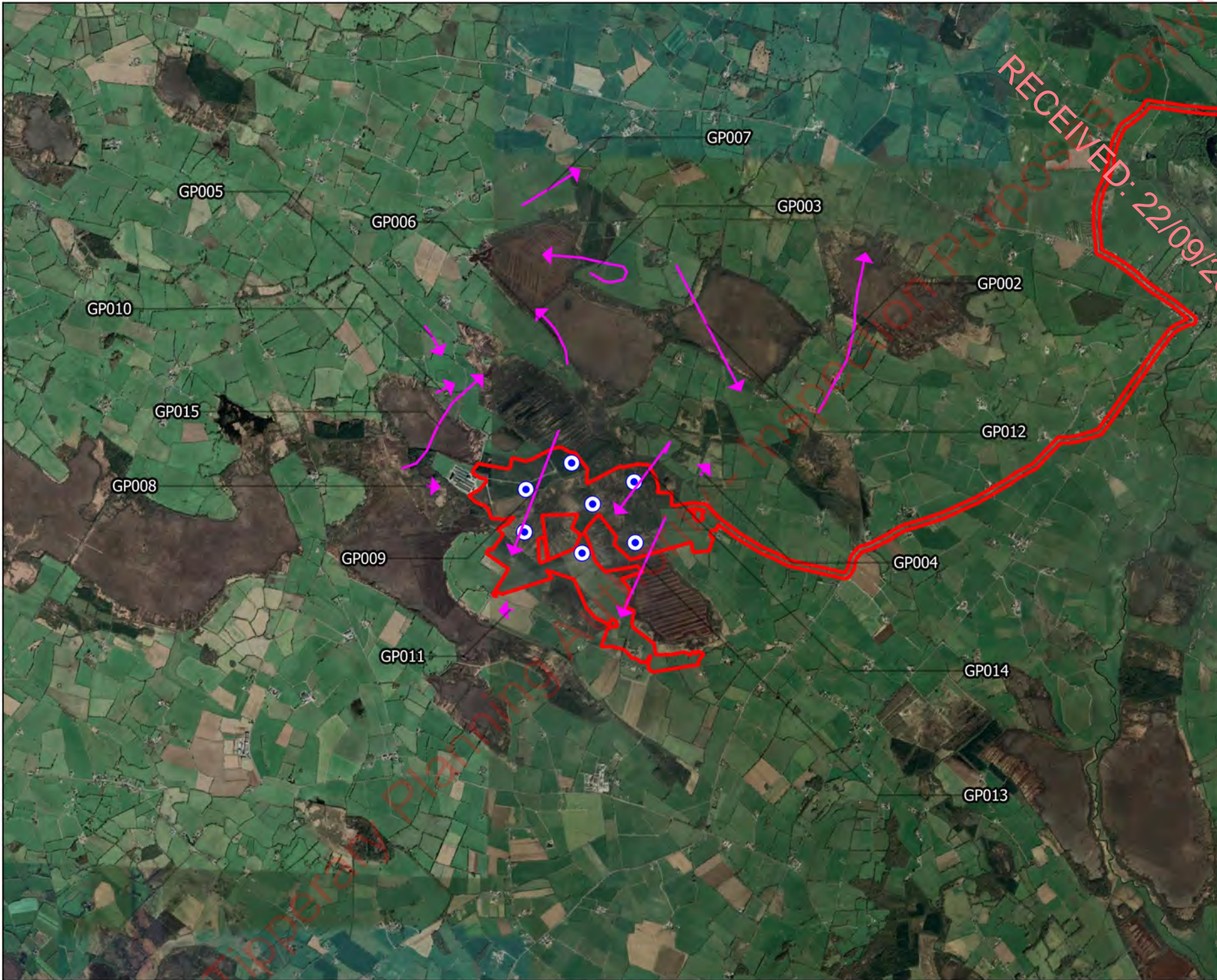
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Drawing Title:  
**Golden Plover Observations  
 Waterbird Distribution Surveys**

Project Title:  
**Carrig Renewables Wind Farm**

Drawn By <b>S. Duff</b>	Checked By <b>D. Woods</b>
Project No. <b>211016</b>	Drawing No. <b>7.4.1.3</b>
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**Map Legend**

- EIA Site Boundary
- Turbine Layout
- ↗ Observation



Drawing Title	
<b>Golden Plover Observations Incidental Records</b>	
Project Title	
Carrig Renewables Wind Farm	
Drawn By	Checked By
S. Duff	D. Woods
Project No.	Drawing No.
211016	7.4.1.4
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## 7-4-2 HEN HARRIER

**Note:** Sensitive data relating to roosting sites has been omitted from this appendix and is provided in Confidential Appendix 7-7.

Table 7-4-2-1 Hen Harrier Vantage Point Survey Data

Vantage Point Surveys												
Ref.	VP	Date	Time	Species	Number	Duration of flight (s)	Band 1 (0-15m)	Band 2 (15-25m)	Band 3 (25-200m)	Band 4 (>200m)	Habitat and activity	Surveyor
HH001	VP3	13/11/2020	10:50	Hen Harrier	1	20	20	0	0	0	bogs and hedgerows; hunting, female/imm seen briefly moving down peatbog behind vp3,lost to view,height about 3mts of ground	AR
HH002	VP2	18/03/2021	11:52	Hen Harrier	1	40	0	40	0	0	mixed broadleaved/conifer woodland; flying over wood, female mobbed by raven	AR
HH003	VP3	08/01/2022	13:21	Hen Harrier	1	120	120	0	0	0	improved grassland, hedgerows and bogs; hunting, 3cy male passed vp and hunting on bog	AR
HH004	VP3	08/01/2022	14:36	Hen Harrier	1	10	10	0	0	0	highly modified/non-native woodland; flying, 3cy male again	AR
HH005	VP2	29/03/2022	18:01	Hen Harrier	1	120	0	40	80	0	bogs and conifer plantation; soaring, female circling then glided away	AR
HH006	VP2	06/01/2023	15:34	Hen Harrier	1	60	40	20	0	0	bogs; hunting, male hunting in core of site, pursued by sparrowhawk then left to the west over a conifer plantation	CF



Table 7-4-2-2 Hen Harrier Winter Walkover Survey Data

Winter Walkover Surveys						
Ref.	Date	Time	Species	Number	Habitat and activity	Surveyor
HH001	30/10/2020	10:49	Hen Harrier	1	cutover bog; hunting, ringtail (wintering)	TR
HH002	30/10/2020	12:40	Hen Harrier	1	raised bog; hunt, ringtail (wintering)	TR

Table 7-4-2-3 Hen Harrier Roost Survey Data

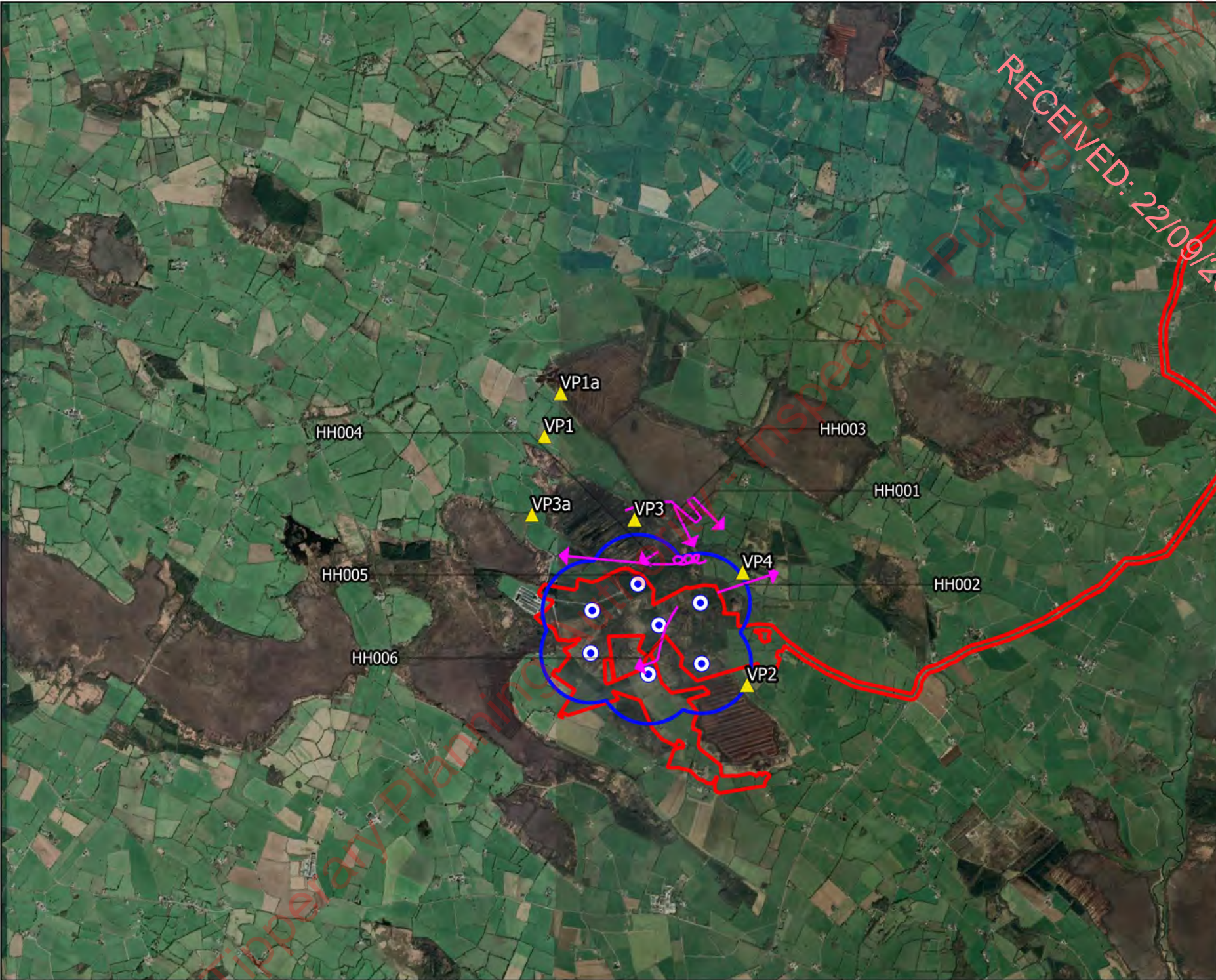
Hen Harrier Roost Surveys							
Ref.	HHVP	Date	Time	Species	Number	Habitat and activity	Surveyor
HH004	HHVP3	28/11/2020	15:44	Hen Harrier	2	bogs and highly modified/non-native woodland, flying, immature/female	AR
HH006	HHVP1	31/01/2022	15:52	Hen Harrier	1	bogs, hunting, ringtail hunting bog lost to view	AR
HH008	HHVP2	29/11/2022	15:59	Hen Harrier	1	mixed broadleaved/conifer woodland, travelling	PM

Table 7-4-2-4 Hen Harrier Incidental Data

Incidental Observations							
Ref.	Location	Date	Time	Species	Number	Habitat and activity	Surveyor
HH001	Waterfowl Distribution Survey; Sharragh	14/11/2020	12:25	Hen Harrier	1	watercourses, improved agricultural grassland and wet grassland; hunting	AR
HH002	Waterfowl Distribution Survey; Sharragh	14/11/2020	12:57	Hen Harrier	1	watercourses and improved agricultural grassland; hunting	AR
HH003	Waterfowl Distribution Survey; Sharragh	14/11/2020	14:38	Hen Harrier	1	watercourses, improved agricultural grassland and wet grassland; hunting	AR

HH004	Waterfowl Distribution Survey; Sharragh	27/11/2020	11:15	Hen Harrier	1	watercourses and improved agricultural grassland; hunting	AR
HH005	Waterfowl Distribution Survey; Sharragh	14/02/2021	17:51	Hen Harrier	1	improved agricultural grassland, hedgerows, and bogs; travelling, female hen harrier low over fields heading towards HHVP4	AR
HH006	Waterfowl Distribution Survey; Sharragh	15/02/2021	11:29	Hen Harrier	1	bogs and highly modified/non-native woodland; travelling, female hen harrier travelling over bog	AR
HH007	Waterfowl Distribution Survey; Site 6	24/03/2021	11:00	Hen Harrier	1	watercourses, semi-natural grassland, and bogs; hunting, 3cy male harrier hunting over flooded area then mobbed by hooded crow and flew back towards peat bog	AR
HH008	Waterfowl Distribution Survey; Sharragh	29/11/2021	09:38	Hen Harrier	1	improved grassland and hedgerows; flying, 2cy male	AR
HH009	Waterfowl Distribution Survey; Sharragh	09/01/2022	11:30	Hen Harrier	1	improved grassland and hedgerows; hunting, 3rd cy male over road	AR

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Drawing Title:  
**Hen Harrier Observations  
Vantage Point Surveys**

Project Title:  
**Carrig Renewables Wind Farm**

Drawn By: <b>S. Duff</b>	Checked By: <b>D. Woods</b>
Project No.: <b>211016</b>	Drawing No.: <b>7.4.2.1</b>
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HH001

HH002



Drawing Title:

**Hen Harrier Observations  
Winter Walkover Surveys**

Project Title:

**Carrig Renewables Wind Farm**

Drawn By:

**S. Duff**

Checked By:

**D. Woods**

Project No.:

**211016**

Drawing No.:

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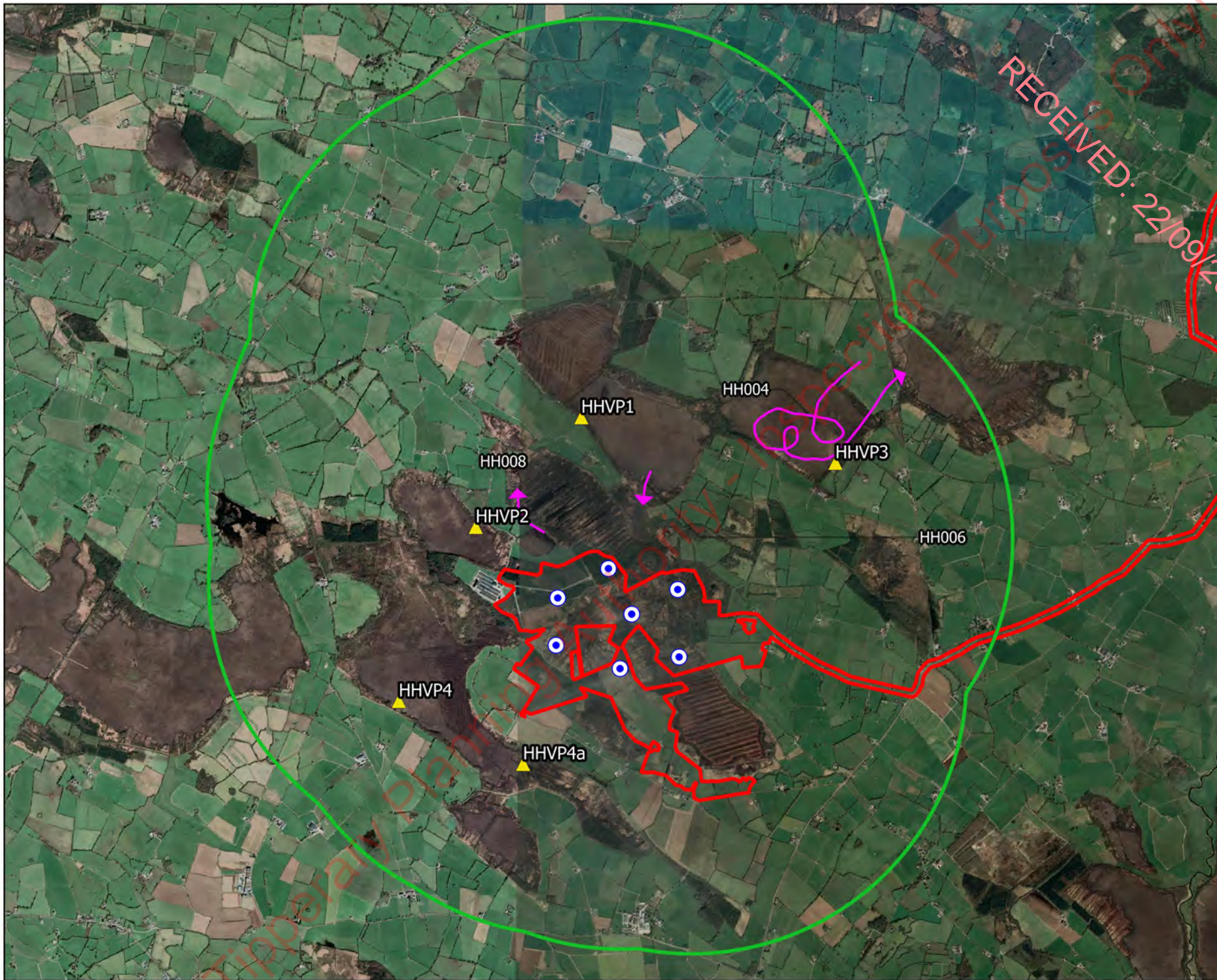
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- ### Map Legend
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  - Turbine Layout
  - 2km Survey Area
  - ▲ HHVP Locations
  - Flight Observation



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<b>Hen Harrier Observations</b> <b>Hen Harrier Roost Surveys</b>	
Project Title <b>Carrig Renewables Wind Farm</b>	
Drawn By	Checked By
<b>S. Duff</b>	<b>D. Woods</b>
Project No.	Drawing No.
<b>211016</b>	<b>7.4.2.3</b>
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Map Legend

- EIA Site Boundary
- Turbine Layout
- ◆ Observation



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**Hen Harrier Observations  
Incidental Records**

Carrig Renewables Wind Farm

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Project No.	Drawing No.
211016	7.4.2.4
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## 7-4-3 KINGFISHER

Table 7-4-3-1 Kingfisher Vantage Point Survey Data

Vantage Point Surveys												
Ref.	VP	Date	Time	Species	Number	Duration of flight (s)	Band 1 (0-15m)	Band 2 (15-25m)	Band 3 (25-200m)	Band 4 (>200m)	Habitat and activity	Surveyor
KF001	VP3	01/09/2022	15:22	Kingfisher	1	5	5	0	0	0	bogs; fly, calling, feeding in a small pool in the bog	ZE
KF002	VP3	01/09/2022	15:24	Kingfisher	1	5	5	0	0	0	bogs; fly, call, same bird; flew just above the heather to another pool	ZE

Table 7-4-3-2 Kingfisher Incidental Data

Incidental Observations							
Ref.	Location	Date	Time	Species	Number	Habitat and activity	Surveyor
KF001	Breeding Raptor Survey; BRVP1 transect - big cutover bog	24/05/2022	12:02	Kingfisher	2	cutover bog and highly modified/non-native woodland; fly, one landed on the edge of a ditch	ZE



- ### Map Legend
- EIA/AR Site Boundary
  - Turbine Layout
  - 500m Radius of Turbines
  - ▶ Flight Observation



Drawing Title:	
<b>Kingfisher Observations Vantage Point Surveys</b>	
Project Title:	
<b>Carrig Renewables Wind Farm</b>	
Drawn By:	Checked By:
<b>S. Duff</b>	<b>D. Woods</b>
Project No.:	Drawing No.:
<b>211016</b>	<b>7.4.3.1</b>
Scale:	Date:
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- ↖ Observation



Drawing Title: <b>Kingfisher Observations Incidental Records</b>	
Project Title: <b>Carrig Renewables Wind Farm</b>	
Drawn By: <b>S. Duff</b>	Checked By: <b>D. Woods</b>
Project No.: <b>211016</b>	Drawing No.: <b>7.4.3.2</b>
Scale: <b>1:50000</b>	Date: <b>28.07.2023</b>
<b>MKO</b> Planning and Environmental Consultants Tuam Road, Galway Ireland, F91 VW84 +353 (0) 91 235611 email: info@mkofireland.ie Website: www.mkofireland.ie	

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## 7-4-4 LITTLE EGRET

Table 7-4-4-1 Little Egret Vantage Point Survey Data

Vantage Point Surveys												
Ref.	VP	Date	Time	Species	Number	Duration of flight (s)	Band 1 (0-15m)	Band 2 (15-25m)	Band 3 (25-200m)	Band 4 (>200m)	Habitat and activity	Surveyor
ET001	VP3	08/04/2021	18:22	Little Egret	1	60	0	0	60	0	improved grassland; travelling	AR

Table 7-4-4-2 Little Egret Waterbird Distribution Survey Data

Waterbird Distribution Surveys							
Ref.	Location	Date	Time	Species	Number	Habitat and activity	Surveyor
ET001	Little Brosna Callows	11/11/2020	11:36	Little Egret	1		AR
ET002	Castletown	30/11/2020	12:25	Little Egret	2	watercourses and improved agricultural grassland; feeding	AR
ET003	Kylenamuck	17/12/2020	11:05	Little Egret	2	watercourses; feeding	AR
ET004	Little Brosna Callows	31/12/2020	11:20	Little Egret	1	improved agricultural grassland; flying	AR
ET005	Little Brosna Callows	14/01/2021	08:30	Little Egret	2	watercourses and improved agricultural grassland; feeding	AR
ET006	Little Brosna Callows	14/01/2021	10:20	Little Egret	1	watercourses and improved agricultural grassland; flying	AR
ET007	Kylenamuck	22/03/2021	09:20	Little Egret	1	watercourses; feeding	AR
ET008	Little Brosna Callows	24/03/2021	09:00	Little Egret	1	wet grassland; feeding	AR

Waterbird Distribution Surveys							
Ref.	Location	Date	Time	Species	Number	Habitat and activity	Surveyor
ET009	Little Brosna Callows	24/03/2021	10:00	Little Egret	6	watercourses and semi-natural grassland; feeding	AR
ET010	Little Brosna Callows	24/03/2021	12:15	Little Egret	8	watercourses and semi-natural grassland; flying	AR
ET011	Little Brosna Callows	09/04/2021	08:40	Little Egret	1	wet grassland; flying	AR
ET012	Little Brosna Callows	09/04/2021	09:40	Little Egret	3	wet grassland, watercourses, and improved grassland; feeding	AR
ET013	Little Brosna Callows	21/05/2021	10:32	Little Egret	1	wet grassland and watercourses; feeding	AR
ET014	Little Brosna Callows	28/09/2021	10:37	Little Egret	1	wet grassland; flying	AR
ET015	Little Brosna Callows	08/11/2021	09:08	Little Egret	3	wet grassland; feeding	AR
ET016	Little Brosna Callows	08/11/2021	09:50	Little Egret	10	wet grassland; feeding	AR
ET017	Little Brosna Callows	11/11/2021	09:14	Little Egret	2	wet grassland; feeding	AR
ET018	Little Brosna Callows	11/11/2021	10:25	Little Egret	8	wet grassland; feeding	AR
ET019	Little Brosna Callows	11/11/2021	12:00	Little Egret	2	wet grassland; feeding	AR
ET020	Little Brosna Callows	24/11/2021	08:50	Little Egret	2	improved grassland, watercourses, and wet grassland; feeding	AR
ET021	Little Brosna Callows	24/11/2021	10:10	Little Egret	2	wet grassland; flying	AR
ET022	Little Brosna Callows	24/11/2021	11:42	Little Egret	5	wet grassland and watercourses; feeding	AR

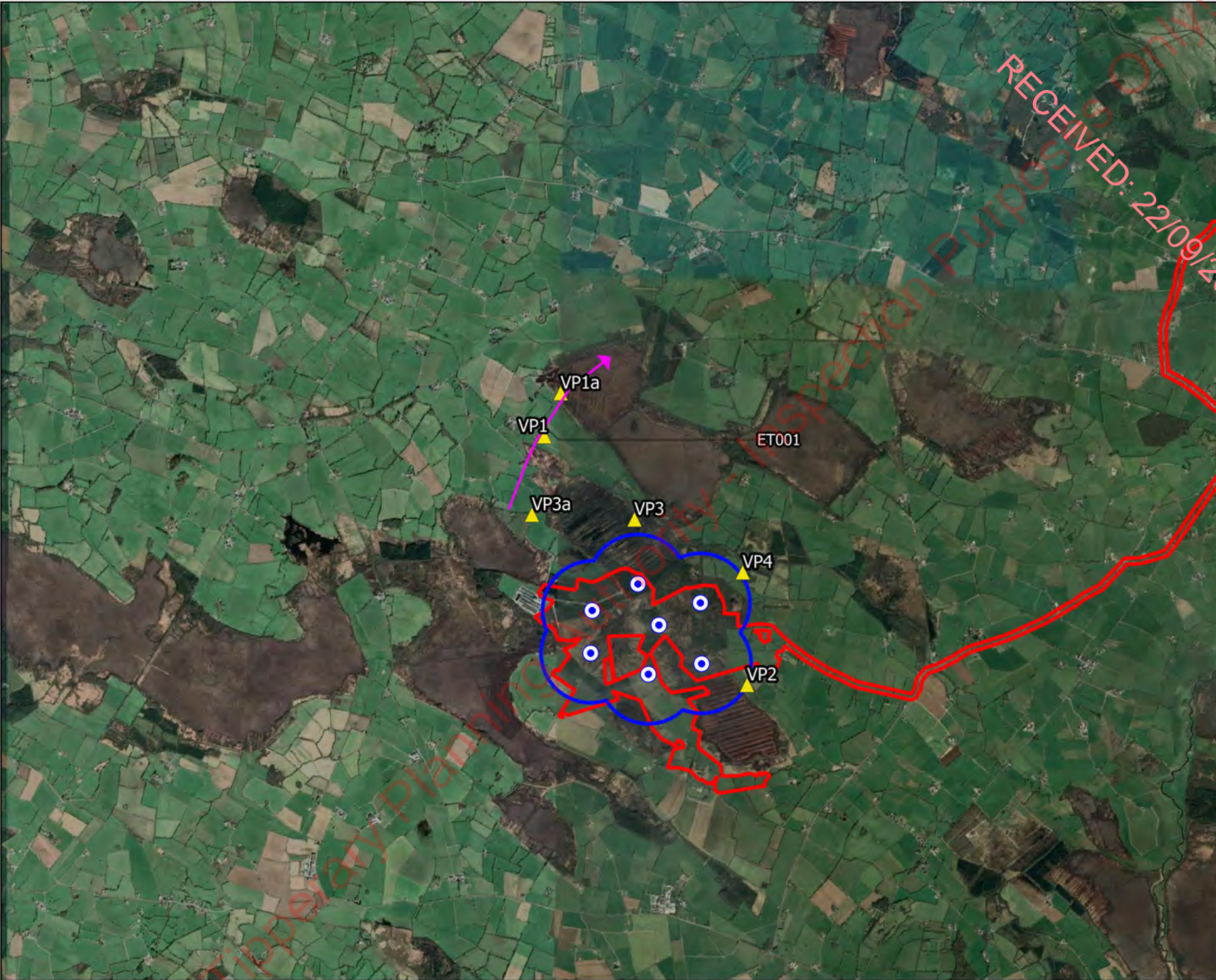
Waterbird Distribution Surveys							
Ref.	Location	Date	Time	Species	Number	Habitat and activity	Surveyor
ET023	Little Brosna Callows	24/11/2021	12:40	Little Egret	1	wet grassland; flying	AR
ET024	Little Brosna Callows	29/11/2021	11:30	Little Egret	5	wet grassland; feeding	AR
ET025	Little Brosna Callows	05/12/2021	12:42	Little Egret	1	wet grassland; feeding	AR
ET026	Little Brosna Callows	06/12/2021	10:20	Little Egret	1	wet grassland; feeding	AR
ET027	Little Brosna Callows	06/12/2021	11:07	Little Egret	3	wet grassland; feeding	AR
ET028	Little Brosna Callows	21/12/2021	10:39	Little Egret	1	wet grassland; feeding	AR
ET029	Little Brosna Callows	21/12/2021	12:00	Little Egret	6	wet grassland; feeding/flying, everything keeps getting up and flying around when eagle flies	AR
ET030	Little Brosna Callows	07/01/2022	09:50	Little Egret	1	watercourses and wet grassland; feeding	AR
ET031	Little Brosna Callows	07/01/2022	11:15	Little Egret	1	wet grassland; flying	AR
ET032	Little Brosna Callows	07/01/2022	11:40	Little Egret	1	wet grassland; flying	AR
ET033	Little Brosna Callows	31/01/2022	08:45	Little Egret	1	wet grassland; feeding	AR
ET034	Little Brosna Callows	31/01/2022	10:36	Little Egret	1	wet grassland; feeding	AR
ET035	Little Brosna Callows	31/01/2022	11:40	Little Egret	5	wet grassland; feeding	AR
ET036	Little Brosna Callows	06/02/2022	08:00	Little Egret	3	wet grassland and watercourses; feeding/flying	AR

Waterbird Distribution Surveys							
Ref.	Location	Date	Time	Species	Number	Habitat and activity	Surveyor
ET037	Little Brosna Callows	06/02/2022	09:40	Little Egret	1	wet grassland; feeding	AR
ET038	Little Brosna Callows	18/02/2022	09:10	Little Egret	1	wet grassland and watercourses; flying	AR
ET039	Little Brosna Callows	10/03/2022	10:10	Little Egret	2	wet grassland; feeding	AR
ET040	Little Brosna Callows	10/03/2022	11:35	Little Egret	3	wet grassland; feeding	AR
ET041	Little Brosna Callows	31/03/2022	09:00	Little Egret	10	wet grassland; feeding	AR
ET042	Little Brosna Callows	31/03/2022	11:05	Little Egret	2	wet grassland; feeding	AR
ET043	Little Brosna Callows	31/03/2022	13:31	Little Egret	2	wet grassland; feeding	AR
ET044	Little Brosna Callows	07/04/2022	09:35	Little Egret	5	marsh, lakes and ponds and wet grassland; feeding and flying	NL
ET045	Little Brosna Callows	22/04/2022	12:43	Little Egret	5	watercourses and wet grassland; loafing	NL
ET046	Little Brosna Callows	26/04/2022	10:39	Little Egret	4	marsh, lakes and ponds and wet grassland; roosting	NL
ET047	Little Brosna Callows	18/10/2022	12:41	Little Egret	3	watercourses; feeding	NL
ET048	Little Brosna Callows	21/10/2022	12:40	Little Egret	1	marsh and watercourses; feeding	NL
ET049	Little Brosna Callows	21/10/2022	12:45	Little Egret	1	marsh and watercourses; feeding	NL
ET050	Little Brosna Callows	25/10/2022	12:07	Little Egret	1	marsh and improved agricultural grassland; feeding	NL

Waterbird Distribution Surveys							
Ref.	Location	Date	Time	Species	Number	Habitat and activity	Surveyor
ET051	Little Brosna Callows	25/10/2022	12:48	Little Egret	1	watercourses and marsh; feeding	NL
ET052	Little Brosna Callows	25/10/2022	13:04	Little Egret	1	watercourses and marsh; feeding	NL
ET053	Little Brosna Callows	28/10/2022	13:17	Little Egret	1	watercourses and marsh; feeding	NL
ET054	Little Brosna Callows	03/11/2022	12:14	Little Egret	2	lakes and ponds; roosting	CF
ET055	Little Brosna Callows	22/11/2022	12:11	Little Egret	1	marsh and watercourses; feeding	NL
ET056	Little Brosna Callows	29/11/2022	12:06	Little Egret	1	marsh and watercourses; flying	NL
ET057	Carrig	15/12/2022	14:52	Little Egret	10	lakes and ponds; feeding	CF
ET058	Carrig	04/01/2023	12:01	Little Egret	1	lakes and ponds; feeding	CF
ET059	Little Brosna Callows	11/01/2023	12:29	Little Egret	2	lakes and ponds; feeding	CF
ET060	Little Brosna Callows	25/01/2023	13:11	Little Egret	1	lakes and ponds; feeding	CF
ET061	Little Brosna Callows	02/02/2023	17:36	Little Egret	9	lakes and ponds; feeding	CF
ET062	Little Brosna Callows	08/02/2023	17:40	Little Egret	34	lakes and ponds; feeding	CF
ET063	Little Brosna Callows	22/02/2023	17:56	Little Egret	7	lakes and ponds; feeding	CF
ET064	Little Brosna Callows	02/03/2023	16:04	Little Egret	10	lakes and ponds; feeding	CF

Waterbird Distribution Surveys							
Ref.	Location	Date	Time	Species	Number	Habitat and activity	Surveyor
ET065	Little Brosna Callows	10/03/2023	16:08	Little Egret	6	lakes and ponds; feeding	CF
ET066	Little Brosna Callows	16/03/2023	16:13	Little Egret	15	lakes and ponds; feeding	CF
ET067	Little Brosna Callows	22/03/2023	16:14	Little Egret	21	lakes and ponds; feeding	CF

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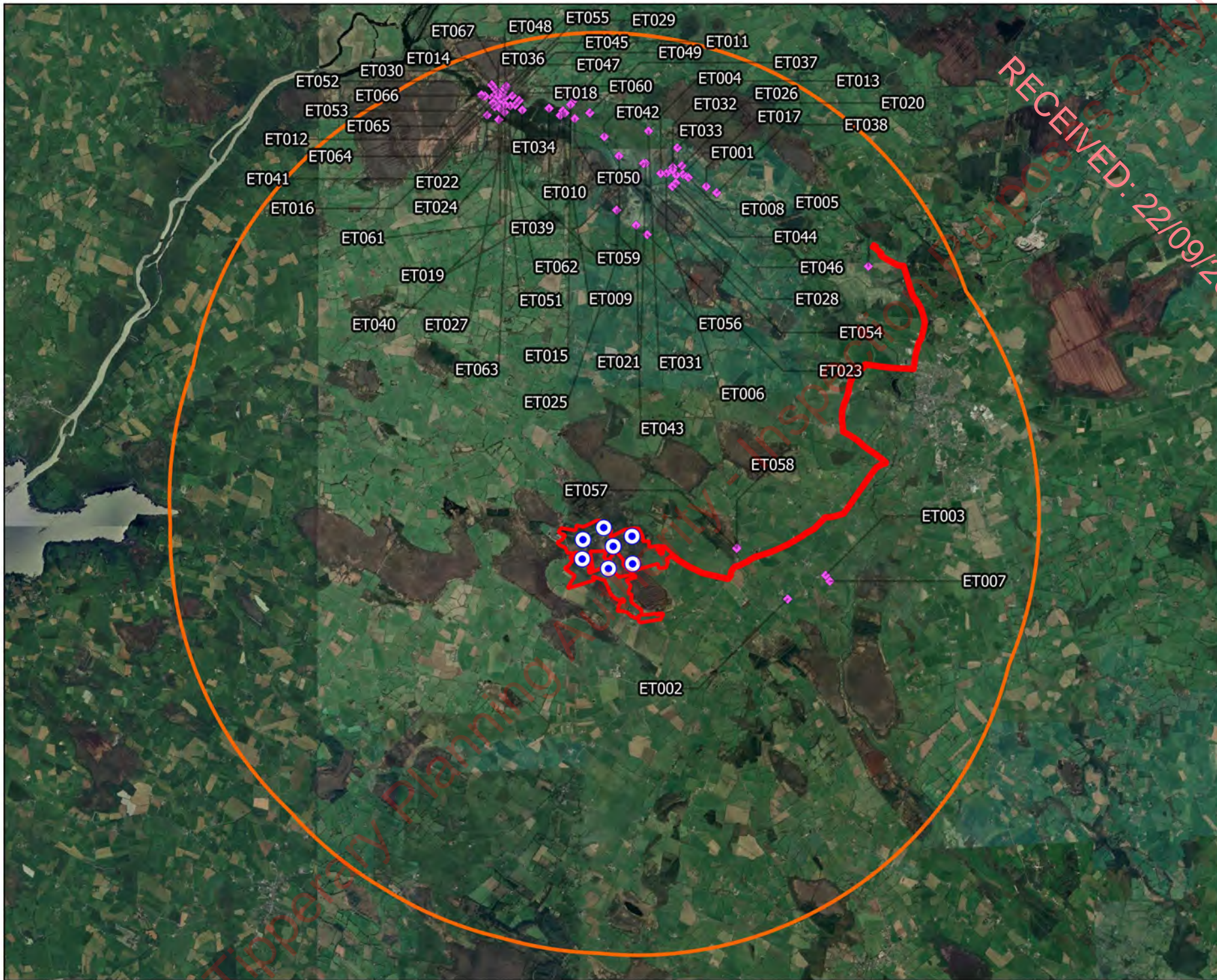
- ### Map Legend
- EIAR Site Boundary
  - Turbine Layout
  - 500m Radius of Turbines
  - Flight Observation



Drawing Title:	
<b>Little Egret Observations Vantage Point Surveys</b>	
Project Title:	
<b>Carrig Renewables Wind Farm</b>	
Drawn By:	Checked By:
<b>S. Duff</b>	<b>D. Woods</b>
Project No.:	Drawing No.:
<b>211016</b>	<b>7.4.4.1</b>
Scale:	Date:
<b>1:50000</b>	<b>28.07.2023</b>
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<b>Drawing Title:</b> Little Egret Observations Waterbird Distribution Surveys	
<b>Project Title:</b> Carrig Renewables Wind Farm	
<b>Drawn By:</b> S. Duff	<b>Checked By:</b> D. Woods
<b>Project No.:</b> 211016	<b>Drawing No.:</b> 7.4.4.2
<b>Scale:</b> 1:110000	<b>Date:</b> 28.07.2023
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## 7-4-5 MERLIN

**Note:** Sensitive data relating to nesting and roosting sites has been omitted from this appendix and is provided in Confidential Appendix 7-7.

Table 7-4-5-1 Merlin Vantage Point Survey Data

Vantage Point Surveys												
Ref.	VP	Date	Time	Species	Number	Duration of flight (s)	Band 1 (0-15m)	Band 2 (15-25m)	Band 3 (25-200m)	Band 4 (>200m)	Habitat and activity	Surveyor
ML001	VP1	06/06/2021	12:42	Merlin	1	20	20	0	0	0	improved grassland, hedgerows and bogs; hunting, female hunting	AR
ML002	VP3	10/07/2021	08:52	Merlin	1	10	10	0	0	0	improved grassland and hedgerows; travelling, male low	AR
ML003	VP1	09/11/2021	14:39	Merlin	1	5	5	0	0	0	improved grassland and hedgerows; hunting, male	AR
ML004	VP1	09/11/2021	14:49	Merlin	1	5	5	0	0	0	improved grassland and hedgerows; hunting, male	AR
ML005	VP1	07/02/2022	09:11	Merlin	1	90	0	0	90	0	bogs and conifer plantation; circling/random	AR
ML006	VP3	22/07/2022	14:17	Merlin	1	5	5	0	0	0	bogs and scrub/transitional woodland; hunt, female	ZE
ML007	VP3	05/08/2022	12:49	Merlin	1	8	8	0	0	0	bogs; hunting, female	ZE
ML008	VP2	06/01/2023	15:36	Merlin	1	60	60	0	0	0	bogs; hunting, male, hunting then pursued by ravens	CF
ML009	VP1a	22/02/2023	08:21	Merlin	1	7	7	0	0	0	cutover bog; flying, calling, female, perched on a mound of turf for few minutes	ZE
ML010	VP1a	22/02/2023	08:23	Merlin	1	67	67	0	0	0	cutover bog, improved agricultural grassland and linear woodland/scrub; flying, same female; perched on a tree between the bog and fields for 30s	ZE

Vantage Point Surveys												
ML011	VP1a	22/02/2023	11:16	Merlin	1	340	0	0	200	140	cutover bog and highly modified/non-native woodland; flying, soaring, for a while soaring with the two buzzards; flying n	ZE
ML012	VP1a	28/02/2023	13:47	Merlin	1	15	15	0	0	0	bogs; flying	CF

Table 7-4-5-2 Merlin Breeding Walkover Survey Data

Breeding Walkover Surveys						
Ref.	Date	Time	Species	Number	Habitat and activity	Surveyor
ML004	18/07/2021	12:40	Merlin	1	bogs; hunting, female (suitable nesting habitat; possible breeder)	AR
ML009	11/07/2022	10:58	Merlin	1	conifer plantation; mobbing the kestrel, flew into wood SW with kestrel (suitable nesting habitat; possible breeder)	ZE

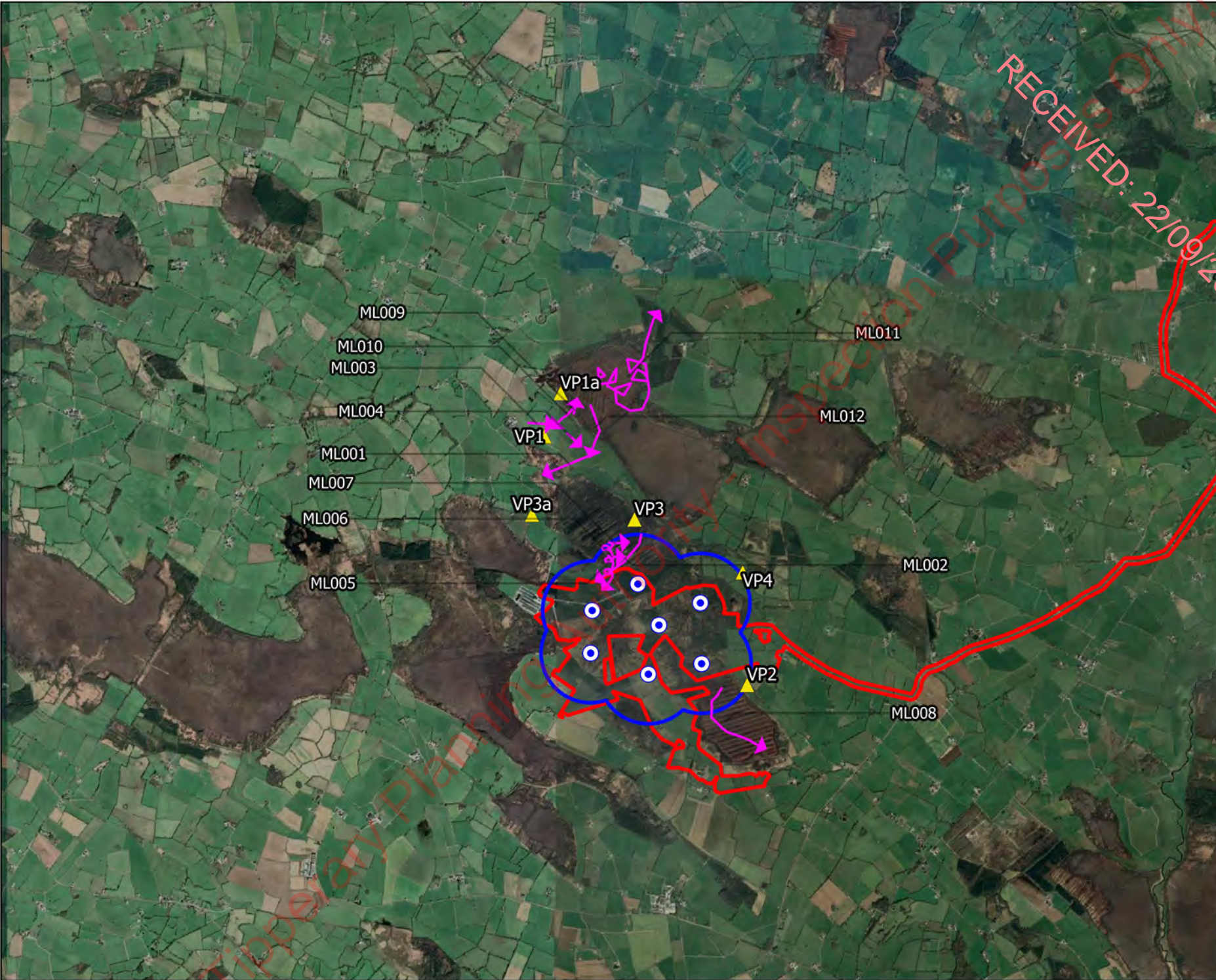
Table 7-4-5-3 Merlin Winter Walkover Survey Data

Winter Walkover Surveys						
Ref.	Date	Time	Species	Number	Habitat and activity	Surveyor
ML003	16/02/2021	14:26	Merlin	1	improved agricultural grassland and hedgerows; travelling (wintering)	AR

Table 7-4-5-1 Merlin Incidental Data

Incidental Observations							
Ref.	Location	Date	Time	Species	Number	Habitat and activity	Surveyor
ML001	Hen Harrier Roost Survey; HHVP1	27/10/2020		Merlin	1	bogs; male perching and hunting on bog	TR
ML003	Hen Harrier Roost Survey; HHVP2	05/12/2021	16:37	Merlin	1	bogs; flying	AR
ML004	Hen Harrier Roost Survey; HHVP1	30/03/2022	19:50	Merlin	1	bogs; flying, female over bog	AR
ML005	Breeding Raptor Survey; Lackabrack	20/04/2022	10:37	Merlin	1	improved agricultural grassland; perched on branch over road, female	NL
ML006	Waterbird Distribution Survey; Carrig	28/10/2022	08:17	Merlin	1	marsh; perched on wire before flushed, male	NL
ML007	Hen Harrier Roost Survey; HHVP2	07/12/2022	16:50	Merlin	1	bogs; flying	CF

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Drawing Title: Merlin Observations Vantage Point Surveys

Project Title: Carrig Renewables Wind Farm

Drawn By:	Checked By:
S. Duff	D. Woods
Project No.:	Drawing No.:
211016	7.4.5.1
Scale:	Date:
1:50000	28.07.2023

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ML004

ML009



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<b>Merlin Observations Breeding Walkover Surveys</b>	
Project Title: Carrig Renewables Wind Farm	
Drawn By: <b>S. Duff</b>	Checked By: <b>D. Woods</b>
Project No: <b>211016</b>	Drawing No: <b>7.4.5.2</b>
Scale: <b>1:35000</b>	Date: <b>28.07.2023</b>
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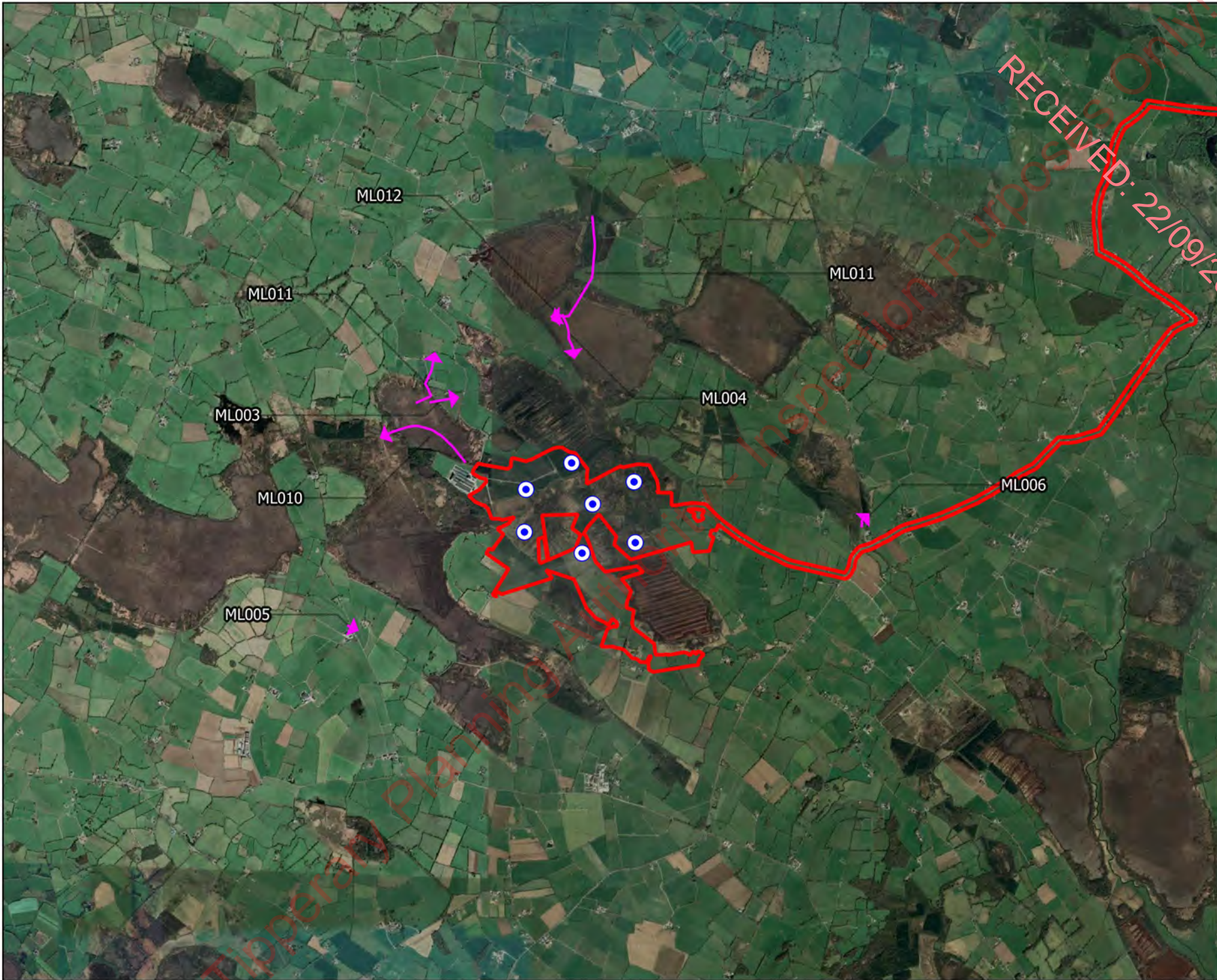
**Map Legend**

- EIA Site Boundary
- Turbine Layout
- 500m Survey Area
- Flight Observation



<b>Merlin Observations</b> <b>Winter Walkover Surveys</b>	
Project Title: <b>Carrig Renewables Wind Farm</b>	
Drawn By: <b>S. Duff</b>	Checked By: <b>D. Woods</b>
Project No: <b>211016</b>	Drawing No.: <b>7.4.5.3</b>
Scale: <b>1:35000</b>	Date: <b>28.07.2023</b>
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Drawing Title:	
<b>Merlin Observations Incidental Records</b>	
Project Title:	
Carrig Renewables Wind Farm	
Drawn By:	Checked By:
S. Duff	D. Woods
Project No.:	Drawing No.:
211016	7.4.5.4
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## 7-4-6 PEREGRINE

Table 7-4-6-1 Peregrine Vantage Point Survey Data

Vantage Point Surveys												
Ref.	VP	Date	Time	Species	Number	Duration of flight (s)	Band 1 (0-15m)	Band 2 (15-25m)	Band 3 (25-200m)	Band 4 (>200m)	Habitat and activity	Surveyor
PE001	VP1	14/10/2020	14:49	Peregrine Falcon	1	190	0	40	20	130	improved agricultural grassland; flight, mobbed by k, slowly circling over site	TF
PE002	VP3	13/11/2020	10:18	Peregrine Falcon	1	120	0	20	100	0	improved agricultural grassland, hedgerows and scrub; travelling, first picked up on call, circled above vp, then headed off	AR
PE003	VP2	28/11/2020	13:10	Peregrine Falcon	1	60	20	40	0	0	cutover bog and bogs; travelling	AR
PE004	VP2	12/12/2020	16:02	Peregrine Falcon	1	40	40	0	0	0	improved agricultural grassland and highly modified/non-native woodland; travelling	AR
PE005	VP3	13/12/2020	16:37	Peregrine Falcon	1	5	5	0	0	0	improved agricultural grassland, hedgerows and highly modified/non-native woodland; travelling, adult	AR
PE006	VP4	28/12/2020	15:35	Peregrine Falcon	1	60	0	60	0	0	highly modified/non-native woodland and improved agricultural grassland; travelling, adult	AR
PE007	VP4	17/02/2021	17:01	Peregrine Falcon	1	30	0	0	30	0	highly modified/non-native woodland and bogs; travelling	AR
PE008	VP4	23/03/2021	10:10	Peregrine Falcon	2	120	0	0	120	0	highly modified/non-native woodland, bogs and improved agricultural grassland; soaring	AR
PE009	VP1	07/04/2021	16:01	Peregrine Falcon	1	60	0	0	60	0	improved grassland, hedgerows and bogs; travelling, female	AR
PE010	VP4	16/04/2021	15:16	Peregrine Falcon	1	120	0	0	120	0	bogs and improved grassland; soaring	AR

Vantage Point Surveys												
Ref.	VP	Date	Time	Species	Number	Duration of flight (s)	Band 1 (0-15m)	Band 2 (15-25m)	Band 3 (25-200m)	Band 4 (>200m)	Habitat and activity	Surveyor
PE011	VP4	20/08/2021	11:27	Peregrine Falcon	1	300	0	0	300	0	bogs, improved grassland and hedgerows; soaring	AR
PE012	VP3	22/10/2021	09:27	Peregrine Falcon	1	27	0	27	0	0	bogs and improved grassland; travelling, juvenile, big bird	PDC
PE013	VP4	28/01/2022	13:17	Peregrine Falcon	1	20	0	0	20	0	improved grassland, hedgerows and bogs; soaring	AR
PE014	VP4	19/10/2022	10:27	Peregrine Falcon	1	30	0	0	30	0	improved grassland; flying	CF
PE015	VP2	16/11/2022	16:09	Peregrine Falcon	1	30	10	20	0	0	bogs; perched then flew, seen perched and preening on cutover big for c. 10 min prior to flight. adult bird, so different to my last pe in sharragh	CF
PE016	VP1	17/11/2022	16:51	Peregrine Falcon	1	10	0	20	0	0	improved grassland; hunting, made an unsuccessful attempt at nabbing a fieldfare just over my head	CF
PE017	VP4	16/01/2023	15:55	Peregrine Falcon	1	15	0	0	15	0	improved grassland; flying over	CF
PE018	VP2	14/03/2023	13:17	Peregrine Falcon	1	15	0	15	0	0	bogs; flying	CF

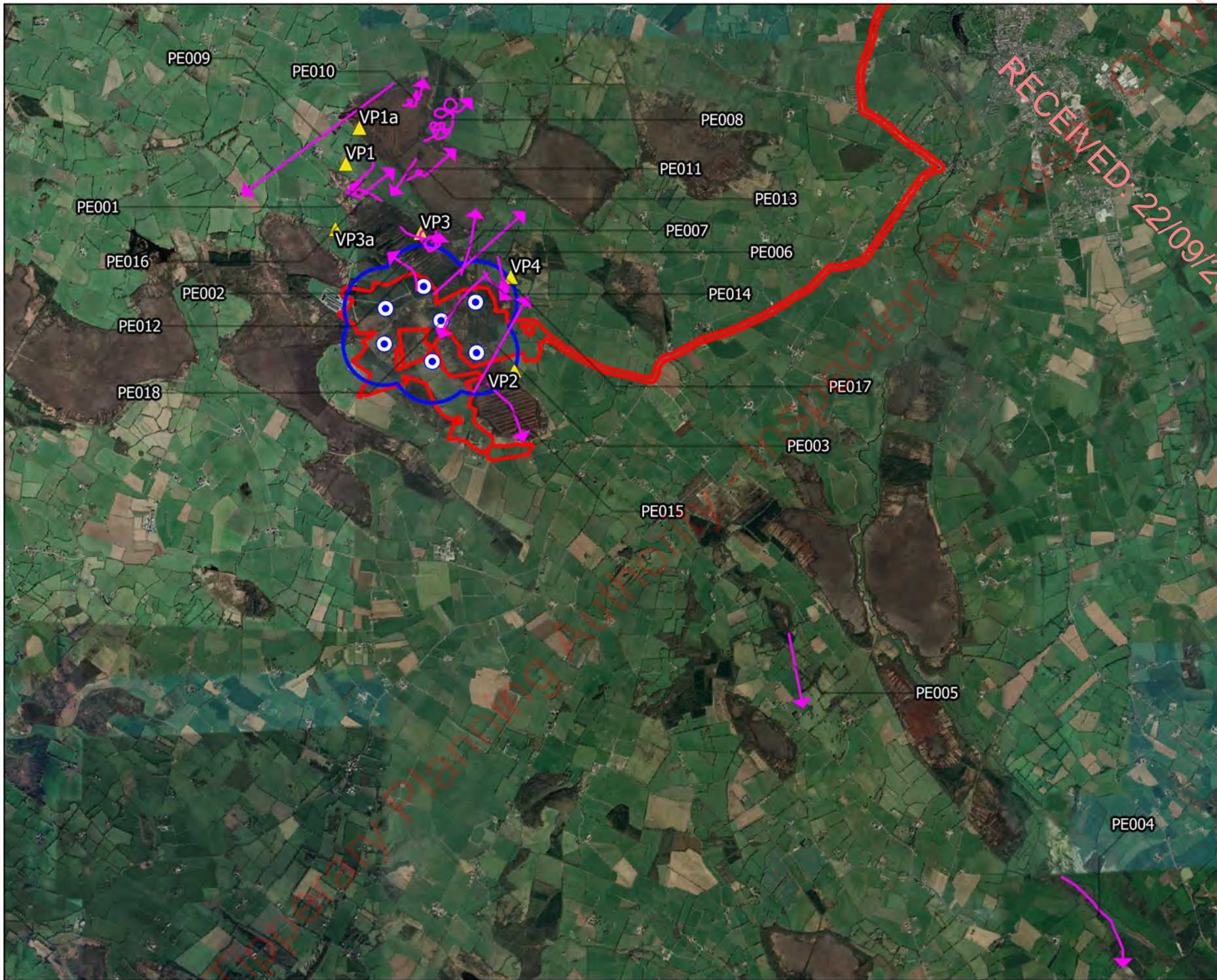
Table 7-4-6-2 Peregrine Winter Walkover Survey Data

Winter Walkover Surveys						
Ref.	Date	Time	Species	Number	Habitat and activity	Surveyor
PE001	15/03/2022	13:17	Peregrine Falcon	1	cultivated land, conifer plantation and bogs; travelling, juvenile (wintering)	PDC

Table 7-4-6-3 Peregrine Incidental Data

Incidental Observations							
Ref.	Location	Date	Time	Species	Number	Habitat and activity	Surveyor
PE001	Waterbird Distribution Survey; Sharragh	15/12/2020	12:43	Peregrine Falcon	1	watercourses and improved agricultural grassland; hunting, acrobatic	AR
PE002	Waterbird Distribution Survey; Site 9	14/01/2021		Peregrine Falcon	1		AR
PE003	Waterbird Distribution Survey; Site 10	14/01/2021		Peregrine Falcon	1		AR
PE004	Waterbird Distribution Survey; Sharragh	14/02/2021	13:40	Peregrine Falcon	1	improved agricultural grassland and hedgerows; travelling	AR
PE005	Waterbird Distribution Survey; Sharragh	15/02/2021	08:49	Peregrine Falcon	1	semi-natural grassland and hedgerows; flying/perched/hunting	AR
PE006	Waterbird Distribution Survey; Site 4	20/03/2021	10:13	Peregrine Falcon	1	watercourses and wet grassland; perched	AR
PE007	Waterbird Distribution Survey; Little Brosna Callows	26/10/2021	12:51	Peregrine Falcon	1	wet grassland; travelling, flushed a wigeon from ground, half-heartedly chased it but didn't catch it	PDC
PE008	Hen Harrier Roost Survey; HHVP3	25/11/2022	13:51	Peregrine Falcon	1	bogs; flying through	CF

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### Map Legend

- EIA Site Boundary
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- 500m Radius of Turbines
- Flight Observation



Drawing Title: <b>Peregrine Observations Vantage Point Surveys</b>	
Project Title: <b>Carrig Renewables Wind Farm</b>	
Drawn By: <b>S. Duff</b>	Checked By: <b>D. Woods</b>
Project No.: <b>211016</b>	Drawing No.: <b>7.4.6.1</b>
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PE001

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- 500m Survey Area
- Flight Observation

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PROPOSED DEVELOPMENT



<p><b>Drawing Title:</b> Peregrine Observations Winter Walkover Surveys</p>	
<p><b>Project Title:</b> Carrig Renewables Wind Farm</p>	
<b>Drawn By:</b> S. Duff	<b>Checked By:</b> D. Woods
<b>Project No.:</b> 211016	<b>Drawing No.:</b> 7.4.6.2
<b>Scale:</b> 1:35000	<b>Date:</b> 28.07.2023
<p><b>MKO</b> Planning and Environmental Consultants Tuam Road, Galway Ireland, H91 VV84 +353 (0) 91 235611 email: info@mkofireland.ie Website: www.mkofireland.ie</p>	

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**Map Legend**

- EIA Site Boundary
- ⊙ Turbine Layout
- ↗ Observation



Drawing Title: <b>Peregrine Observations Incidental Records</b>	
Project Title: <b>Carrig Renewables Wind Farm</b>	
Drawn By: <b>S. Duff</b>	Checked By: <b>D. Woods</b>
Project No.: <b>211016</b>	Drawing No.: <b>7.4.6.3</b>
Scale: <b>1:50000</b>	Date: <b>28.07.2023</b>
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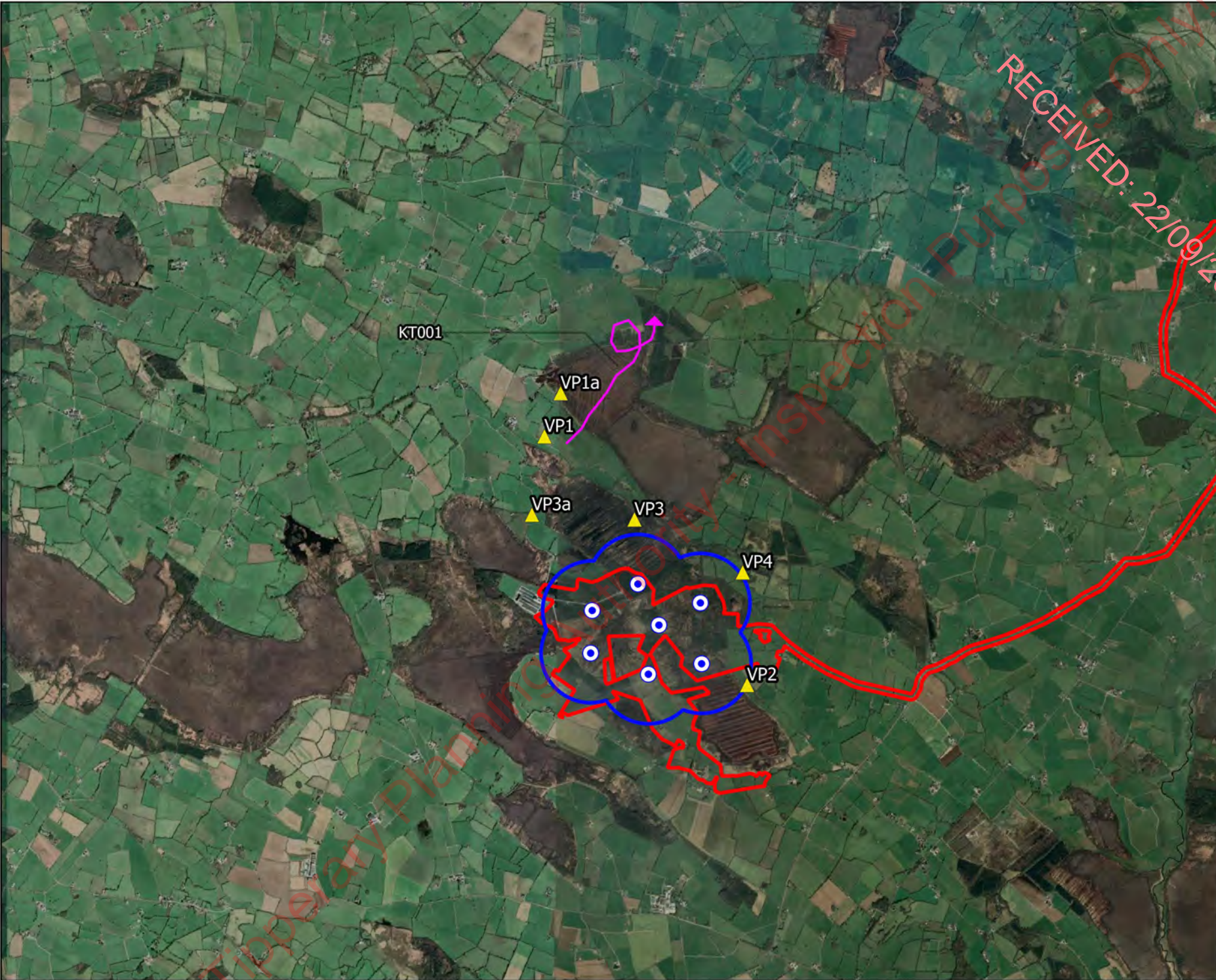
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## 7-4-7 RED KITE

Table 7-4-7-1 Red Kite Vantage Point Survey Data

Vantage Point Surveys												
Ref.	VP	Date	Time	Species	Number	Duration of flight (s)	Band 1 (0-15m)	Band 2 (15-25m)	Band 3 (25-200m)	Band 4 (>200m)	Habitat and activity	Surveyor
KT001	VP1a	08/03/2023	13:28	Red Kite	1	120	0	20	100	0	bogs; flying	CF

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- ### Map Legend
- EIAIAR Site Boundary
  - Turbine Layout
  - 500m Radius of Turbines
  - Flight Observation



Drawing Title: <b>Red Kite Observations Vantage Point Surveys</b>	
Project Title: <b>Carrig Renewables Wind Farm</b>	
Drawn By: <b>S. Duff</b>	Checked By: <b>D. Woods</b>
Project No.: <b>211016</b>	Drawing No.: <b>7.4.7.1</b>
Scale: <b>1:50000</b>	Date: <b>28.07.2023</b>
<b>MKO</b> Planning and Environmental Consultants Tuam Road, Galway Ireland, F91 VV84 +353 (0) 91 235611 email: info@mkofireland.ie Website: www.mkofireland.ie	

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## 7-4-8 WHITE-TAILED EAGLE

Table 7-4-8-1 White-tailed Eagle Vantage Point Survey Data

Vantage Point Surveys												
Ref.	VP	Date	Time	Species	Number	Duration of flight (s)	Band 1 (0-15m)	Band 2 (15-25m)	Band 3 (25-200m)	Band 4 (>200m)	Habitat and activity	Surveyor
WE001	VP4	23/08/2022	12:09	White-tailed Eagle	1	30	0	0	0	30	improved agricultural grassland; soar, disappeared in clouds	ZF

Table 7-4-8-2 White-tailed Eagle Breeding Raptor Survey Data

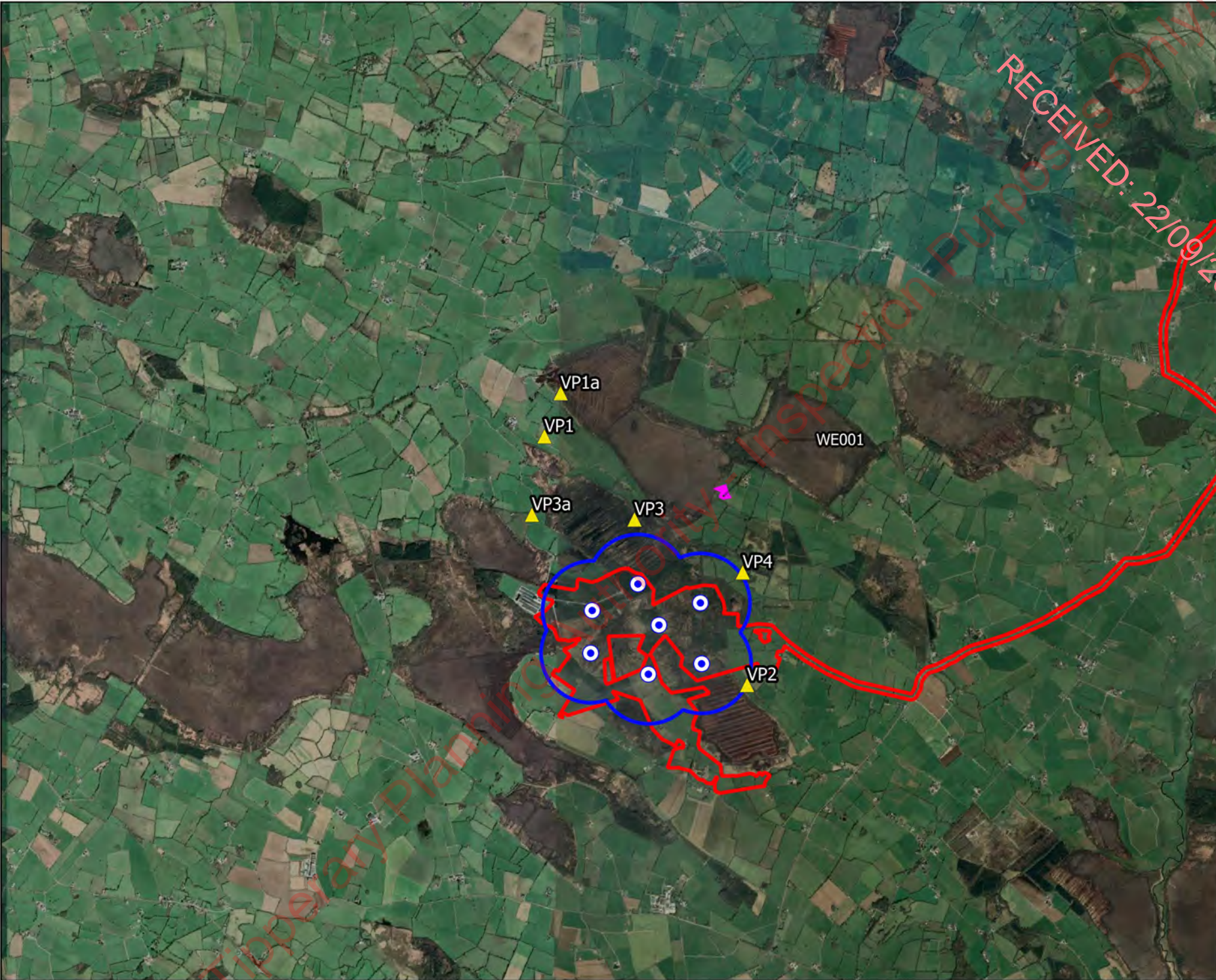
Breeding Raptor Surveys								
Ref.	BR	Date	Time	Species	Number	Habitat and activity	Breeding status	Surveyor
WE001	BRVP4	20/04/2022	11:16	White-tailed Eagle	1	improved agricultural grassland and mixed broadleaved/conifer woodland, soaring, soaring very high and then lower with some corvids. present on and off for an hour. went into woodland north-east of site	flyover; non-breeding	NL

Table 7-4-8-3 White-tailed Eagle Incidental Data

Incidental Observations								
Ref.	Location	Date	Time	Species	Number	Habitat and activity	Surveyor	
WE001	Waterbird Distribution Survey; Little Brosna Callows	21/12/2021	11:01	White-Tailed Eagle	1	wet grassland, watercourses, and highly modified/non-native woodland; flying/hunting/perched, young white-tailed eagle first seen from map ref 6 at 11:01	AR	
WE002	Waterbird Distribution Survey; Little Brosna Callows	31/01/2022	11:40	White-Tailed Eagle	1	wet grassland; perched, adult female, perched in dead tree on arrival at count point and was still perched when I left. the bird had an orange tag on its left wing with the number 10 and a green line under the orange. this bird is a female and has been hanging around lough Corrib in Galway this winter.	AR	

Incidental Observations							
Ref.	Location	Date	Time	Species	Number	Habitat and activity	Surveyor
WE003	Waterbird Distribution Survey; Little Brosna Callows	06/02/2022	08:10	White-Tailed Eagle	1	wet grassland and highly modified/non-native woodland; hunting, adult female low over callows, wing tag orange 10 on left wing/green on right wing	AR
WE004	Waterbird Distribution Survey; Little Brosna Callows	31/03/2022	09:00	White-Tailed Eagle	1	wet grassland; perched, male that was released at Lough Derg in 2021	AR
WE005	Waterbird Distribution Survey; Rathcabban	26/04/2022	08:29	White-Tailed Eagle	1	improved agricultural grassland; flying low across fields	NL
WE006	Waterbird Distribution Survey; Little Brosna Callows	18/01/2023	12:46	White-Tailed Eagle	1	lakes and ponds; perched	CF

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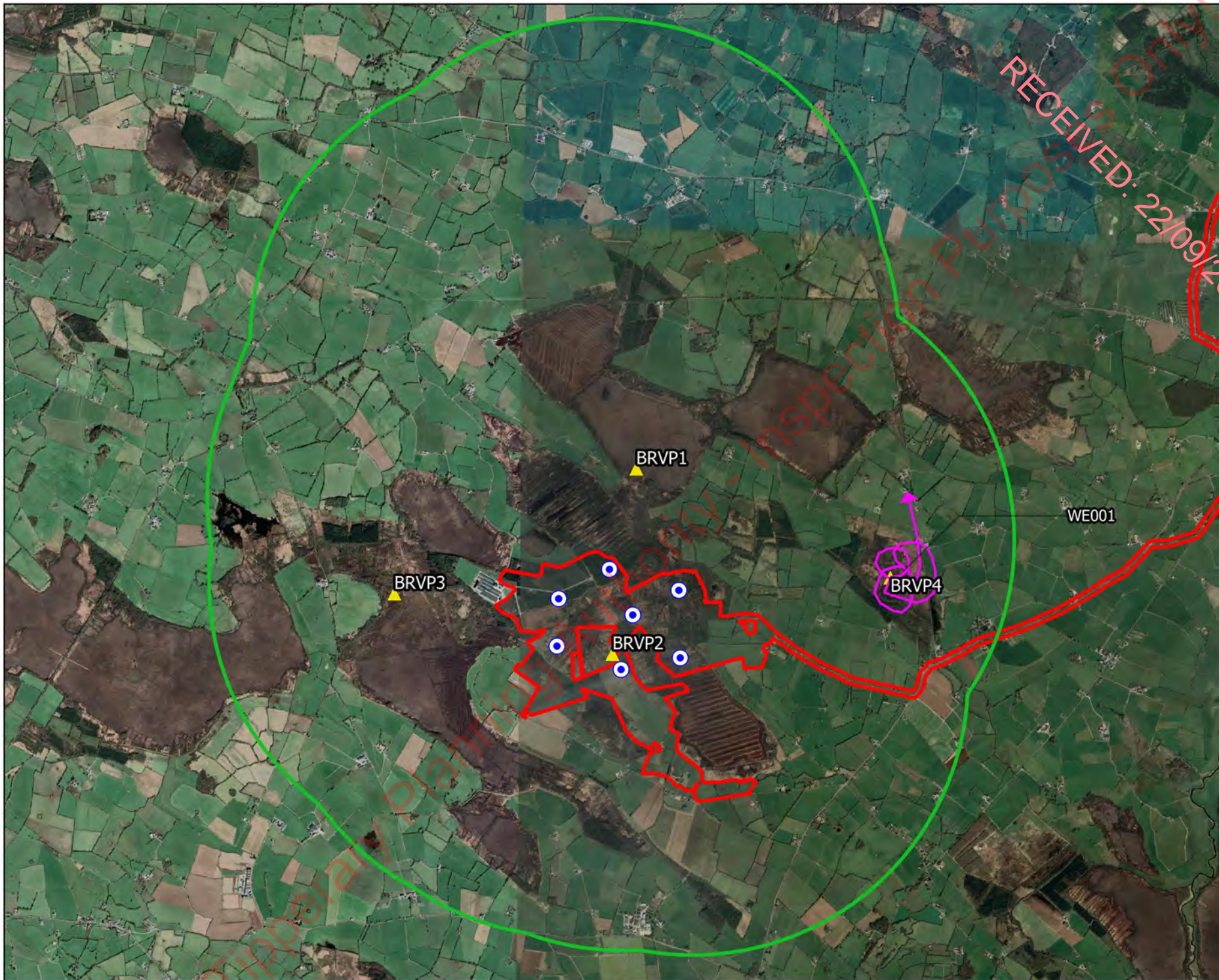
- ### Map Legend
- EIA/AR Site Boundary
  - Turbine Layout
  - 500m Radius of Turbines
  - Flight Observation

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Drawing Title: <b>White-tailed Eagle Observations Vantage Point Surveys</b>	
Project Title: <b>Carrig Renewables Wind Farm</b>	
Drawn By: <b>S. Duff</b>	Checked By: <b>D. Woods</b>
Project No.: <b>211016</b>	Drawing No.: <b>7.4.8.1</b>
Scale: <b>1:50000</b>	Date: <b>28.07.2023</b>
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- ### Map Legend
- EIAR Site Boundary
  - Turbine Layout
  - 2km Survey Area
  - ▲ BRVP Locations
  - Flight Observation



Drawing Title:  
**White-tailed Eagle Observations  
Breeding Raptor Surveys**

Project Title:  
**Carrig Renewables Wind Farm**

Drawn By	Checked By
S. Duff	D. Woods
Project No.	Drawing No.
211016	7.4.8.2
Scale	Date
1:45000	28.07.2023

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**Map Legend**

- EIA Site Boundary
- Turbine Layout
- Observation



Drawing Title:  
**White-tailed Eagle Observations  
Incidental Records**

Project Title:  
Carrig Renewables Wind Farm

Drawn By	Checked By
S. Duff	D. Woods
Project No.	Drawing No.
211016	7.4.8.3
Scale	Date
1:50000	28.07.2023

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## 7-4-9 WHOOPER SWAN

**Note:** Sensitive data relating to roosting sites has been omitted from this appendix and is provided in Confidential Appendix 7-7.

Table 7-4-9-1 Whooper Swan Vantage Point Survey Data

Vantage Point Surveys												
Ref.	VP	Date	Time	Species	Number	Duration of flight (s)	Band 1 (0-15m)	Band 2 (15-25m)	Band 3 (25-200m)	Band 4 (>200m)	Habitat and activity	Surveyor
WS001	VP3	13/10/2020	18:06	Whooper Swan	2	32	0	0	32	0	cutover bog; flying and calling	CMCK
WS002	VP2	28/11/2020	08:30	Whooper Swan	2	20	0	0	20	0	improved grassland and cutover bog; travelling	AR
WS003	VP2	30/12/2020	11:28	Whooper Swan	3	150	0	120	30	0	mixed conifer woodland and bogs; travelling	AR
WS004	VP2	30/12/2020	15:03	Whooper Swan	22	120	0	120	0	0	highly modified/non-native woodland and bogs; travelling	AR
WS005	VP2	30/12/2020	15:25	Whooper Swan	12	120	0	120	0	0	highly modified/non-native woodland and bogs; travelling	AR
WS006	VP1	13/01/2021	11:35	Whooper Swan	8	14	14	0	0	0	improved agricultural grassland, hedgerows and bogs; travelling	AR
WS007	VP3	15/01/2021	09:11	Whooper Swan	2	30	0	30	0	0	improved agricultural grassland and highly modified/non-native woodland; travelling, adults	AR
WS008	VP3	15/01/2021	11:09	Whooper Swan	6	15	15	0	0	0	improved agricultural grassland and highly modified/non-native woodland; travelling, adults	AR
WS009	VP4	28/01/2021	14:17	Whooper Swan	6	90	0	90	0	0	improved agricultural grassland, highly modified/non-native woodland and bogs; travelling	AR
WS010	VP4	17/02/2021	13:38	Whooper Swan	4	20	0	0	20	0	highly modified/non-native woodland, improved agricultural grassland and bogs; travelling	AR

Vantage Point Surveys												
Ref.	VP	Date	Time	Species	Number	Duration of flight (s)	Band 1 (0-15m)	Band 2 (15-25m)	Band 3 (25-200m)	Band 4 (>200m)	Habitat and activity	Surveyor
WS011	VP2	27/02/2021	13:41	Whooper Swan	6	20	0	0	20	0	improved agricultural grassland and hedgerows; travelling	AR
WS012	VP2	27/02/2021	18:02	Whooper Swan	1	60	0	60	0	0	improved agricultural grassland, hedgerows and bogs; travelling	AR
WS013	VP2	27/02/2021	19:03	Whooper Swan	16	120	0	0	120	0	improved agricultural grassland, hedgerows and bogs; travelling	AR
WS014	VP4	23/03/2021	08:01	Whooper Swan	34	60	0	60	0	0	mixed broadleaved/conifer woodland and bogs; travelling	AR
WS015	VP1	21/10/2021	08:18	Whooper Swan	7	14	0	14	0	0	improved agricultural grassland; travelling, briefly seen flying, lost behind vp	PDC
WS016	VP1	21/10/2021	08:24	Whooper Swan	2	110	110	0	0	0	improved agricultural grassland; travelling, flew very low through viewshed calling, followed by 6 other ws	PDC
WS017	VP1	21/10/2021	08:26	Whooper Swan	6	113	0	113	0	0	improved agricultural grassland; travelling, followed 2 other ws through viewshed	PDC
WS018	VP1	21/10/2021	08:47	Whooper Swan	10	45	0	45	0	0	improved agricultural grassland; travelling	PDC
WS019	VP1	21/10/2021	10:08	Whooper Swan	4	67	0	67	0	0	improved grassland and bogs; travelling	PDC
WS020	VP1	21/10/2021	10:32	Whooper Swan	6	52	0	0	52	0	improved agricultural grassland and bogs; travelling, direct flight through viewshed	PDC
WS021	VP1	21/10/2021	10:39	Whooper Swan	2	15	0	0	15	0	improved grassland; travelling	PDC
WS022	VP1	21/10/2021	10:44	Whooper Swan	2	30	0	0	30	0	improved grassland and bogs; travelling	PDC
WS025	VP3	22/10/2021	09:18	Whooper Swan	2	37	0	37	0	0	bogs and improved grassland; travelling	PDC

Vantage Point Surveys												
Ref.	VP	Date	Time	Species	Number	Duration of flight (s)	Band 1 (0-15m)	Band 2 (15-25m)	Band 3 (25-200m)	Band 4 (>200m)	Habitat and activity	Surveyor
WS026	VP3	22/10/2021	09:42	Whooper Swan	4	39	0	39	0	0	improved grassland and bogs; travelling	PDC
WS027	VP3	22/10/2021	10:07	Whooper Swan	4	37	0	37	0	0	improved grassland and bogs; travelling	PDC
WS028	VP3	22/10/2021	11:54	Whooper Swan	4	0	0	0	0	0	bogs; calling, commotion out on bog, lots of calling and wing beats on water. not visible though. guessing at least 4 birds.	PDC
WS034	VP3	14/12/2021	08:24	Whooper Swan	6	0	0	0	0	0	lakes and ponds and bogs; on water, lake visible from ring fort	PDC
WS035	VP3	14/12/2021	09:52	Whooper Swan	2	0	0	0	0	0	lakes and ponds and bogs; on water	PDC
WS036	VP2	19/12/2021	09:46	Whooper Swan	3	60	0	0	60	0	bogs and highly modified/non-native woodland; travelling	AR
WS037	VP2	27/01/2022	14:37	Whooper Swan	2	90	0	90	0	0	bogs, improved grassland and conifer plantation; flying	AR
WS038	VP2	27/01/2022	18:15	Whooper Swan		0	0	0	0	0	watercourses, hedgerows and improved grassland; calling, large number of birds calling from the direction of	AR
WS039	VP4	28/01/2022	17:06	Whooper Swan	2	40	0	40	0	0	conifer plantation and bogs; flying	AR
WS040	VP3a	13/02/2023	18:03	Whooper Swan	2	60	0	0	60	0	bogs; flying	CF
WS041	VP1a	08/03/2023	13:30	Whooper Swan	8	12	0	12	0	0	bogs; flying	CF



Table 7-4-9-2 Whooper Swan Winter Walkover Survey Data

Winter Walkover Surveys						
Ref.	Date	Time	Species	Number	Habitat and activity	Surveyor
WS001	31/01/2021	00:14	Whooper Swan	4	bogs, highly modified/non-native woodland, and improved agricultural grassland; travelling (wintering)	AR
WS002	16/02/2021	14:08	Whooper Swan	84	improved agricultural grassland; feeding (wintering)	AR

Table 7-4-9-3 Whooper Swan Waterbird Distribution Survey Data

Waterbird Distribution Survey							
Ref.	Location	Date	Time	Species	Number	Habitat and activity	Surveyor
WS001	Little Brosna Callows	09/10/2020	13:13	Whooper Swan	42	depositing/lowland rivers and wet grassland; roosting, on and above water	TR
WS002	Little Brosna Callows	23/10/2020	10:13	Whooper Swan	67	arable crops; feeding, feeding on stubble field	TR
WS003	Little Brosna Callows	23/10/2020	10:14	Whooper Swan	6	depositing/lowland rivers; flight, going se along broсна	TR
WS004	Little Brosna Callows	23/10/2020	12:31	Whooper Swan	7	depositing/lowland rivers and wet grassland; feeding/roosting	TR
WS005	Little Brosna Callows	23/10/2020	13:37	Whooper Swan	170	depositing/lowland rivers and wet grassland; feeding/roosting, on callow	TR
WS006		11/11/2020	10:30	Whooper Swan	4	watercourses; feeding	AR
WS007		11/11/2020	11:52	Whooper Swan	8	watercourses; feeding	AR
WS008		11/11/2020	12:21	Whooper Swan	2	watercourses; feeding	AR
WS009		11/11/2020	12:31	Whooper Swan	140	watercourses and improved agricultural grassland; feeding	AR

Waterbird Distribution Survey							
Ref.	Location	Date	Time	Species	Number	Habitat and activity	Surveyor
WS010		11/11/2020	13:11	Whooper Swan	105	watercourses and improved agricultural grassland; feeding	AR
WS011		14/11/2020	09:40	Whooper Swan	22	watercourses and improved agricultural grassland; feeding	AR
WS012		14/11/2020	12:25	Whooper Swan	2	watercourses; flying	AR
WS013		14/11/2020	12:46	Whooper Swan	18	watercourses; feeding	AR
WS014		14/11/2020	12:57	Whooper Swan	38	watercourses and improved agricultural grassland; feeding	AR
WS015		14/11/2020	13:20	Whooper Swan	120	watercourses and improved agricultural grassland; feeding	AR
WS016		14/11/2020	14:31	Whooper Swan	179	watercourses; feeding	AR
WS017		27/11/2020	11:15	Whooper Swan	2	watercourses; feeding	AR
WS018		27/11/2020	13:20	Whooper Swan	195	watercourses; feeding	AR
WS019		27/11/2020	14:40	Whooper Swan	8	watercourses; feeding	AR
WS020		30/11/2020	14:10	Whooper Swan	26	improved agricultural grassland; feeding	AR
WS021		15/12/2020	08:40	Whooper Swan	4	watercourses; feeding	AR
WS022		15/12/2020	09:20	Whooper Swan	2	watercourses and improved agricultural grassland; feeding	AR
WS023		15/12/2020	10:10	Whooper Swan	7	watercourses and improved agricultural grassland; feeding	AR

Waterbird Distribution Survey							
Ref.	Location	Date	Time	Species	Number	Habitat and activity	Surveyor
WS024		15/12/2020	11:27	Whooper Swan	4	watercourses and improved agricultural grassland; flying	AR
WS025		15/12/2020	12:00	Whooper Swan	35	watercourses and improved agricultural grassland; feeding	AR
WS026		15/12/2020	12:43	Whooper Swan	208	watercourses and improved agricultural grassland; feeding	AR
WS027		17/12/2020	09:10	Whooper Swan	70	improved agricultural grassland; feeding	AR
WS028		17/12/2020	12:00	Whooper Swan	71	watercourses; feeding	AR
WS029		17/12/2020	12:54	Whooper Swan	7	watercourses; feeding	AR
WS030		17/12/2020	13:20	Whooper Swan	132	watercourses and improved agricultural grassland; feeding	AR
WS031		29/12/2020	08:30	Whooper Swan	2	watercourses and improved agricultural grassland; feeding	AR
WS032		29/12/2020	11:42	Whooper Swan	100	improved agricultural grassland; feeding	AR
WS033		29/12/2020	13:55	Whooper Swan	22	improved agricultural grassland; feeding	AR
WS034		31/12/2020	10:40	Whooper Swan	2	watercourses;	AR
WS035		31/12/2020	11:20	Whooper Swan	6	watercourses; feeding/roosting	AR
WS036		31/12/2020	12:00	Whooper Swan	5	watercourses; flying	AR
WS037		31/12/2020	12:15	Whooper Swan	6	watercourses and improved agricultural grassland; feeding	AR

Waterbird Distribution Survey							
Ref.	Location	Date	Time	Species	Number	Habitat and activity	Surveyor
WS038		31/12/2020	12:45	Whooper Swan	11	watercourses and improved agricultural grassland; roosting	AR
WS039		31/12/2020	13:30	Whooper Swan	48	watercourses and improved agricultural grassland; feeding	AR
WS040		12/01/2021	08:45	Whooper Swan	2	improved agricultural grassland; feeding	AR
WS041		12/01/2021	10:42	Whooper Swan	44	improved agricultural grassland; feeding	AR
WS042		12/01/2021	12:15	Whooper Swan	72	improved agricultural grassland; feeding	AR
WS043		12/01/2021	13:52	Whooper Swan	29	improved agricultural grassland; feeding	AR
WS044		12/01/2021	14:20	Whooper Swan	7	watercourses and improved agricultural grassland; feeding	AR
WS045		14/01/2021	08:30	Whooper Swan	23	improved agricultural grassland, watercourses and hedgerows; feeding/roosting, feeding	AR
WS046		14/01/2021	08:50	Whooper Swan	2	improved agricultural grassland; feeding/roosting, feeding	AR
WS047		14/01/2021	11:05	Whooper Swan	5	watercourses; feeding/roosting, feeding	AR
WS048		14/01/2021	11:15	Whooper Swan	5	watercourses and improved agricultural grassland; feeding/roosting, feeding	AR
WS049		14/01/2021	12:05	Whooper Swan	10	watercourses; feeding/roosting, feeding	AR
WS050		14/01/2021	12:45	Whooper Swan	14	watercourses; feeding/roosting, feeding	AR
WS051		14/01/2021	13:30	Whooper Swan	56	watercourses and improved agricultural grassland; , feeding	AR

Waterbird Distribution Survey							
Ref.	Location	Date	Time	Species	Number	Habitat and activity	Surveyor
WS052		29/01/2021	08:45	Whooper Swan	8	improved agricultural grassland and watercourses; feeding	AR
WS053		29/01/2021	12:16	Whooper Swan	23	improved agricultural grassland; feeding in fields, flooding	AR
WS054		29/01/2021	12:59	Whooper Swan	96	improved agricultural grassland; foraging, this is the sixth time these birds have been feeding in the same area	AR
WS055		30/01/2021	11:15	Whooper Swan	10	watercourses; feeding/roosting, feeding	AR
WS056		30/01/2021	11:25	Whooper Swan	3	watercourses and improved agricultural grassland; feeding/roosting, feeding	AR
WS057		30/01/2021	12:06	Whooper Swan	18	watercourses; feeding/roosting, feeding	AR
WS058		30/01/2021	13:00	Whooper Swan	10	watercourses; feeding/roosting, feeding	AR
WS059		14/02/2021	09:15	Whooper Swan	14	improved agricultural grassland and hedgerows; feeding, same area as last few visits	AR
WS060		14/02/2021	10:12	Whooper Swan	12	improved agricultural grassland and hedgerows; feeding	AR
WS061		14/02/2021	12:01	Whooper Swan	42	watercourses and improved agricultural grassland; feeding	AR
WS062		14/02/2021	12:45	Whooper Swan	21	improved agricultural grassland; roosting	AR
WS063		14/02/2021	15:00	Whooper Swan	96	improved agricultural grassland; feeding, whoopers again in same place as last time	AR
WS064		15/02/2021	08:35	Whooper Swan	32	improved agricultural grassland and hedgerows; feeding	AR
WS065		15/02/2021	08:49	Whooper Swan	18	semi-natural grassland and hedgerows; feeding	AR

Waterbird Distribution Survey							
Ref.	Location	Date	Time	Species	Number	Habitat and activity	Surveyor
WS066		15/02/2021	10:30	Whooper Swan	10	semi-natural grassland and watercourses; feeding	AR
WS067		15/02/2021	11:00	Whooper Swan	56	semi-natural grassland, watercourses and improved agricultural grassland; feeding	AR
WS068		24/02/2021	09:15	Whooper Swan	4	improved agricultural grassland and watercourses; feeding	AR
WS069		24/02/2021	09:35	Whooper Swan	3	improved agricultural grassland; feeding	AR
WS070		24/02/2021	13:08	Whooper Swan	8	improved agricultural grassland; feeding	AR
WS071		24/02/2021	13:08	Whooper Swan	41	improved agricultural grassland, watercourses and marsh; feeding/roosting, i suspect this is the flock from aglish	AR
WS072		24/02/2021	13:20	Whooper Swan	123	improved agricultural grassland; feeding	AR
WS073		26/02/2021	08:10	Whooper Swan	17	improved agricultural grassland, semi-natural grassland and watercourses; feeding	AR
WS074		26/02/2021	10:05	Whooper Swan	19	semi-natural grassland and watercourses; feeding	AR
WS075		26/02/2021	12:00	Whooper Swan	41	improved agricultural grassland and watercourses; feeding	AR
WS076		16/03/2021	09:30	Whooper Swan	134	improved agricultural grassland; feeding	AR
WS077		16/03/2021	10:10	Whooper Swan	32	watercourses, reed and large sedge swamps and improved agricultural grassland; feeding	AR
WS078		16/03/2021	12:51	Whooper Swan	2	bogs, improved agricultural grassland and hedgerows; feeding	AR
WS079		20/03/2021	08:20	Whooper Swan	3	improved agricultural grassland; feeding	AR

Waterbird Distribution Survey							
Ref.	Location	Date	Time	Species	Number	Habitat and activity	Surveyor
WS080		20/03/2021	11:32	Whooper Swan	67	watercourses and wet grassland; feeding	AR
WS081		20/03/2021	12:46	Whooper Swan	46	watercourses; feeding	AR
WS082		22/03/2021	10:30	Whooper Swan	11	watercourses; feeding	AR
WS083		22/03/2021	11:15	Whooper Swan	5	watercourses and improved agricultural grassland; feeding	AR
WS084		22/03/2021	13:25	Whooper Swan	140	improved agricultural grassland; feeding	AR
WS085		24/03/2021	08:20	Whooper Swan	11	improved agricultural grassland; feeding	AR
WS086		24/03/2021	10:00	Whooper Swan	21	watercourses and semi-natural grassland; feeding	AR
WS087		24/03/2021	11:00	Whooper Swan	22	watercourses and semi-natural grassland; feeding	AR
WS088		24/03/2021	12:15	Whooper Swan	42	watercourses and semi-natural grassland; feeding	AR
WS089		09/04/2021	11:05	Whooper Swan	17	watercourses and improved grassland; feeding	AR
WS090		23/04/2021	11:10	Whooper Swan	4	wet grassland and watercourses; feeding, flooded area with reeds	AR
WS091		21/05/2021	11:20	Whooper Swan	1	wet grassland and watercourses; feeding	AR
WS092	Little Brosna Callows	26/10/2021	12:46	Whooper Swan	4	watercourses; on water	PDC
WS093		08/11/2021	08:54	Whooper Swan	3	wet grassland; flying	AR

Waterbird Distribution Survey							
Ref.	Location	Date	Time	Species	Number	Habitat and activity	Surveyor
WS094		08/11/2021	09:08	Whooper Swan	17	wet grassland; feeding	AR
WS095		08/11/2021	09:50	Whooper Swan	36	wet grassland; feeding	AR
WS096		08/11/2021	10:38	Whooper Swan	16	wet grassland; feeding	AR
WS097		08/11/2021	12:47	Whooper Swan	10	improved grassland; feeding	AR
WS098		08/11/2021	13:21	Whooper Swan	14	wet grassland and watercourses; feeding	AR
WS099		11/11/2021	07:50	Whooper Swan	23	wet grassland and watercourses; feeding	AR
WS100		11/11/2021	08:32	Whooper Swan	8	wet grassland; feeding	AR
WS101		11/11/2021	10:25	Whooper Swan	36	wet grassland; feeding	AR
WS102		11/11/2021	12:00	Whooper Swan	17	wet grassland; feeding	AR
WS103		11/11/2021	13:50	Whooper Swan	8	improved grassland; feeding	AR
WS104		24/11/2021	13:14	Whooper Swan	1	wet grassland and watercourses; feeding	AR
WS105		24/11/2021	13:46	Whooper Swan	66	improved grassland; feeding	AR
WS106		29/11/2021	10:20	Whooper Swan	46	wet grassland; feeding	AR
WS107		29/11/2021	11:30	Whooper Swan	4	wet grassland; feeding	AR



Waterbird Distribution Survey							
Ref.	Location	Date	Time	Species	Number	Habitat and activity	Surveyor
WS108		29/11/2021	13:36	Whooper Swan	84	improved grassland; feeding	AR
WS109		05/12/2021	07:46	Whooper Swan	20	bogs, improved grassland and hedgerows; leaving roost, birds leaving roost area.	AR
WS110		05/12/2021	07:47	Whooper Swan	6	bogs, improved grassland and hedgerows; leaving roost, birds leaving roost area.	AR
WS111		05/12/2021	07:49	Whooper Swan	2	bogs, improved grassland and hedgerows; leaving roost, birds leaving roost area.	AR
WS112		05/12/2021	07:51	Whooper Swan	20	bogs, improved grassland and hedgerows; leaving roost, birds leaving roost area.	AR
WS113		05/12/2021	08:30	Whooper Swan	87	improved grassland and hedgerows; feeding	AR
WS114		05/12/2021	09:00	Whooper Swan	2	watercourses; feeding	AR
WS115		05/12/2021	09:26	Whooper Swan	55	improved grassland and hedgerows; feeding	AR
WS116		06/12/2021	08:17	Whooper Swan	29	improved grassland; flying/landed, 29 from sharragh direction	AR
WS117		06/12/2021	08:20	Whooper Swan	62	improved grassland; feeding	AR
WS118		06/12/2021	11:07	Whooper Swan	4	wet grassland; feeding	AR
WS119		20/12/2021	07:53	Whooper Swan		bogs; flying/calling, ws left roost couldn't say how many birds involed still dark and foggy over bog area sounded like heading towards lackabrack going behind pig farm.	AR
WS120		20/12/2021	08:30	Whooper Swan	20	improved grassland and hedgerows; feeding	AR
WS121		20/12/2021	08:53	Whooper Swan	49	watercourses; swimming	AR

Waterbird Distribution Survey							
Ref.	Location	Date	Time	Species	Number	Habitat and activity	Surveyor
WS122		20/12/2021	10:41	Whooper Swan	49	improved grassland; feeding	AR
WS123		20/12/2021	10:41	Whooper Swan	1	improved grassland; flying/landed, stopped at lackabrack now 50 birds	AR
WS124		20/12/2021	12:51	Whooper Swan	2	wet grassland and watercourses; feeding	AR
WS125		20/12/2021	13:13	Whooper Swan	128	improved grassland; feeding, lackabrack area	AR
WS126		21/12/2021	09:43	Whooper Swan	7	watercourses; swimming/feeding	AR
WS127		21/12/2021	12:00	Whooper Swan	14	wet grassland; feeding/flying	AR
WS128		21/12/2021	14:20	Whooper Swan	103	improved grassland; feeding	AR
WS129		07/01/2022	09:50	Whooper Swan	7	watercourses and wet grassland; feeding	AR
WS130		07/01/2022	10:46	Whooper Swan	5	watercourses and wet grassland; feeding	AR
WS131		07/01/2022	11:40	Whooper Swan	69	wet grassland; feeding	AR
WS132		07/01/2022	12:09	Whooper Swan	26	wet grassland; feeding	AR
WS133		07/01/2022	12:20	Whooper Swan	5	improved grassland, watercourses and wet grassland; feeding	AR
WS134		07/01/2022	12:39	Whooper Swan	86	wet grassland and watercourses; feeding	AR
WS135		07/01/2022	13:31	Whooper Swan	66	improved grassland; feeding, lackabrack flock	AR

Waterbird Distribution Survey							
Ref.	Location	Date	Time	Species	Number	Habitat and activity	Surveyor
WS136		09/01/2022	09:06	Whooper Swan	79	improved grassland; feeding	AR
WS137		09/01/2022	09:26	Whooper Swan	2	wet grassland; feeding	AR
WS138		09/01/2022	09:43	Whooper Swan	18	improved grassland and wet grassland; feeding	AR
WS139		30/01/2022	09:10	Whooper Swan	2	watercourses; feeding	AR
WS140		30/01/2022	10:05	Whooper Swan	226	improved grassland and hedgerows; feeding, lackabrack flock	AR
WS141		30/01/2022	11:52	Whooper Swan	4	improved grassland; feeding	AR
WS142		30/01/2022	12:36	Whooper Swan	15	improved grassland; feeding	AR
WS143		05/02/2022	07:30	Whooper Swan	49	watercourses; roosting	AR
WS144		05/02/2022	09:10	Whooper Swan	2	improved grassland; feeding	AR
WS145		05/02/2022	10:46	Whooper Swan	13	watercourses and wet grassland; feeding	AR
WS146		05/02/2022	11:10	Whooper Swan	13	improved grassland; feeding, second visit of the morning	AR
WS147		05/02/2022	12:23	Whooper Swan	30	improved grassland; feeding	AR
WS148		06/02/2022	08:00	Whooper Swan	2	wet grassland and watercourses; feeding/flying	AR
WS149		06/02/2022	09:40	Whooper Swan	4	wet grassland; feeding	AR

Waterbird Distribution Survey							
Ref.	Location	Date	Time	Species	Number	Habitat and activity	Surveyor
WS150	Little Brosna Callows	06/02/2022	14:30	Whooper Swan	145	improved grassland; feeding, lackabrack flock	AR
WS151	Little Brosna Callows	18/02/2022	09:37	Whooper Swan	17	wet grassland and watercourses; feeding	AR
WS152	Little Brosna Callows	18/02/2022	10:23	Whooper Swan	6	wet grassland and watercourses; feeding	AR
WS153	Little Brosna Callows	18/02/2022	14:15	Whooper Swan	168	improved grassland and hedgerows; feeding, lackabrack flock	AR
WS154	Little Brosna Callows	19/02/2022	08:57	Whooper Swan	5	wet grassland; feeding	AR
WS155	Little Brosna Callows	19/02/2022	09:28	Whooper Swan	31	improved grassland and hedgerows; feeding	AR
WS156	Little Brosna Callows	19/02/2022	11:04	Whooper Swan	7	improved grassland and hedgerows; feeding	AR
WS157	Little Brosna Callows	19/02/2022	12:29	Whooper Swan	159	improved grassland and hedgerows; feeding, lackabrack flock	AR
WS158	Little Brosna Callows	10/03/2022	08:17	Whooper Swan	3	improved grassland; feeding	AR
WS159	Little Brosna Callows	10/03/2022	09:10	Whooper Swan	4	improved grassland and wet grassland; flying	AR
WS160	Little Brosna Callows	10/03/2022	10:02	Whooper Swan	7	wet grassland; swimming	AR
WS161	Little Brosna Callows	10/03/2022	12:40	Whooper Swan	4	wet grassland; feeding	AR
WS162	Little Brosna Callows	10/03/2022	13:10	Whooper Swan	170	wet grassland; feeding	AR
WS163	Little Brosna Callows	11/03/2022	07:04	Whooper Swan	7	improved grassland and hedgerows; flying	AR

Waterbird Distribution Survey							
Ref.	Location	Date	Time	Species	Number	Habitat and activity	Surveyor
WS164	Little Brosna Callows	11/03/2022	07:08	Whooper Swan	2	improved grassland and hedgerows; flying	AR
WS165	Little Brosna Callows	11/03/2022	07:15	Whooper Swan	5	improved grassland and hedgerows; flying	AR
WS166	Little Brosna Callows	11/03/2022	07:16	Whooper Swan	12	improved grassland and hedgerows; flying	AR
WS167	Little Brosna Callows	11/03/2022	07:18	Whooper Swan	11	improved grassland and hedgerows; flying	AR
WS168	Little Brosna Callows	11/03/2022	07:19	Whooper Swan	10	improved grassland and hedgerows; flying	AR
WS169	Little Brosna Callows	11/03/2022	07:20	Whooper Swan	4	improved grassland and hedgerows; flying	AR
WS170	Little Brosna Callows	11/03/2022	07:21	Whooper Swan	3	improved grassland and hedgerows; flying	AR
WS171	Little Brosna Callows	11/03/2022	07:23	Whooper Swan	11	improved grassland and hedgerows; flying	AR
WS172	Little Brosna Callows	11/03/2022	07:24	Whooper Swan	4	improved grassland and hedgerows; flying	AR
WS173	Little Brosna Callows	11/03/2022	07:25	Whooper Swan	3	improved grassland and hedgerows; flying	AR
WS174	Little Brosna Callows	11/03/2022	07:27	Whooper Swan	41	improved grassland and hedgerows; flying	AR
WS175	Little Brosna Callows	11/03/2022	07:29	Whooper Swan	5	improved grassland and hedgerows; flying	AR
WS176	Little Brosna Callows	11/03/2022	07:31	Whooper Swan	9	improved grassland and hedgerows; flying	AR
WS177	Little Brosna Callows	11/03/2022	07:32	Whooper Swan	3	improved grassland and hedgerows; flying	AR

Waterbird Distribution Survey							
Ref.	Location	Date	Time	Species	Number	Habitat and activity	Surveyor
WS178	Little Brosna Callows	11/03/2022	07:38	Whooper Swan	8	bogs; flying	AR
WS179	Little Brosna Callows	11/03/2022	07:48	Whooper Swan	4	bogs; flying	AR
WS180	Little Brosna Callows	11/03/2022	07:51	Whooper Swan	2	bogs; flying	AR
WS181	Little Brosna Callows	11/03/2022	07:59	Whooper Swan	2	bogs; flying	AR
WS182	Little Brosna Callows	11/03/2022	08:00	Whooper Swan	2	bogs; flying	AR
WS183	Little Brosna Callows	11/03/2022	10:41	Whooper Swan	1	improved grassland; feeding	AR
WS184	Little Brosna Callows	11/03/2022	11:06	Whooper Swan	32	wet grassland and improved grassland; feeding	AR
WS185	Little Brosna Callows	30/03/2022	13:50	Whooper Swan	8	wet grassland, improved grassland and hedgerows; feeding	AR
WS186	Little Brosna Callows	30/03/2022	14:38	Whooper Swan	3	improved grassland and hedgerows; feeding	AR
WS187	Little Brosna Callows	31/03/2022	09:00	Whooper Swan	5	wet grassland; feeding	AR
WS188	Little Brosna Callows	07/04/2022	13:00	Whooper Swan	6	watercourses and wet grassland; feeding	NL
WS189	Little Brosna Callows	22/04/2022	12:40	Whooper Swan	1	watercourses and wet grassland; preening	NL
WS190	Little Brosna Callows	25/10/2022	10:00	Whooper Swan	2	marsh and watercourses; flying	NL
WS191	Little Brosna Callows	25/10/2022	10:49	Whooper Swan	2	marsh and watercourses; feeding	NL

Waterbird Distribution Survey							
Ref.	Location	Date	Time	Species	Number	Habitat and activity	Surveyor
WS192	Little Brosna Callows	25/10/2022	10:53	Whooper Swan	4	marsh and watercourses; feeding	NL
WS193	Little Brosna Callows	25/10/2022	12:53	Whooper Swan	24	watercourses and marsh; feeding & roosting, mostly adults, some juveniles	NL
WS194	Little Brosna Callows	28/10/2022	10:58	Whooper Swan	5	watercourses and marsh; feeding	NL
WS195	Little Brosna Callows	28/10/2022	13:18	Whooper Swan	13	watercourses and marsh; feeding	NL
WS196	Little Brosna Callows	28/10/2022	13:44	Whooper Swan	6	watercourses and marsh; feeding	NL
WS197	Little Brosna Callows	09/11/2022	12:15	Whooper Swan	21	lakes and ponds; feeding	CF
WS198	Little Brosna Callows	22/11/2022	12:02	Whooper Swan	2	marsh and watercourses; flying	NL
WS199	Little Brosna Callows	22/11/2022	12:11	Whooper Swan	2	marsh and watercourses; feeding	NL
WS200	Little Brosna Callows	22/11/2022	12:21	Whooper Swan	10	marsh and watercourses; roosting	NL
WS201	Little Brosna Callows	29/11/2022	12:24	Whooper Swan	2	marsh and watercourses; feeding & roosting	NL
WS202	Little Brosna Callows	29/11/2022	12:56	Whooper Swan	18	marsh and watercourses; feeding	NL
WS203	Little Brosna Callows	29/11/2022	13:12	Whooper Swan	24	marsh and watercourses; feeding	NL
WS204	Little Brosna Callows	05/12/2022	14:34	Whooper Swan	134	lakes and ponds; feeding	CF
WS205	Little Brosna Callows	11/01/2023	12:27	Whooper Swan	80	lakes and ponds; feeding	CF

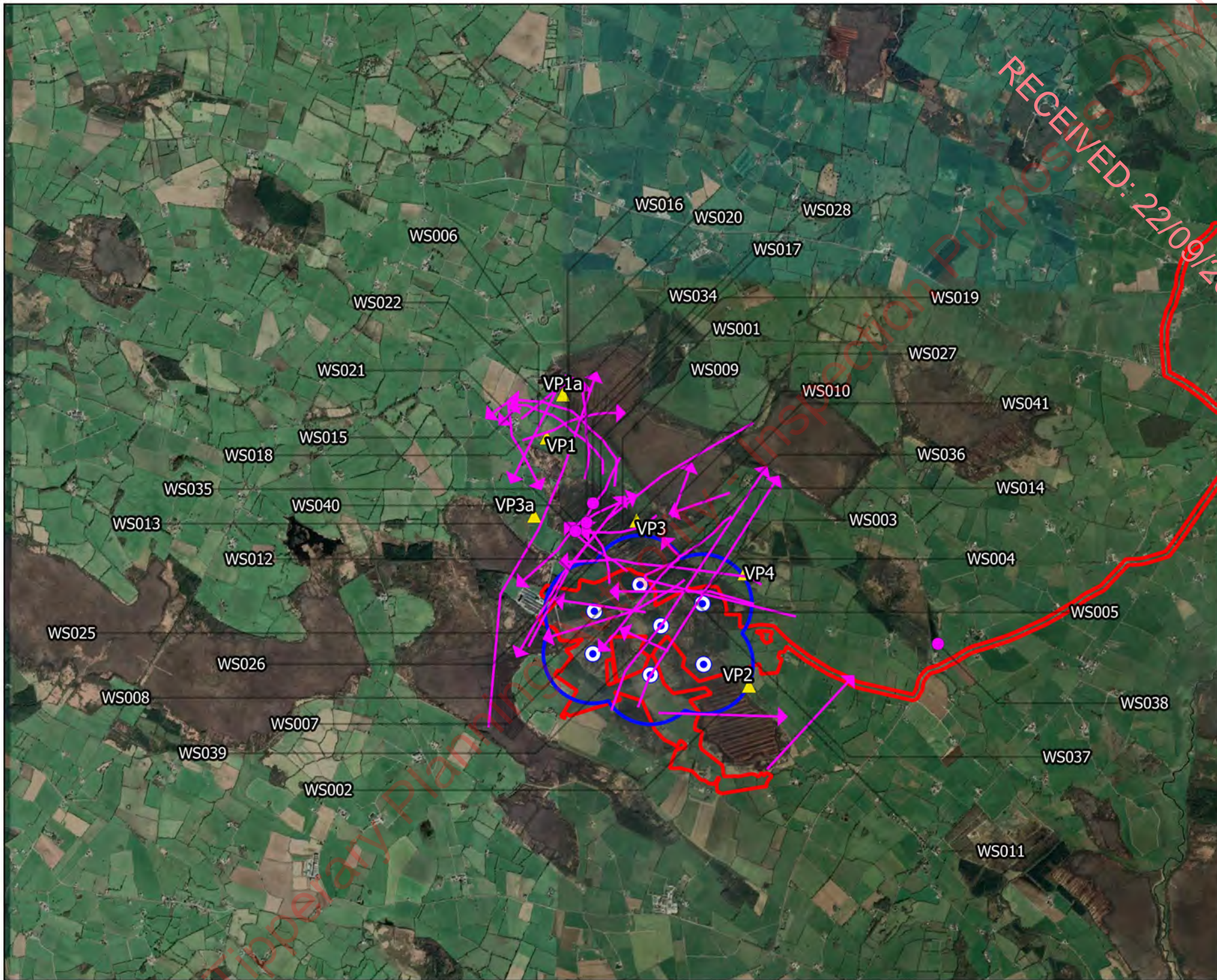
Waterbird Distribution Survey							
Ref.	Location	Date	Time	Species	Number	Habitat and activity	Surveyor
WS206	Little Brosna Callows	25/01/2023	13:10	Whooper Swan	151	lakes and ponds; feeding	CF
WS207	Little Brosna Callows	14/02/2023	17:50	Whooper Swan	3	lakes and ponds; feeding	CF
WS208	Little Brosna Callows	22/03/2023	16:15	Whooper Swan	12	lakes and ponds; feeding	CF

Table 7-4-9-4 Whooper Swan Incidental Data

Incidental Observations							
Ref.	Location	Date	Time	Species	Number	Habitat and activity	Surveyor
WS001	Hen Harrier Roost Survey; HHVP3	28/11/2020	15:40	Whooper Swan	2	bogs and highly modified/non-native woodland; travelling	AR
WS002	Hen Harrier Roost Survey; HHVP4	30/11/2020	16:14	Whooper Swan	27		AR
WS003	Hen Harrier Roost Survey; HHVP2	13/01/2021		Whooper Swan	2	bogs and conifer plantation; travelling, adult	AR
WS004	Hen Harrier Roost Survey; HHVP1	15/01/2021		Whooper Swan	34	bogs; travelling	AR
WS006	Hen Harrier Roost Survey; HHVP3	30/01/2021		Whooper Swan	4	bogs; travelling	AR
WS007	Hen Harrier Roost Survey; HHVP1	19/03/2021	18:14	Whooper Swan	10	bogs, highly modified/non-native woodland, and hedgerows; going to roost	AR
WS009	Hen Harrier Roost Survey; HHVP4	27/10/2021	09:12	Whooper Swan	25	bogs and improved grassland; travelling, heard calling then briefly seen in flight behind HHVP	PDC
WS010	Hen Harrier Roost Survey; HHVP1	08/11/2021	16:46	Whooper Swan	5	bogs and improved grassland; flying	AR



Incidental Observations							
Ref.	Location	Date	Time	Species	Number	Habitat and activity	Surveyor
WS011	Hen Harrier Roost Survey; HHVP4	11/11/2021	17:03	Whooper Swan			AR
WS012	Hen Harrier Roost Survey; HHVP2	05/12/2021	17:02	Whooper Swan	2	bogs and improved grassland; flying	AR
WS013	Hen Harrier Roost Survey; HHVP2	05/12/2021	17:10	Whooper Swan	14	bogs; flying	AR
WS014	Hen Harrier Roost Survey; HHVP1	06/12/2021	16:47	Whooper Swan		bogs; calling/flying, couldn't see how many	AR
WS019	Hen Harrier Roost Survey; HHVP4	21/12/2021	16:52	Whooper Swan	9	bogs; flying	AR
WS020	Hen Harrier Roost Survey; HHVP4	21/12/2021	16:58	Whooper Swan	3	bogs; flying	AR
WS021	Hen Harrier Roost Survey; HHVP4	21/12/2021	17:03	Whooper Swan		improved grassland; calling/flying, couldn't see how many	AR
WS022	Hen Harrier Roost Survey; Sharragh	28/01/2022	08:05	Whooper Swan		improved grassland; calling, heard only	AR
WS023	Hen Harrier Roost Survey; Sharragh	28/01/2022	08:49	Whooper Swan	4	bogs and improved grassland; flying	AR
WS024	Hen Harrier Roost Survey; HHVP2	24/01/2023	16:07	Whooper Swan	8	improved grassland; leaving roost	CF
WS025	Hen Harrier Roost Survey; HHVP3	27/01/2023	16:02	Whooper Swan	7	bogs; flying over	CF



**Map Legend**

- EIAR Site Boundary
- Turbine Layout
- 500m Radius of Turbines
- Flight Observation
- Non-flight Observation



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Drawing Title: Whooper Swan Observations Vantage Point Surveys

Project Title: Carrig Renewables Wind Farm

Drawn By: <b>S. Duff</b>	Checked By: <b>D. Woods</b>
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Project No.: <b>211016</b>	Drawing No.: <b>7.4.9.1</b>
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Scale: <b>1:50000</b>	Date: <b>28.07.2023</b>
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**Map Legend**

- EIA Site Boundary
- Turbine Layout
- 500m Survey Area
- Flight Observation

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WS001

WS002



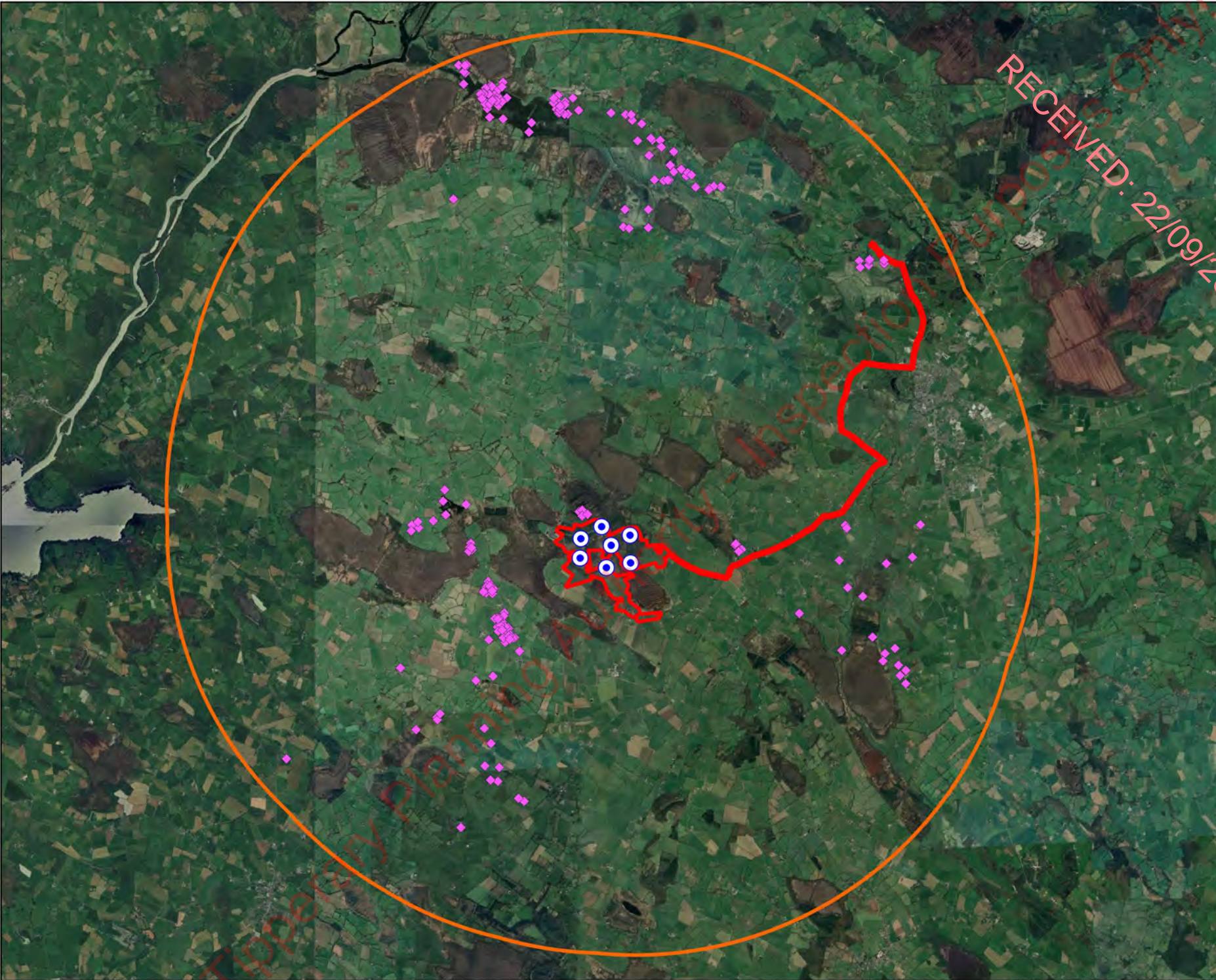
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**Whooper Swan Observations  
Winter Walkover Surveys**

Carrig Renewables Wind Farm

Drawn By <b>S. Duff</b>	Checked By <b>D. Woods</b>
Project No. <b>211016</b>	Drawing No. <b>7.4.9.2</b>
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Map Legend

-  EIA Site Boundary
-  Turbine Layout
-  8km Survey Area
-  Observation



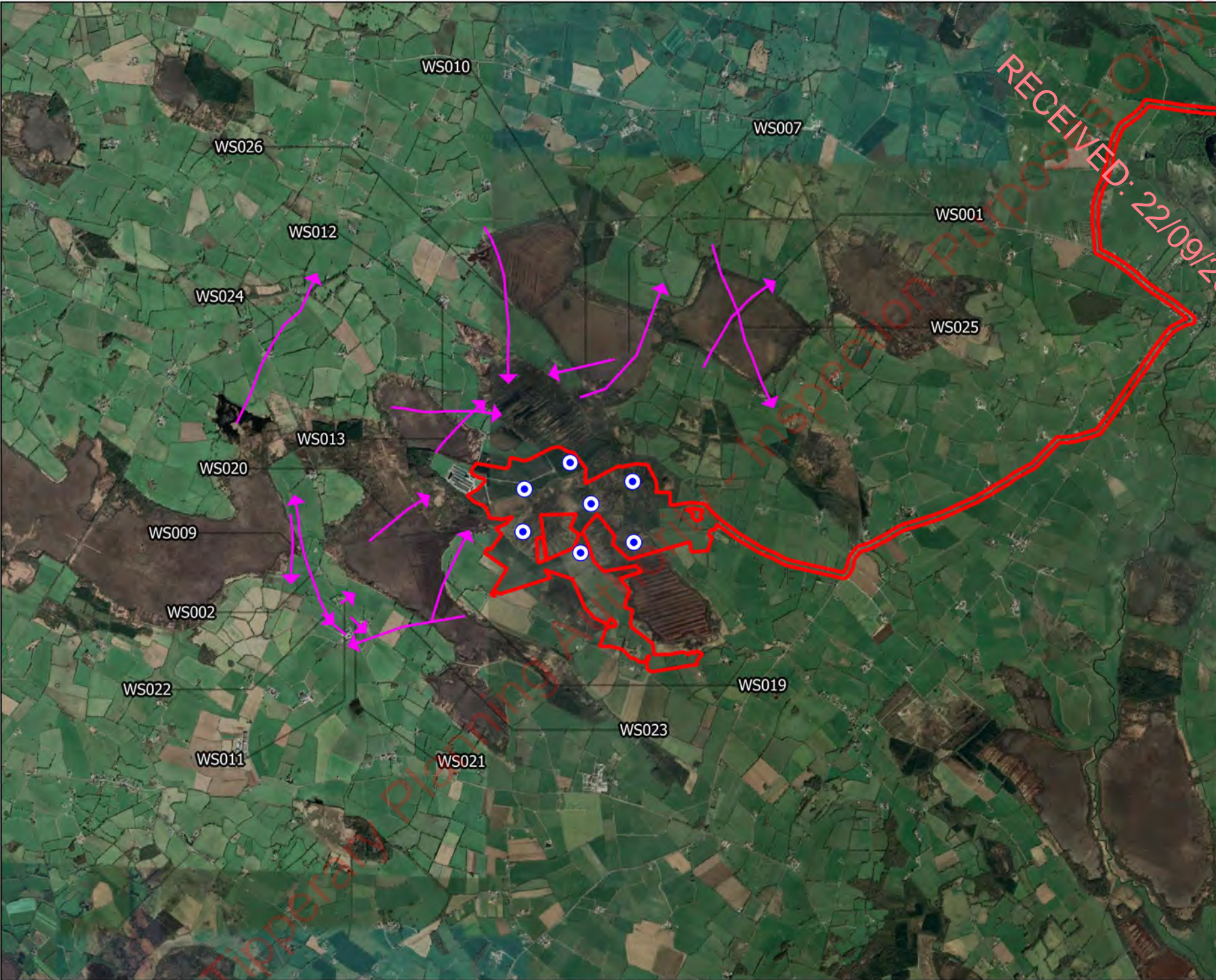
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**Whooper Swan Observations  
Waterbird Distribution Surveys**

Carrig Renewables Wind Farm

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Project No.	Drawing No.
211016	7.4.9.3
Scale	Date
1:110000	28.07.2023

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**Map Legend**

- EIA Site Boundary
- Turbine Layout
- ➔ Observation

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**Whooper Swan Observations  
Incidental Records**

Carrig Renewables Wind Farm

Drawn By	Checked By
S. Duff	D. Woods
Project No.	Drawing No.
211016	7.4.9.4
Scale	Date
1:50000	28.07.2023

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## 7-4-10 LAPWING

Table 7-4-10-1 Lapwing Vantage Point Survey Data

Vantage Point Surveys												
Ref.	VP	Date	Time	Species	Number	Duration of flight (s)	Band 1 (0-15m)	Band 2 (15-25m)	Band 3 (25-200m)	Band 4 (>200m)	Habitat and activity	Surveyor
L.001	VP2	15/10/2020	16:08	Lapwing	5	380	0	0	380	0	improved agricultural grassland; travelling, going se through site	TF
L.002	VP2	30/12/2020	13:00	Lapwing	120	20	0	0	20	0	highly modified/non-native woodland and improved agricultural grassland; travelling	AR
L.003	VP4	28/01/2021	13:06	Lapwing	37	30	0	0	30	0	highly modified/non-native woodland and bogs; travelling	AR
L.004	VP2	10/11/2021	14:05	Lapwing	200	120	0	120	0	0	improved grassland and hedgerows; circling	AR
L.005	VP4	22/11/2021	12:33	Lapwing	60	60	0	0	60	0	bogs; circling	AR
L.006	VP4	22/11/2021	13:03	Lapwing	60	60	0	0	60	0	bogs; circling	AR
L.007	VP2	27/01/2022	12:47	Lapwing	100	120	0	120	0	0	improved grassland and hedgerows; circling	AR
L.008	VP4	03/03/2022	17:06	Lapwing	3	90	0	0	90	0	improved grassland, hedgerows and bogs; flying	AR
L.009	VP3	08/06/2022	15:13	Lapwing	1	82	22	60	0	0	bogs and improved agricultural grassland; fly nw	ZE
L.010	VP1a	22/02/2023	09:02	Lapwing	15	107	0	0	107	0	improved agricultural grassland; flying, flying w; estim. number	ZE
L.011	VP1a	22/02/2023	09:28	Lapwing	40	120	0	30	90	0	improved agricultural grassland; flying, flying w	ZE
L.012	VP1a	22/02/2023	09:34	Lapwing	80	67	0	0	67	0	improved agricultural grassland; flying, flying w	ZE

Table 7-4-10-2 Lapwing Winter Walkover Survey Data

Winter Walkover Surveys						
Ref.	Date	Time	Species	Number	Habitat and activity	Surveyor
L.001	31/01/2021	04:48	Lapwing	62	improved agricultural grassland and hedgerows; travelling (wintering)	AR
L.002	31/01/2021	01:40	Lapwing	10	improved agricultural grassland; travelling (wintering)	AR
L.003	16/02/2021	10:12	Lapwing	10	improved agricultural grassland and hedgerows; travelling, 15 meters high (wintering)	AR
L.004	16/02/2021	10:13	Lapwing	30	improved agricultural grassland and hedgerows; travelling, high 70 meters (wintering)	AR

Table 7-4-10-3 Lapwing Waterbird Distribution Survey Data

Waterbird Distribution Survey							
Ref.	Location	Date	Time	Species	Number	Habitat and activity	Surveyor
L.001	Little Brosna Callows	09/10/2020	13:12	Lapwing	300	depositing/lowland rivers; rising, landing out of view	TR
L.002	Little Brosna Callows	09/10/2020	15:18	Lapwing	30	wet grassland; flight, landing	TR
L.003	Little Brosna Callows	23/10/2020	12:33	Lapwing	10	wet grassland; flight landing	TR
L.004	Little Brosna Callows	23/10/2020	13:40	Lapwing	60	depositing/lowland rivers and wet grassland; flight, landing	TR
L.005	Little Brosna Callows	23/10/2020	16:21	Lapwing	90	wet grassland; flight/feed	TR
L.006	Little Brosna Callows	11/11/2020	10:30	Lapwing	1500	watercourses, wet grassland, and marsh; flying/landing	AR
L.007	Little Brosna Callows	11/11/2020	11:52	Lapwing	300	watercourses and improved agricultural grassland; flying	AR

Waterbird Distribution Survey							
Ref.	Location	Date	Time	Species	Number	Habitat and activity	Surveyor
L.008	Little Brosna Callows	11/11/2020	12:10	Lapwing	300	watercourses and improved agricultural grassland; feeding/roosting	AR
L.009	Little Brosna Callows	11/11/2020	12:31	Lapwing	600	wet grassland and improved agricultural grassland; roosting	AR
L.010	Little Brosna Callows	11/11/2020	13:22	Lapwing	60	watercourses; flying	AR
L.011	Little Brosna Callows	14/11/2020	12:25	Lapwing	600	watercourses, improved agricultural grassland and wet grassland; roosting	AR
L.012	Little Brosna Callows	14/11/2020	12:46	Lapwing	300	watercourses and improved agricultural grassland; flying/landing	AR
L.013	Little Brosna Callows	14/11/2020	12:57	Lapwing	900	improved agricultural grassland; roosting	AR
L.014	Little Brosna Callows	14/11/2020	13:20	Lapwing	1500	watercourses and improved agricultural grassland; flying/landing	AR
L.015	Little Brosna Callows	27/11/2020	10:00	Lapwing	1500	watercourses and improved agricultural grassland; feeding /roosting	AR
L.016	Little Brosna Callows	27/11/2020	10:30	Lapwing	300	improved agricultural grassland; feeding	AR
L.017	Little Brosna Callows	27/11/2020	10:50	Lapwing	300	improved agricultural grassland; roosting	AR
L.018	Little Brosna Callows	27/11/2020	11:15	Lapwing	350	watercourses and improved agricultural grassland; feeding	AR
L.019	Little Brosna Callows	27/11/2020	11:42	Lapwing	40	watercourses and improved agricultural grassland; feeding	AR
L.020	Little Brosna Callows	27/11/2020	12:15	Lapwing	1000	watercourses and improved agricultural grassland; flying /roosting/feeding	AR
L.021	Little Brosna Callows	15/12/2020	09:50	Lapwing	150	watercourses and improved agricultural grassland; flying	AR



Waterbird Distribution Survey							
Ref.	Location	Date	Time	Species	Number	Habitat and activity	Surveyor
L.022	Little Brosna Callows	15/12/2020	10:10	Lapwing	10	watercourses and improved agricultural grassland; feeding	AR
L.023	Little Brosna Callows	15/12/2020	10:20	Lapwing	300	watercourses and improved agricultural grassland; feeding/roosting	AR
L.024	Little Brosna Callows	15/12/2020	10:50	Lapwing	60	improved agricultural grassland; feeding	AR
L.025	Little Brosna Callows	15/12/2020	11:27	Lapwing	100	watercourses and improved agricultural grassland; feeding	AR
L.026	Little Brosna Callows	15/12/2020	12:00	Lapwing	50	watercourses and improved agricultural grassland; feeding	AR
L.027	Little Brosna Callows	15/12/2020	12:43	Lapwing	300	watercourses and improved agricultural grassland; feeding/roosting	AR
L.028	Tonagh	17/12/2020	10:10	Lapwing	17	improved agricultural grassland; feeding	AR
L.029	Ballylina	17/12/2020	13:20	Lapwing	500	watercourses and improved agricultural grassland; roosting	AR
L.030	Ballylina	29/12/2020	11:00	Lapwing	48	improved grassland; feeding	AR
L.031	Kilgask	29/12/2020	12:35	Lapwing	4	watercourses and improved agricultural grassland; roosting	AR
L.032	Lackabrack	29/12/2020	13:55	Lapwing	200	improved agricultural grassland; flying	AR
L.033	Lackabrack	29/12/2020	13:55	Lapwing	20	improved agricultural grassland; roosting	AR
L.034	Little Brosna Callows	31/12/2020	10:40	Lapwing	300	watercourses and improved agricultural grassland; feeding/roosting	AR
L.035	Little Brosna Callows	31/12/2020	10:55	Lapwing	80	improved agricultural grassland; roosting	AR

Waterbird Distribution Survey							
Ref.	Location	Date	Time	Species	Number	Habitat and activity	Surveyor
L.036	Little Brosna Callows	31/12/2020	11:20	Lapwing	300	watercourses and improved agricultural grassland; feeding/roosting	AR
L.037	Little Brosna Callows	31/12/2020	12:00	Lapwing	20	improved agricultural grassland; roosting	AR
L.038	Little Brosna Callows	31/12/2020	12:45	Lapwing	100	improved agricultural grassland; roosting	AR
L.039	Little Brosna Callows	31/12/2020	13:30	Lapwing	400	watercourses and improved agricultural grassland; flying/landing	AR
L.040	Little Brosna Callows	31/12/2020	14:35	Lapwing	60	improved agricultural grassland; flying	AR
L.041	Rathcabban	31/12/2020	15:20	Lapwing	496	improved agricultural grassland; feeding	AR
L.042	Ballylina	12/01/2021	14:20	Lapwing	10	watercourses and improved agricultural grassland; feeding	AR
L.043	Little Brosna Callows	14/01/2021	09:40	Lapwing	30	improved agricultural grassland; feeding/roosting, feeding/roosting	AR
L.044	Little Brosna Callows	14/01/2021	10:20	Lapwing	200	improved agricultural grassland; feeding/roosting, feeding	AR
L.045	Little Brosna Callows	14/01/2021	11:15	Lapwing	180	improved agricultural grassland; feeding	AR
L.046	Little Brosna Callows	14/01/2021	12:05	Lapwing	500	watercourses and improved agricultural grassland; flying/landing	AR
L.047	Little Brosna Callows	14/01/2021	13:30	Lapwing	30	improved agricultural grassland; feeding/roosting, feeding	AR
L.048	Little Brosna Callows	14/01/2021	14:10	Lapwing	60	watercourses and improved agricultural grassland; feeding/roosting, feeding	AR
L.049	Kilgask	29/01/2021	11:07	Lapwing	40	watercourses; in water, flooding around lake	AR

Waterbird Distribution Survey							
Ref.	Location	Date	Time	Species	Number	Habitat and activity	Surveyor
L.050	Lackabrack	29/01/2021	12:59	Lapwing	10	improved agricultural grassland; roosting	AR
L.051	Little Brosna Callows	30/01/2021	08:47	Lapwing	75	improved agricultural grassland and watercourses; feeding/roosting, feeding/roosting	AR
L.052	Little Brosna Callows	30/01/2021	09:15	Lapwing	300	improved agricultural grassland and watercourses; feeding/roosting, roosting	AR
L.053	Little Brosna Callows	30/01/2021	11:42	Lapwing	100	watercourses and improved agricultural grassland; feeding/roosting, roosting	AR
L.054	Little Brosna Callows	30/01/2021	12:06	Lapwing	176	improved agricultural grassland; feeding/roosting, roosting	AR
L.055	Little Brosna Callows	30/01/2021	13:00	Lapwing	800	improved agricultural grassland; feeding/roosting, feeding/roosting	AR
L.056	Little Brosna Callows	30/01/2021	13:46	Lapwing	300	improved agricultural grassland and hedgerows; flying	AR
L.057	Little Brosna Callows	30/01/2021	14:00	Lapwing	38	watercourses and improved agricultural grassland; feeding/roosting, roosting	AR
L.058	Ballylina	14/02/2021	12:01	Lapwing	30	watercourses and improved agricultural grassland; roosting	AR
L.059	Ballylina	14/02/2021	12:30	Lapwing	4	improved agricultural grassland; feeding	AR
L.060	Lackabrack	14/02/2021	15:00	Lapwing	300	improved agricultural grassland; roosting/flying	AR
L.061	Clondallow	15/02/2021	08:35	Lapwing	200	improved agricultural grassland and hedgerows; flying	AR
L.062	Little Brosna Callows	15/02/2021	08:49	Lapwing	20	semi-natural grassland, improved agricultural grassland and watercourses; roosting	AR
L.063	Little Brosna Callows	15/02/2021	09:10	Lapwing	1000	semi-natural grassland, improved agricultural grassland and watercourses; roosting	AR

Waterbird Distribution Survey							
Ref.	Location	Date	Time	Species	Number	Habitat and activity	Surveyor
L.064	Little Brosna Callows	15/02/2021	09:41	Lapwing	300	semi-natural grassland, improved agricultural grassland and watercourses; feeding	AR
L.065	Little Brosna Callows	15/02/2021	09:57	Lapwing	30	semi-natural grassland, improved agricultural grassland and watercourses; flying	AR
L.066	Little Brosna Callows	15/02/2021	10:07	Lapwing	70	semi-natural grassland, improved agricultural grassland and watercourses; feeding	AR
L.067	Little Brosna Callows	15/02/2021	10:30	Lapwing	300	semi-natural grassland and watercourses; roosting	AR
L.068	Little Brosna Callows	15/02/2021	11:00	Lapwing	100	semi-natural grassland, watercourses, and improved agricultural grassland; feeding	AR
L.069	Kilgask	24/02/2021	11:00	Lapwing	1	improved agricultural grassland and watercourses; roosting	AR
L.070	Little Brosna Callows	26/02/2021	12:00	Lapwing	60	improved agricultural grassland and watercourses; roosting	AR
L.071	Lackabrack	16/03/2021	09:30	Lapwing	10	improved agricultural grassland; roosting	AR
L.072	Kylenamuck	16/03/2021	12:35	Lapwing	1	watercourses, improved agricultural grassland and hedgerows; displaying	AR
L.073	Little Brosna Callows	09/04/2021	07:30	Lapwing	2	wet grassland; feeding	AR
L.074	Little Brosna Callows	09/04/2021	07:45	Lapwing	2	wet grassland; feeding	AR
L.075	Little Brosna Callows	31/08/2021	10:09	Lapwing	18	wet grassland and watercourses; flying	AR
L.076	Little Brosna Callows	28/09/2021	11:03	Lapwing	38	wet grassland, watercourses, and improved grassland; flying	AR
L.077	Little Brosna Callows	13/10/2021	13:13	Lapwing	60	wet grassland; flushed, flock rose up from in front of hide then dropped immediately. not visible on ground, count is best estimate	PDC

Waterbird Distribution Survey							
Ref.	Location	Date	Time	Species	Number	Habitat and activity	Surveyor
L.078	Little Brosna Callows	26/10/2021	10:36	Lapwing	11	bogs; travelling	PDC
L.079	Little Brosna Callows	26/10/2021	12:42	Lapwing	3	wet grassland; travelling, briefly seen then dropped into grass	PDC
L.080	Little Brosna Callows	08/11/2021	08:54	Lapwing	36	wet grassland; flying	AR
L.081	Little Brosna Callows	08/11/2021	09:08	Lapwing	600	wet grassland; flying/landed	AR
L.082	Little Brosna Callows	08/11/2021	09:50	Lapwing	1000	wet grassland; feeding	AR
L.083	Little Brosna Callows	08/11/2021	10:38	Lapwing	800	wet grassland; roosting/feeding	AR
L.084	Little Brosna Callows	11/11/2021	08:32	Lapwing	800	wet grassland; feeding	AR
L.085	Little Brosna Callows	11/11/2021	10:25	Lapwing	2000	wet grassland; roosting/flying	AR
L.086	Little Brosna Callows	11/11/2021	12:00	Lapwing	800	wet grassland; feeding	AR
L.087	Little Brosna Callows	11/11/2021	12:46	Lapwing	400	improved grassland and wet grassland; flying	AR
L.088	Little Brosna Callows	11/11/2021	12:52	Lapwing	40	improved grassland and wet grassland; feeding	AR
L.089	Carrig	11/11/2021	13:20	Lapwing	40	wet grassland and watercourses; flying	AR
L.090	Little Brosna Callows	24/11/2021	08:50	Lapwing	300	improved grassland, watercourses, and wet grassland; roosting	AR
L.091	Little Brosna Callows	24/11/2021	09:15	Lapwing	56	wet grassland; flying	AR

Waterbird Distribution Survey							
Ref.	Location	Date	Time	Species	Number	Habitat and activity	Surveyor
L.092	Little Brosna Callows	24/11/2021	11:42	Lapwing	1500	wet grassland and watercourses; flying/landed	AR
L.093	Little Brosna Callows	24/11/2021	12:05	Lapwing	800	wet grassland; roosting	AR
L.094	Little Brosna Callows	24/11/2021	12:15	Lapwing	30	wet grassland; roosting	AR
L.095	Little Brosna Callows	24/11/2021	12:40	Lapwing	200	wet grassland; flying	AR
L.096	Lackabrack	24/11/2021	13:46	Lapwing	66	improved grassland; feeding	AR
L.097	Little Brosna Callows	29/11/2021	09:10	Lapwing	200	wet grassland and improved grassland; feeding	AR
L.098	Little Brosna Callows	29/11/2021	09:40	Lapwing	300	wet grassland; feeding	AR
L.099	Little Brosna Callows	29/11/2021	10:05	Lapwing	600	wet grassland and improved grassland; roosting	AR
L.100	Little Brosna Callows	29/11/2021	10:20	Lapwing	1000	wet grassland; feeding	AR
L.101	Little Brosna Callows	29/11/2021	11:30	Lapwing	600	wet grassland; feeding	AR
L.102	Little Brosna Callows	29/11/2021	12:20	Lapwing	100	wet grassland; feeding	AR
L.103	Lackabrack	29/11/2021	13:36	Lapwing	60	improved grassland; feeding	AR
L.104	Kilgask	29/11/2021	14:02	Lapwing	1	wet grassland and watercourses; feeding	AR
L.105	Tonagh	05/12/2021	09:42	Lapwing	6	improved grassland and hedgerows; feeding	AR

Waterbird Distribution Survey							
Ref.	Location	Date	Time	Species	Number	Habitat and activity	Surveyor
L.106	Kylebeg	05/12/2021	11:38	Lapwing	200	improved grassland; feeding	AR
L.107	Little Brosna Callows	06/12/2021	10:20	Lapwing	200	wet grassland; feeding	AR
L.108	Little Brosna Callows	06/12/2021	11:07	Lapwing	300	wet grassland; feeding	AR
L.109	Little Brosna Callows	06/12/2021	12:15	Lapwing	200	wet grassland; feeding	AR
L.110	Little Brosna Callows	06/12/2021	12:35	Lapwing	300	improved grassland; feeding	AR
L.111	Little Brosna Callows	06/12/2021	13:25	Lapwing	100	wet grassland; feeding	AR
L.112	Tonagh	20/12/2021	09:34	Lapwing	32	improved grassland; feeding	AR
L.113	Kilgask	20/12/2021	12:51	Lapwing	30	wet grassland and watercourses; feeding	AR
L.114	Little Brosna Callows	21/12/2021	10:20	Lapwing	1500	wet grassland and watercourses; flying, all birds in air flying around in circles	AR
L.115	Little Brosna Callows	21/12/2021	10:56	Lapwing	120	wet grassland; flying	AR
L.116	Little Brosna Callows	21/12/2021	11:00	Lapwing	600	wet grassland; flying	AR
L.117	Little Brosna Callows	21/12/2021	12:00	Lapwing	3000	wet grassland; feeding/flying	AR
L.118	Little Brosna Callows	21/12/2021	13:21	Lapwing	400	wet grassland; feeding	AR
L.119	Little Brosna Callows	07/01/2022	09:50	Lapwing	100	watercourses and wet grassland; feeding	AR

Waterbird Distribution Survey							
Ref.	Location	Date	Time	Species	Number	Habitat and activity	Surveyor
L.120	Little Brosna Callows	07/01/2022	10:46	Lapwing	100	watercourses and wet grassland; feeding	AR
L.121	Little Brosna Callows	07/01/2022	11:05	Lapwing	60	wet grassland; feeding	AR
L.122	Little Brosna Callows	07/01/2022	11:15	Lapwing	200	wet grassland; feeding	AR
L.123	Little Brosna Callows	07/01/2022	11:40	Lapwing	300	wet grassland; feeding	AR
L.124	Little Brosna Callows	07/01/2022	12:09	Lapwing	100	wet grassland; feeding	AR
L.125	Little Brosna Callows	07/01/2022	12:46	Lapwing	400	improved grassland and hedgerows; feeding	AR
L.126	Ballylina	09/01/2022	09:43	Lapwing	200	improved grassland and wet grassland; feeding	AR
L.127	Sharragh	30/01/2022	07:00	Lapwing	40	bogs; flying	AR
L.128	Kilgask	30/01/2022	10:50	Lapwing	2	wet grassland and improved grassland; feeding	AR
L.129	Little Brosna Callows	31/01/2022	07:45	Lapwing	40	wet grassland; feeding	AR
L.130	Little Brosna Callows	31/01/2022	08:05	Lapwing	300	wet grassland; feeding	AR
L.131	Little Brosna Callows	31/01/2022	08:45	Lapwing	300	wet grassland; feeding	AR
L.132	Little Brosna Callows	31/01/2022	09:30	Lapwing	400	wet grassland; feeding	AR
L.133	Little Brosna Callows	31/01/2022	09:50	Lapwing	200	wet grassland; feeding	AR



Waterbird Distribution Survey							
Ref.	Location	Date	Time	Species	Number	Habitat and activity	Surveyor
L.134	Little Brosna Callows	31/01/2022	10:36	Lapwing	1000	wet grassland; feeding	AR
L.135	Little Brosna Callows	31/01/2022	11:40	Lapwing	400	wet grassland; feeding	AR
L.136	Little Brosna Callows	31/01/2022	12:34	Lapwing	1000	wet grassland; feeding	AR
L.137	Little Brosna Callows	31/01/2022	13:10	Lapwing	600	improved grassland and hedgerows; feeding	AR
L.138	Kylebeg	05/02/2022	09:30	Lapwing	40	improved grassland; flying/landed	AR
L.139	Little Brosna Callows	06/02/2022	08:00	Lapwing	3000	wet grassland and watercourses; feeding/flying	AR
L.140	Little Brosna Callows	06/02/2022	09:40	Lapwing	300	wet grassland; feeding	AR
L.141	Little Brosna Callows	06/02/2022	10:00	Lapwing	600	wet grassland and improved grassland; flying/landed	AR
L.142	Little Brosna Callows	06/02/2022	10:51	Lapwing	1000	wet grassland; feeding	AR
L.143	Little Brosna Callows	06/02/2022	11:27	Lapwing	200	wet grassland; feeding	AR
L.144	Little Brosna Callows	06/02/2022	12:22	Lapwing	600	wet grassland; feeding	AR
L.145	Little Brosna Callows	06/02/2022	12:36	Lapwing	60	improved grassland and hedgerows; feeding	AR
L.146	Little Brosna Callows	18/02/2022	08:54	Lapwing	36	improved grassland and watercourses; feeding	AR
L.147	Little Brosna Callows	18/02/2022	09:56	Lapwing	300	wet grassland and watercourses; feeding/flying	AR

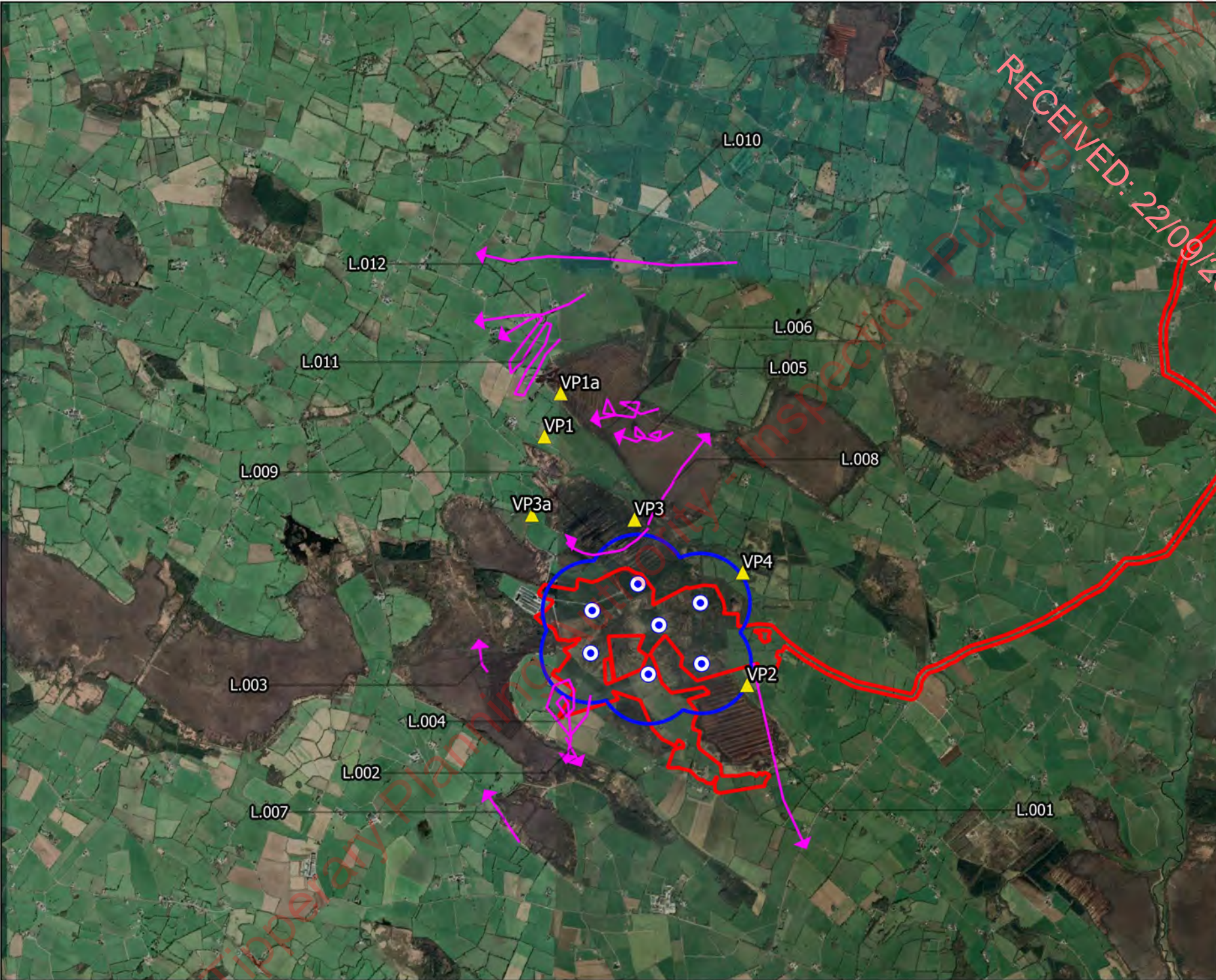
Waterbird Distribution Survey							
Ref.	Location	Date	Time	Species	Number	Habitat and activity	Surveyor
L.148	Little Brosna Callows	18/02/2022	10:17	Lapwing	600	wet grassland; roosting	AR
L.149	Little Brosna Callows	18/02/2022	10:23	Lapwing	2000	wet grassland and watercourses; feeding/flying	AR
L.150	Little Brosna Callows	18/02/2022	11:30	Lapwing	1000	wet grassland and watercourses; flying	AR
L.151	Little Brosna Callows	18/02/2022	12:32	Lapwing	1000	wet grassland and watercourses; roosting/flying	AR
L.152	Little Brosna Callows	18/02/2022	13:42	Lapwing	120	wet grassland and watercourses; feeding	AR
L.153	Sharragh	19/02/2022	13:36	Lapwing	39	watercourses and bogs; flying	AR
L.154	Clondallow	10/03/2022	08:17	Lapwing	16	wet grassland; feeding	AR
L.155	Clondallow	10/03/2022	08:32	Lapwing	42	improved grassland and wet grassland; flying	AR
L.156	Little Brosna Callows	10/03/2022	09:20	Lapwing	100	wet grassland; roosting/feeding	AR
L.157	Kylebeg	11/03/2022	11:06	Lapwing	13	wet grassland; feeding	AR
L.158	Kilgask	11/03/2022	12:32	Lapwing	10	watercourses and wet grassland; feeding	AR
L.159	Kilgask	30/03/2022	11:20	Lapwing	2	watercourses and wet grassland; feeding	AR
L.160	Little Brosna Callows	31/03/2022	11:53	Lapwing	1	wet grassland; displaying	AR
L.161	Little Brosna Callows	31/03/2022	12:16	Lapwing	2	wet grassland; feeding	AR

Waterbird Distribution Survey							
Ref.	Location	Date	Time	Species	Number	Habitat and activity	Surveyor
L.162	Little Brosna Callows	31/03/2022	13:31	Lapwing	1	wet grassland; feeding	AR
L.163	Little Brosna Callows	07/04/2022	09:24	Lapwing	3	marsh, lakes and ponds and wet grassland; flying and feeding	NL
L.164	Little Brosna Callows	07/04/2022	09:45	Lapwing	4	marsh, lakes and ponds and wet grassland; flying	NL
L.165	Little Brosna Callows	07/04/2022	13:17	Lapwing	2	watercourses and wet grassland; feeding	NL
L.166	Little Brosna Callows	11/04/2022	11:06	Lapwing	6	marsh, lakes and ponds and wet grassland; flying into wind	NL
L.167	Little Brosna Callows	22/04/2022	10:56	Lapwing	3	marsh, lakes and ponds and wet grassland; flying	NL
L.168	Little Brosna Callows	22/04/2022	12:47	Lapwing	1	watercourses and wet grassland; loafing	NL
L.169	Little Brosna Callows	26/04/2022	10:40	Lapwing	6	marsh, lakes and ponds and wet grassland; flying upriver	NL
L.170	Little Brosna Callows	11/05/2022	08:49	Lapwing	3	marsh, lakes and ponds and wet grassland; flying	NL
L.171	Little Brosna Callows	18/10/2022	10:26	Lapwing	40	watercourses; flying	NL
L.172	Little Brosna Callows	18/10/2022	10:51	Lapwing	60	semi-natural grassland and watercourses; flying	NL
L.173	Little Brosna Callows	18/10/2022	12:28	Lapwing	400	watercourses; flying and feeding	NL
L.174	Little Brosna Callows	21/10/2022	09:35	Lapwing	350	marsh and watercourses; flying	NL
L.175	Little Brosna Callows	21/10/2022	11:48	Lapwing	500	marsh and watercourses; flying	NL

Waterbird Distribution Survey							
Ref.	Location	Date	Time	Species	Number	Habitat and activity	Surveyor
L.176	Little Brosna Callows	21/10/2022	12:15	Lapwing	60	marsh and watercourses; roosting	NL
L.177	Little Brosna Callows	21/10/2022	12:43	Lapwing	6	marsh and watercourses; feeding	NL
L.178	Little Brosna Callows	21/10/2022	12:44	Lapwing	17	marsh and watercourses; roosting	NL
L.179	Little Brosna Callows	25/10/2022	10:07	Lapwing	33	marsh and watercourses; flying & feeding	NL
L.180	Little Brosna Callows	25/10/2022	10:17	Lapwing	24	marsh and watercourses; feeding	NL
L.181	Little Brosna Callows	25/10/2022	10:45	Lapwing	25	marsh and watercourses; feeding	NL
L.182	Little Brosna Callows	25/10/2022	11:46	Lapwing	62	marsh and watercourses; feeding	NL
L.183	Little Brosna Callows	25/10/2022	12:07	Lapwing	35	marsh and improved agricultural grassland; feeding	NL
L.184	Little Brosna Callows	25/10/2022	12:47	Lapwing	100	watercourses and marsh; feeding	NL
L.185	Little Brosna Callows	28/10/2022	10:09	Lapwing	45	watercourses and marsh; flying and feeding	NL
L.186	Little Brosna Callows	28/10/2022	12:59	Lapwing	35	watercourses and marsh; feeding and flying	NL
L.187	Little Brosna Callows	28/10/2022	13:14	Lapwing	1	watercourses and marsh; feeding	NL
L.188	Little Brosna Callows	28/10/2022	13:15	Lapwing	4	watercourses and marsh; feeding	NL
L.189	Little Brosna Callows	03/11/2022	12:15	Lapwing	100	lakes and ponds; flying	CF

Waterbird Distribution Survey							
Ref.	Location	Date	Time	Species	Number	Habitat and activity	Surveyor
L.190	Little Brosna Callows	09/11/2022	11:08	Lapwing	600	lakes and ponds; roosting	CF
L.191	Little Brosna Callows	09/11/2022	12:19	Lapwing	50	lakes and ponds; roosting	CF
L.192	Little Brosna Callows	22/11/2022	10:34	Lapwing	20	marsh and watercourses; flying	NL
L.193	Little Brosna Callows	22/11/2022	11:25	Lapwing	72	marsh and watercourses; roosting	NL
L.194	Little Brosna Callows	22/11/2022	11:36	Lapwing	10	marsh and watercourses; foraging	NL
L.195	Little Brosna Callows	22/11/2022	12:18	Lapwing	18	marsh and watercourses; feeding	NL
L.196	Little Brosna Callows	29/11/2022	10:15	Lapwing	1500	marsh and watercourses; flying, feeding & roosting	NL
L.197	Little Brosna Callows	29/11/2022	11:58	Lapwing	155	marsh and watercourses; flying, feeding & roosting	NL
L.198	Little Brosna Callows	29/11/2022	13:18	Lapwing	25	marsh and watercourses; flying	NL
L.199	Little Brosna Callows	05/12/2022	13:06	Lapwing	200	lakes and ponds; roosting	CF
L.200	Little Brosna Callows	05/12/2022	14:41	Lapwing	200	lakes and ponds; roosting	CF
L.201	Little Brosna Callows	08/12/2022	12:44	Lapwing	30	lakes and ponds; feeding	CF
L.202	Little Brosna Callows	15/12/2022	14:51	Lapwing	800	lakes and ponds; feeding	CF
L.203	Little Brosna Callows	21/12/2022	15:05	Lapwing	500	lakes and ponds; feeding	CF

Waterbird Distribution Survey							
Ref.	Location	Date	Time	Species	Number	Habitat and activity	Surveyor
L.204	Little Brosna Callows	04/01/2023	12:07	Lapwing	1000	lakes and ponds; feeding	CF
L.205	Little Brosna Callows	04/01/2023	12:09	Lapwing	50	lakes and ponds; feeding	CF
L.206	Little Brosna Callows	11/01/2023	12:26	Lapwing	1100	lakes and ponds; in flight	CF
L.207	Little Brosna Callows	18/01/2023	12:42	Lapwing	22	improved grassland; in flight	CF
L.208	Little Brosna Callows	18/01/2023	12:45	Lapwing	800	lakes and ponds; feeding	CF
L.209	Little Brosna Callows	25/01/2023	13:10	Lapwing	800	lakes and ponds; feeding	CF
L.210	Little Brosna Callows	25/01/2023	13:12	Lapwing	200	lakes and ponds; feeding	CF
L.211	Little Brosna Callows	02/02/2023	17:35	Lapwing	1500	lakes and ponds; feeding	CF
L.212	Little Brosna Callows	08/02/2023	17:39	Lapwing	80	lakes and ponds; feeding	CF
L.213	Little Brosna Callows	08/02/2023	17:41	Lapwing	500	lakes and ponds; feeding	CF
L.214	Little Brosna Callows	14/02/2023	17:50	Lapwing	2000	lakes and ponds; feeding	CF
L.215	Little Brosna Callows	22/02/2023	17:54	Lapwing	800	lakes and ponds; feeding	CF
L.216	Little Brosna Callows	02/03/2023	16:02	Lapwing	2000	lakes and ponds; flying	CF
L.217	Little Brosna Callows	10/03/2023	16:08	Lapwing	40	lakes and ponds; feeding	CF



- ### Map Legend
- EIAR Site Boundary
  - Turbine Layout
  - 500m Radius of Turbines
  - Flight Observation



Drawing Title: <b>Lapwing Observations Vantage Point Surveys</b>	
Project Title: <b>Carrig Renewables Wind Farm</b>	
Drawn By: <b>S. Duff</b>	Checked By: <b>D. Woods</b>
Project No.: <b>211016</b>	Drawing No.: <b>7.4.10.1</b>
Scale: <b>1:50000</b>	Date: <b>28.07.2023</b>
<b>MKO</b> Planning and Environmental Consultants Tuam Road, Galway Ireland, F91 VV84 +353 (0) 91 235611 email: info@mkofireland.ie Website: www.mkofireland.ie	

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**Map Legend**

- EIAR Site Boundary
- Turbine Layout
- 500m Survey Area
- Flight Observation

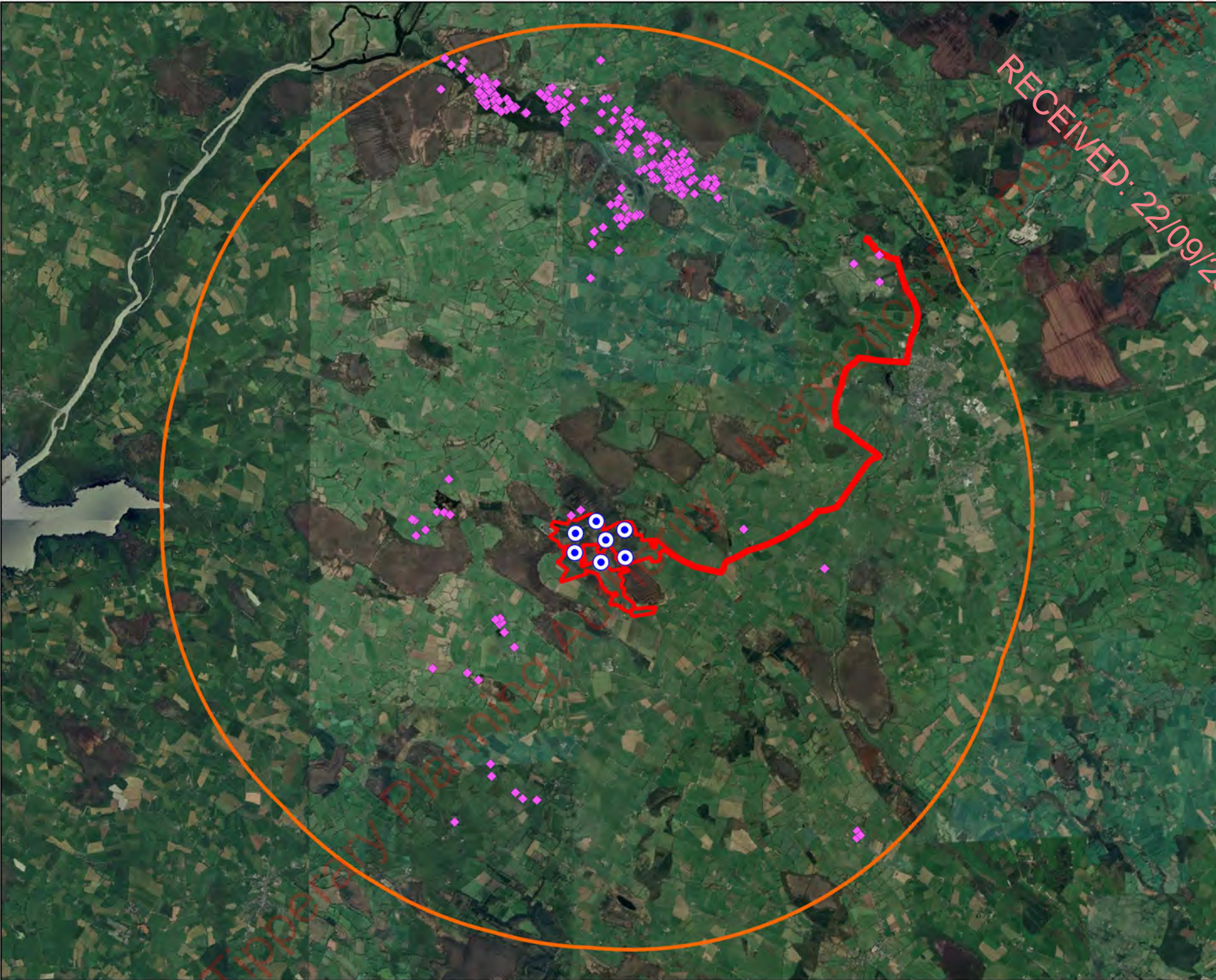
RECEIVED: 22/09/2023







Drawing Title: <b>Lapwing Observations Winter Walkover Surveys</b>	
Project Title: <b>Carrig Renewables Wind Farm</b>	
Drawn By: <b>S. Duff</b>	Checked By: <b>D. Woods</b>
Project No.: <b>211016</b>	Drawing No.: <b>7.4.10.2</b>
Scale: <b>1:35000</b>	Date: <b>28.07.2023</b>
<b>MKO</b> Planning and Environmental Consultants Tuam Road, Galway Ireland, H91 VV84 +353 (0) 91 235611 email: info@mkofireland.ie Website: www.mkofireland.ie	

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- ### Map Legend
-  EIAR Site Boundary
  -  Turbine Layout
  -  8km Survey Area
  -  Observation



Drawing Title	
<b>Lapwing Observations Waterbird Distribution Surveys</b>	
Project Title	
Carrig Renewables Wind Farm	
Drawn By	Checked By
S. Duff	D. Woods
Project No.	Drawing No.
211016	7.4.10.3
Scale	Date
1:110000	28.07.2023
	
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## 7-4-11 SHOVELER

Table 7-4-11-1 Shoveler Waterbird Distribution Survey Data

Waterbird Distribution Surveys							
Ref.	Location	Date	Time	Species	Number	Habitat and activity	Surveyor
SV001	Little Brosna Callows	09/10/2020	15:15	Shoveler	30	wet grassland; roosting, on callow	TR
SV002	Little Brosna Callows	23/10/2020	11:31	Shoveler	26	depositing/lowland rivers; feeding, ow	TR
SV003	Little Brosna Callows	23/10/2020	16:14	Shoveler	115	wet grassland; feed	TR
SV004	Little Brosna Callows	23/10/2020	16:21	Shoveler	30	wet grassland; feed/roost, approx	TR
SV005		11/11/2020	10:30	Shoveler	150	watercourses and wet grassland; feeding	AR
SV006		11/11/2020	12:10	Shoveler	30	watercourses; feeding	AR
SV007		11/11/2020	12:31	Shoveler	120	watercourses; feeding	AR
SV008		14/11/2020	13:51	Shoveler	40	watercourses; feeding	AR
SV009		27/11/2020	10:00	Shoveler	28	watercourses; feeding	AR
SV010		27/11/2020	10:30	Shoveler	30	watercourses; feeding	AR
SV011		27/11/2020	10:50	Shoveler	15	watercourses; feeding	AR
SV012		27/11/2020	11:15	Shoveler	30	watercourses; feeding	AR
SV013		27/11/2020	11:42	Shoveler	10	watercourses; feeding	AR

Waterbird Distribution Surveys							
Ref.	Location	Date	Time	Species	Number	Habitat and activity	Surveyor
SV014		27/11/2020	12:15	Shoveler	100	watercourses; feeding	AR
SV015		27/11/2020	13:20	Shoveler	40	watercourses; feeding	AR
SV016		27/11/2020	16:10	Shoveler	60	watercourses; feeding	AR
SV017		15/12/2020	09:20	Shoveler	50	watercourses and improved agricultural grassland; feeding	AR
SV018		15/12/2020	09:50	Shoveler	40	watercourses and improved agricultural grassland; feeding	AR
SV019		15/12/2020	10:20	Shoveler	120	watercourses; feeding	AR
SV020		15/12/2020	10:50	Shoveler	10	watercourses; feeding	AR
SV021		15/12/2020	12:00	Shoveler	20	watercourses and improved agricultural grassland; feeding	AR
SV022		15/12/2020	12:43	Shoveler	40	watercourses; feeding	AR
SV023		31/12/2020	10:40	Shoveler	80	watercourses; feeding	AR
SV024		31/12/2020	12:45	Shoveler	80	watercourses; feeding	AR
SV025		31/12/2020	13:30	Shoveler	68	watercourses; feeding	AR
SV026		31/12/2020	14:47	Shoveler	342	watercourses; feeding	AR
SV027		14/01/2021	08:30	Shoveler	2	watercourses and improved agricultural grassland; feeding/roosting, feeding	AR

Waterbird Distribution Surveys							
Ref.	Location	Date	Time	Species	Number	Habitat and activity	Surveyor
SV028		14/01/2021	09:40	Shoveler	20	watercourses and improved agricultural grassland; feeding/roosting, feeding	AR
SV029		14/01/2021	12:05	Shoveler	40	watercourses; feeding/roosting, feeding	AR
SV030		14/01/2021	12:45	Shoveler	30	watercourses; feeding/roosting, feeding	AR
SV031		14/01/2021	13:30	Shoveler	24	watercourses; feeding/roosting, feeding	AR
SV032		14/01/2021	14:10	Shoveler	256	watercourses; feeding/roosting, feeding	AR
SV033	Little Brosna Callows	29/01/2021	11:07	Shoveler	67	watercourses; in water, flooding around lake	AR
SV034		30/01/2021	10:05	Shoveler	125	watercourses; feeding/roosting, feeding/roosting	AR
SV035		30/01/2021	14:00	Shoveler	200	watercourses; feeding/roosting, feeding	AR
SV036		14/02/2021	13:40	Shoveler	30	improved agricultural grassland, hedgerows and watercourses; feeding	AR
SV037		15/02/2021	09:10	Shoveler	50	semi-natural grassland, improved agricultural grassland and watercourses; feeding	AR
SV038		15/02/2021	09:41	Shoveler	42	semi-natural grassland, improved agricultural grassland and watercourses; feeding	AR
SV039		15/02/2021	10:07	Shoveler	37	semi-natural grassland, improved agricultural grassland and watercourses; feeding	AR
SV040		15/02/2021	10:30	Shoveler	200	semi-natural grassland and watercourses; feeding	AR
SV041		15/02/2021	11:00	Shoveler	40	semi-natural grassland, watercourses and improved agricultural grassland; feeding	AR

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Waterbird Distribution Surveys							
Ref.	Location	Date	Time	Species	Number	Habitat and activity	Surveyor
SV042		15/02/2021	13:08	Shoveler	67	improved agricultural grassland, highly modified/non-native woodland and hedgerows; feeding	AR
SV043		24/02/2021	11:00	Shoveler	12	improved agricultural grassland and watercourses; feeding	AR
SV044		26/02/2021	09:17	Shoveler	72	improved agricultural grassland, semi-natural grassland and watercourses; feeding	AR
SV045		26/02/2021	09:30	Shoveler	37	improved agricultural grassland, semi-natural grassland and watercourses; feeding	AR
SV046		26/02/2021	10:05	Shoveler	42	semi-natural grassland and watercourses; feeding	AR
SV047		26/02/2021	12:00	Shoveler	41	improved agricultural grassland and watercourses; feeding	AR
SV048		26/02/2021	13:37	Shoveler	68	improved agricultural grassland, watercourses and semi-natural grassland; feeding	AR
SV049		16/03/2021	10:10	Shoveler	32	watercourses, reed and large sedge swamps and improved agricultural grassland; feeding	AR
SV050		20/03/2021	09:10	Shoveler	56	watercourses; feeding	AR
SV051		20/03/2021	11:32	Shoveler	280	watercourses and wet grassland; feeding	AR
SV052		20/03/2021	12:46	Shoveler	70	watercourses; feeding	AR
SV053		20/03/2021	13:38	Shoveler	137	watercourses and improved agricultural grassland; feeding	AR
SV054		22/03/2021	10:30	Shoveler	32	watercourses; feeding	AR
SV055		24/03/2021	08:20	Shoveler	1	improved agricultural grassland; roosting	AR

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Waterbird Distribution Surveys							
Ref.	Location	Date	Time	Species	Number	Habitat and activity	Surveyor
SV056		24/03/2021	10:00	Shoveler	150	watercourses and semi-natural grassland; feeding	AR
SV057		24/03/2021	12:15	Shoveler	80	watercourses and semi-natural grassland; feeding	AR
SV058		24/03/2021	12:15	Shoveler	180	watercourses; feeding	AR
SV059		09/04/2021	11:05	Shoveler	4	watercourses and improved grassland; feeding	AR
SV060		08/11/2021	10:38	Shoveler	200	wet grassland; feeding	AR
SV061		08/11/2021	13:21	Shoveler	132	wet grassland and watercourses; feeding	AR
SV062		11/11/2021	08:32	Shoveler	63	wet grassland; feeding	AR
SV063		11/11/2021	10:25	Shoveler	42	wet grassland; feeding	AR
SV064		24/11/2021	13:14	Shoveler	17	wet grassland and watercourses; feeding	AR
SV065		24/11/2021	14:10	Shoveler	3	watercourses; feeding	AR
SV066		06/12/2021	11:07	Shoveler	37	wet grassland; feeding	AR
SV067		07/01/2022	07:30	Shoveler	4	watercourses; feeding	AR
SV068		07/01/2022	10:46	Shoveler	86	watercourses and wet grassland; feeding	AR
SV069		07/01/2022	11:40	Shoveler	46	wet grassland; feeding	AR

Waterbird Distribution Surveys							
Ref.	Location	Date	Time	Species	Number	Habitat and activity	Surveyor
SV070		07/01/2022	12:20	Shoveler	17	improved grassland, watercourses and wet grassland; feeding	AR
SV071		07/01/2022	12:39	Shoveler	56	wet grassland and watercourses; feeding	AR
SV072		09/01/2022	11:47	Shoveler	7	watercourses; feeding	AR
SV073		31/01/2022	08:45	Shoveler	30	wet grassland; feeding	AR
SV074		31/01/2022	11:40	Shoveler	30	wet grassland; feeding	AR
SV075		31/01/2022	12:34	Shoveler	6	wet grassland; feeding	AR
SV076		05/02/2022	07:30	Shoveler	4	watercourses; feeding	AR
SV077		05/02/2022	10:46	Shoveler	28	watercourses and wet grassland; feeding	AR
SV078	Little Brosna Callows	06/02/2022	12:22	Shoveler	40	wet grassland; feeding	AR
SV079	Little Brosna Callows	18/02/2022	11:30	Shoveler	102	wet grassland and watercourses; feeding	AR
SV080	Little Brosna Callows	18/02/2022	12:32	Shoveler	40	wet grassland and watercourses; feeding	AR
SV081	Little Brosna Callows	19/02/2022	12:53	Shoveler	17	wet grassland and watercourses; feeding	AR
SV082	Little Brosna Callows	10/03/2022	09:10	Shoveler	14	improved grassland and wet grassland; feeding	AR
SV083	Little Brosna Callows	10/03/2022	10:30	Shoveler	72	wet grassland; feeding	AR

Waterbird Distribution Surveys							
Ref.	Location	Date	Time	Species	Number	Habitat and activity	Surveyor
SV084	Little Brosna Callows	10/03/2022	11:35	Shoveler	200	wet grassland; feeding	AR
SV085	Little Brosna Callows	10/03/2022	12:40	Shoveler	100	wet grassland; feeding	AR
SV086	Little Brosna Callows	11/03/2022	12:32	Shoveler	43	watercourses and wet grassland; feeding	AR
SV087	Little Brosna Callows	30/03/2022	11:20	Shoveler	17	watercourses and wet grassland; feeding	AR
SV088	Little Brosna Callows	31/03/2022	13:31	Shoveler	62	wet grassland; feeding	AR
SV089	Little Brosna Callows	21/10/2022	09:48	Shoveler	5	marsh and watercourses; feeding	NL
SV090	Little Brosna Callows	25/10/2022	10:15	Shoveler	3	marsh and watercourses; feeding	NL
SV091	Little Brosna Callows	25/10/2022	10:25	Shoveler	3	marsh and watercourses; feeding	NL
SV092	Little Brosna Callows	28/10/2022	10:21	Shoveler	6	watercourses and marsh; feeding	NL
SV093	Little Brosna Callows	28/10/2022	10:59	Shoveler	15	watercourses and marsh; feeding and roosting	NL
SV094	Little Brosna Callows	03/11/2022	12:10	Shoveler	20	lakes and ponds; feeding	CF
SV095	Little Brosna Callows	09/11/2022	11:16	Shoveler	15	lakes and ponds; feeding	CF
SV096	Little Brosna Callows	22/11/2022	10:05	Shoveler	38	marsh and watercourses; feeding & roosting	NL
SV097	Little Brosna Callows	22/11/2022	10:19	Shoveler	26	marsh and watercourses; feeding & roosting	NL

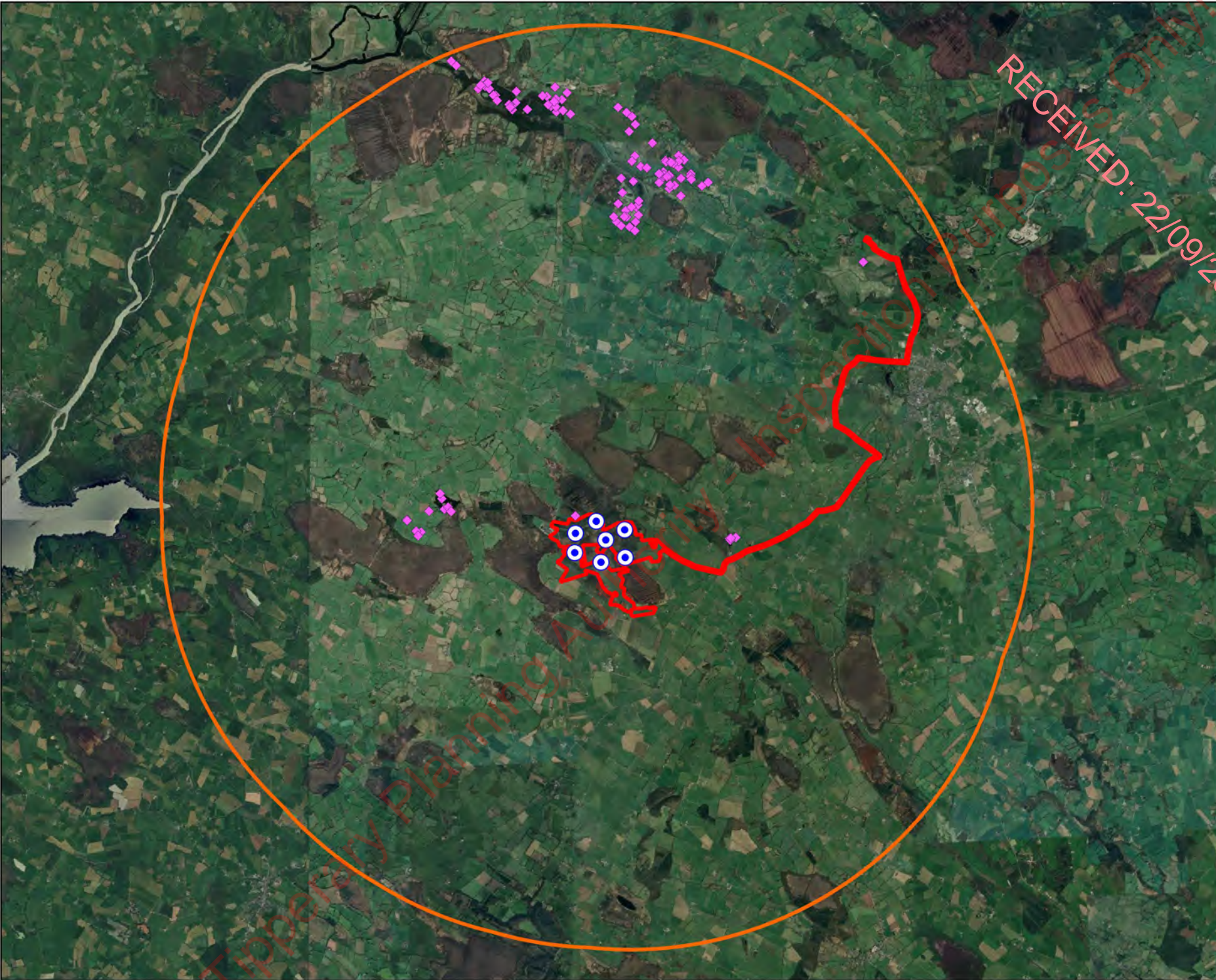


Waterbird Distribution Surveys							
Ref.	Location	Date	Time	Species	Number	Habitat and activity	Surveyor
SV098	Little Brosna Callows	22/11/2022	10:21	Shoveler	26	marsh and watercourses; feeding & roosting	NL
SV099	Little Brosna Callows	29/11/2022	10:43	Shoveler	34	marsh and watercourses; feeding & roosting	NL
SV100	Little Brosna Callows	29/11/2022	10:55	Shoveler	61	marsh and watercourses; feeding & roosting	NL
SV101	Little Brosna Callows	29/11/2022	12:29	Shoveler	45	marsh and watercourses; feeding	NL
SV102	Little Brosna Callows	05/12/2022	13:11	Shoveler	50	lakes and ponds; feeding	CF
SV103	Little Brosna Callows	15/12/2022	14:50	Shoveler	200	lakes and ponds; feeding	CF
SV104	Little Brosna Callows	21/12/2022	15:03	Shoveler	100	lakes and ponds; feeding	CF
SV105	Little Brosna Callows	04/01/2023	12:06	Shoveler	200	lakes and ponds; feeding	CF
SV106	Little Brosna Callows	11/01/2023	12:23	Shoveler	80	lakes and ponds; feeding	CF
SV107	Little Brosna Callows	18/01/2023	12:44	Shoveler	50	lakes and ponds; feeding	CF
SV108	Little Brosna Callows	25/01/2023	13:09	Shoveler	20	lakes and ponds; feeding	CF
SV109	Little Brosna Callows	02/02/2023	17:36	Shoveler	15	lakes and ponds; feeding	CF
SV110	Little Brosna Callows	08/02/2023	17:39	Shoveler	20	lakes and ponds; feeding	CF
SV111	Little Brosna Callows	08/02/2023	17:41	Shoveler	20	lakes and ponds; feeding	CF



Waterbird Distribution Surveys							
Ref.	Location	Date	Time	Species	Number	Habitat and activity	Surveyor
SV112	Little Brosna Callows	14/02/2023	17:51	Shoveler	50	lakes and ponds; feeding	CF
SV113	Little Brosna Callows	22/02/2023	17:55	Shoveler	50	lakes and ponds; feeding	CF

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Map Legend

-  EIA Site Boundary
-  Turbine Layout
-  8km Survey Area
-  Observation



**Shoveler Observations**  
**Waterbird Distribution Surveys**

Project Title:  
 Carrig Renewables Wind Farm

Drawn By	Checked By
S. Duff	D. Woods
Project No.	Drawing No.
211016	7.4.11.1
Scale	Date
1:110000	28.07.2023

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## 7-4-12 BLACK-HEADED GULL

Table 7-4-12-1 Black-headed Gull Vantage Point Survey Data

Vantage Point Surveys												
Ref.	VP	Date	Time	Species	Number	Duration of flight (s)	Band 1 (0-15m)	Band 2 (15-25m)	Band 3 (25-200m)	Band 4 (>200m)	Habitat and activity	Surveyor
BH001	VP1	06/06/2021	08:37	Black-headed Gull	1	40	0	40	0	0	improved grassland and hedgerows; travelling, adult summer	AF
BH002	VP4	09/06/2021	10:59	Black-headed Gull	1	120	0	0	120	0	improved grassland and hedgerows; travelling, adult summer	AR
BH003	VP4	09/06/2021	13:03	Black-headed Gull	4	180	0	0	180	0	conifer plantation, improved grassland and bogs; travelling, adult summer	AR
BH004	VP2	10/11/2021	15:20	Black-headed Gull	24	20	20	0	0	0	improved grassland and hedgerows; travelling	AR
BH005	VP3	30/11/2021	12:54	Black-headed Gull	7	20	20	0	0	0	conifer plantation and bogs; travelling	AR
BH006	VP2	19/12/2021	10:36	Black-headed Gull	14	40	0	40	0	0	improved grassland and hedgerows; travelling	AR
BH007	VP2	27/01/2022	13:09	Black-headed Gull	37	60	0	60	0	0	bogs, improved grassland and hedgerows; travelling	AR
BH008	VP2	27/01/2022	15:17	Black-headed Gull	100	120	0	0	120	0	bogs, improved grassland and conifer plantation; travelling	AR
BH009	VP2	27/01/2022	16:00	Black-headed Gull	3	60	0	0	60	0	bogs, improved grassland and conifer plantation; travelling	AR
BH010	VP2	27/01/2022	16:16	Black-headed Gull	32	60	0	60	0	0	bogs, improved grassland and hedgerows; travelling	AR
BH011	VP4	28/01/2022	14:22	Black-headed Gull	16	60	0	0	60	0	improved grassland and hedgerows; travelling	AR
BH012	VP4	28/01/2022	14:27	Black-headed Gull	3	30	0	0	30	0	improved grassland and hedgerows; travelling	AR

Vantage Point Surveys												
Ref.	VP	Date	Time	Species	Number	Duration of flight (s)	Band 1 (0-15m)	Band 2 (15-25m)	Band 3 (25-200m)	Band 4 (>200m)	Habitat and activity	Surveyor
BH013	VP4	28/01/2022	15:17	Black-headed Gull	4	20	0	0	20	0	improved grassland and hedgerows; travelling	AR
BH014	VP2	29/03/2022	18:43	Black-headed Gull	3	60	0	0	60	0	improved grassland and hedgerows; soaring	AR
BH015	VP1	12/05/2022	18:16	Black-headed Gull	2	41	41	0	0	0	improved agricultural grassland and cutover bog; fly sw	ZE
BH016	VP2	10/06/2022	11:09	Black-headed Gull	3	173	30	143	0	0	cutover bog and highly modified/non-native woodland; fly ne	ZE
BH017	VP2	10/06/2022	11:24	Black-headed Gull	1	61	0	61	0	0	cutover bog, highly modified/non-native woodland and improved agricultural grassland; flye	ZE
BH018	VP2	10/06/2022	13:09	Black-headed Gull	1	37	0	37	0	0	bogs and highly modified/non-native woodland; fly nw	ZE
BH019	VP3	22/07/2022	13:48	Black-headed Gull	1	213	0	0	0	213	bogs and improved agricultural grassland; fly nw	ZE

Table 7-4-12-2 Black-headed Gull Winter Walkover Survey Data

Winter Walkover Surveys							
Ref.	Date	Time	Species	Number	Habitat and activity		Surveyor
BH001	16/02/2021	14:26	Black-headed Gull	40	improved agricultural grassland and hedgerows; feeding/flying (wintering)		AR

Table 7-4-12-3 Black-headed Gull Waterbird Distribution Survey Data

Waterbird Distribution Surveys							
Ref.	Location	Date	Time	Species	Number	Habitat and activity	Surveyor
BH001	Little Brosna Callows	23/10/2020	12:32	Black-headed Gull	120	depositing/lowland rivers; flight/perch	TR
BH002	Little Brosna Callows	23/10/2020	13:39	Black-headed Gull	90	depositing/lowland rivers and wet grassland; flight/feeding	TR
BH003	Little Brosna Callows	11/11/2020	12:10	Black-headed Gull	1	watercourses; flying	AR
BH004	Little Brosna Callows	11/11/2020	12:31	Black-headed Gull	16	watercourses; flying	AR
BH005	Sharavogue	14/11/2020	10:30	Black-headed Gull	20	watercourses and improved agricultural grassland; feeding	AR
BH006	Little Brosna Callows	14/11/2020	12:57	Black-headed Gull	40	watercourses; flying	AR
BH007	Little Brosna Callows	14/11/2020	13:20	Black-headed Gull	16	watercourses; flying	AR
BH008	Little Brosna Callows	27/11/2020	10:00	Black-headed Gull	1	watercourses; flying	AR
BH009	Little Brosna Callows	27/11/2020	12:15	Black-headed Gull	10	watercourses and improved agricultural grassland; flying	AR
BH010	Little Brosna Callows	30/11/2020	14:10	Black-headed Gull	36	improved agricultural grassland; feeding	AR
BH011	Little Brosna Callows	15/12/2020	09:20	Black-headed Gull	1	watercourses;	AR
BH012	Little Brosna Callows	15/12/2020	09:50	Black-headed Gull	30	watercourses; flying	AR
BH013	Little Brosna Callows	15/12/2020	10:50	Black-headed Gull	6	improved agricultural grassland; roosting	AR
BH014	Sharavogue	17/12/2020	09:40	Black-headed Gull	2	watercourses and improved agricultural grassland; flying	AR

Waterbird Distribution Surveys							
Ref.	Location	Date	Time	Species	Number	Habitat and activity	Surveyor
BH015	Ballylina	17/12/2020	13:20	Black-headed Gull	50	watercourses and improved agricultural grassland; feeding	AR
BH016	Clonkelly	29/12/2020	08:30	Black-headed Gull	40	watercourses and improved agricultural grassland; feeding/flying	AR
BH017	Sharavogue	29/12/2020	09:35	Black-headed Gull	32	watercourses and improved agricultural grassland; feeding/flying	AR
BH018	Kilgask	29/12/2020	12:35	Black-headed Gull	4	watercourses and improved agricultural grassland; flying	AR
BH019	Lackabrack	29/12/2020	13:55	Black-headed Gull	130	improved agricultural grassland; feeding	AR
BH020	Little Brosna Callows	31/12/2020	13:30	Black-headed Gull	6	improved agricultural grassland; roosting	AR
BH021	Dovegrove Callows	31/12/2020	16:10	Black-headed Gull	66	watercourses; feeding/flying	AR
BH022	Sharavogue	12/01/2021	09:14	Black-headed Gull	2	improved agricultural grassland; feeding	AR
BH023	Lackabrack	12/01/2021	12:05	Black-headed Gull	14	improved agricultural grassland; feeding	AR
BH024	Dovegrove Callows	14/01/2021	08:30	Black-headed Gull	30	improved agricultural grassland; feeding/roosting, feeding	AR
BH025	Dovegrove Callows	14/01/2021	09:00	Black-headed Gull	24		AR
BH026	Little Brosna Callows	14/01/2021	09:20	Black-headed Gull	3	watercourses and improved agricultural grassland; feeding/roosting, feeding	AR
BH027	Little Brosna Callows	14/01/2021	12:45	Black-headed Gull	3	watercourses and improved agricultural grassland; flying	AR
BH028	Little Brosna Callows	14/01/2021	14:10	Black-headed Gull	70	watercourses; feeding/roosting, feeding	AR

Waterbird Distribution Surveys							
Ref.	Location	Date	Time	Species	Number	Habitat and activity	Surveyor
BH029	Sharavogue	29/01/2021	09:10	Black-headed Gull	16	improved agricultural grassland and watercourses; feeding	AR
BH030	Gurteen	29/01/2021	12:59	Black-headed Gull	4	improved agricultural grassland; feeding in flooded field	AR
BH031	Lackabrack	29/01/2021	12:59	Black-headed Gull	14	improved agricultural grassland; roosting	AR
BH032	Little Brosna Callows	30/01/2021	12:06	Black-headed Gull	3	watercourses and improved agricultural grassland; feeding/roosting, feeding	AR
BH033	Little Brosna Callows	30/01/2021	14:00	Black-headed Gull	21	watercourses; feeding/roosting, feeding	AR
BH034	Kilnalacka	14/02/2021	09:17	Black-headed Gull	30	improved agricultural grassland and hedgerows; feeding	AR
BH035	Sharavogue	14/02/2021	09:42	Black-headed Gull	14	improved agricultural grassland, hedgerows, and watercourses; feeding	AR
BH036	Tinnakilly	14/02/2021	10:12	Black-headed Gull	20	improved agricultural grassland and hedgerows; flying	AR
BH037	Ballylina	14/02/2021	12:01	Black-headed Gull	10	watercourses and improved agricultural grassland; feeding	AR
BH038	Ballylina	14/02/2021	12:20	Black-headed Gull	150	improved agricultural grassland and hedgerows; feeding	AR
BH039	Lackabrack	14/02/2021	15:00	Black-headed Gull	20	improved agricultural grassland; feeding/flying	AR
BH040	Little Brosna Callows	15/02/2021	08:49	Black-headed Gull	16	semi-natural grassland, improved agricultural grassland and watercourses; flying/feeding	AR
BH041	Little Brosna Callows	15/02/2021	09:57	Black-headed Gull	87	semi-natural grassland, improved agricultural grassland and watercourses; flying/feeding	AR
BH042	Little Brosna Callows	15/02/2021	10:07	Black-headed Gull	62	semi-natural grassland, improved agricultural grassland and watercourses; feeding	AR



Waterbird Distribution Surveys							
Ref.	Location	Date	Time	Species	Number	Habitat and activity	Surveyor
BH043	Little Brosna Callows	15/02/2021	10:30	Black-headed Gull	32	semi-natural grassland and watercourses; flying	AR
BH044	Little Brosna Callows	15/02/2021	13:08	Black-headed Gull	14	improved agricultural grassland, highly modified/non-native woodland and hedgerows; feeding	AR
BH045	Sharavogue	24/02/2021	08:35	Black-headed Gull	4	improved agricultural grassland and watercourses; flying	AR
BH046	Kylebeg	24/02/2021	13:08	Black-headed Gull	3	improved agricultural grassland, watercourses, and marsh; feeding	AR
BH047	Dovegrove Callows	26/02/2021	08:10	Black-headed Gull	30	improved agricultural grassland, semi-natural grassland, and watercourses; feeding/flying	AR
BH048	Dovegrove Callows	26/02/2021	08:25	Black-headed Gull	52	improved agricultural grassland and watercourses; feeding/flying	AR
BH049	Little Brosna Callows	26/02/2021	09:46	Black-headed Gull	1	semi-natural grassland and watercourses; perched	AR
BH050	Little Brosna Callows	26/02/2021	10:05	Black-headed Gull	60	semi-natural grassland and watercourses; flying	AR
BH051	Little Brosna Callows	26/02/2021	12:00	Black-headed Gull	60	improved agricultural grassland and watercourses; feeding	AR
BH052	Little Brosna Callows	26/02/2021	13:37	Black-headed Gull	4	improved agricultural grassland, watercourses, and semi-natural grassland; feeding	AR
BH053	Sharavogue	16/03/2021	13:17	Black-headed Gull	10	watercourses and improved agricultural grassland; feeding	AR
BH054	Kilgask	22/03/2021	10:30	Black-headed Gull	2	watercourses; feeding	AR
BH055	Little Brosna Callows	24/03/2021	09:20	Black-headed Gull	2	watercourses and wet grassland; feeding	AR
BH056	Little Brosna Callows	24/03/2021	10:00	Black-headed Gull	40	watercourses and semi-natural grassland; feeding	AR

Waterbird Distribution Surveys							
Ref.	Location	Date	Time	Species	Number	Habitat and activity	Surveyor
BH057	Little Brosna Callows	09/04/2021	07:30	Black-headed Gull	3	wet grassland; feeding	AR
BH058	Little Brosna Callows	09/04/2021	07:45	Black-headed Gull	2	wet grassland; feeding	AR
BH059	Little Brosna Callows	09/04/2021	09:40	Black-headed Gull	6	wet grassland, watercourses, and improved grassland; feeding	AR
BH060	Little Brosna Callows	09/04/2021	10:20	Black-headed Gull	2	wet grassland and improved grassland; feeding	AR
BH061	Little Brosna Callows	21/05/2021	09:40	Black-headed Gull	2	wet grassland and watercourses; feeding	AR
BH062	Little Brosna Callows	21/05/2021	10:52	Black-headed Gull		wet grassland and watercourses; feeding	AR
BH063	Little Brosna Callows	21/05/2021	11:20	Black-headed Gull	8	wet grassland and watercourses; feeding	AR
BH064	Little Brosna Callows	08/11/2021	09:50	Black-headed Gull	30	wet grassland; feeding	AR
BH065	Little Brosna Callows	08/11/2021	10:38	Black-headed Gull	3	wet grassland; roosting	AR
BH066	Lackabrack	08/11/2021	12:47	Black-headed Gull	40	improved grassland; flying/landed	AR
BH067	Kylebeg	11/11/2021	13:40	Black-headed Gull	320	improved grassland; feeding	AR
BH068	Little Brosna Callows	24/11/2021	11:42	Black-headed Gull	4	wet grassland and watercourses; flying	AR
BH069	Caherhoereigh	24/11/2021	14:30	Black-headed Gull	400	improved grassland; feeding	AR
BH070	Little Brosna Callows	29/11/2021	11:30	Black-headed Gull	6	wet grassland; flying	AR

Waterbird Distribution Surveys							
Ref.	Location	Date	Time	Species	Number	Habitat and activity	Surveyor
BH071	Lackabrack	29/11/2021	13:36	Black-headed Gull	300	improved grassland; flying	AR
BH072	Carrig	05/12/2021	09:00	Black-headed Gull	4	watercourses; feeding	AR
BH073	Little Brosna Callows	06/12/2021	11:07	Black-headed Gull	16	wet grassland; feeding	AR
BH074	Ballylina	20/12/2021	10:08	Black-headed Gull	36	improved grassland and hedgerows; feeding	AR
BH075	Ballylina	20/12/2021	10:12	Black-headed Gull	24	improved grassland and hedgerows; feeding	AR
BH076	Kylebeg	20/12/2021	10:26	Black-headed Gull	65	improved grassland; feeding	AR
BH077	Kylebeg	20/12/2021	10:32	Black-headed Gull	72	improved grassland and hedgerows; feeding	AR
BH078	Killeen	20/12/2021	12:08	Black-headed Gull	132	improved grassland; feeding	AR
BH079	Little Brosna Callows	21/12/2021	11:00	Black-headed Gull	1	wet grassland; flying	AR
BH080	Little Brosna Callows	21/12/2021	12:00	Black-headed Gull	10	wet grassland; feeding/flying	AR
BH081	Little Brosna Callows	07/01/2022	09:50	Black-headed Gull	3	watercourses and wet grassland; feeding	AR
BH082	Little Brosna Callows	07/01/2022	10:46	Black-headed Gull	14	watercourses and wet grassland; feeding	AR
BH083	Little Brosna Callows	07/01/2022	11:40	Black-headed Gull	3	wet grassland; feeding	AR
BH084	Little Brosna Callows	07/01/2022	12:46	Black-headed Gull	16	improved grassland and hedgerows; feeding	AR

Waterbird Distribution Surveys							
Ref.	Location	Date	Time	Species	Number	Habitat and activity	Surveyor
BH085	Derry	07/01/2022	13:01	Black-headed Gull	17	improved grassland and hedgerows; feeding	AR
BH086	Lackabrack	07/01/2022	13:31	Black-headed Gull	120	improved grassland; feeding	AR
BH087	Lackabrack	09/01/2022	09:06	Black-headed Gull	36	improved grassland; feeding	AR
BH088	Kylebeg	09/01/2022	09:17	Black-headed Gull	10	improved grassland, wet grassland, and watercourses; feeding	AR
BH089	Ballylina	09/01/2022	09:43	Black-headed Gull	182	improved grassland and wet grassland; feeding	AR
BH090	Dovegrove Callows	09/01/2022	12:27	Black-headed Gull	37	wet grassland; feeding	AR
BH091	Clonkelly	09/01/2022	12:51	Black-headed Gull	200	wet grassland; feeding/flying	AR
BH092	Kylebeg	30/01/2022	11:22	Black-headed Gull	46	improved grassland; feeding	AR
BH093	Little Brosna Callows	31/01/2022	09:30	Black-headed Gull	6	wet grassland; feeding	AR
BH094	Little Brosna Callows	31/01/2022	11:40	Black-headed Gull	3	wet grassland; feeding	AR
BH095		05/02/2022	09:22	Black-headed Gull	30	improved grassland; feeding	AR
BH096	Kylebeg	05/02/2022	09:30	Black-headed Gull	100	improved grassland; flying	AR
BH097	Little Brosna Callows	06/02/2022	08:00	Black-headed Gull	100	wet grassland and watercourses; feeding/flying	AR
BH098	Little Brosna Callows	18/02/2022	10:23	Black-headed Gull	14	wet grassland and watercourses; flying	AR

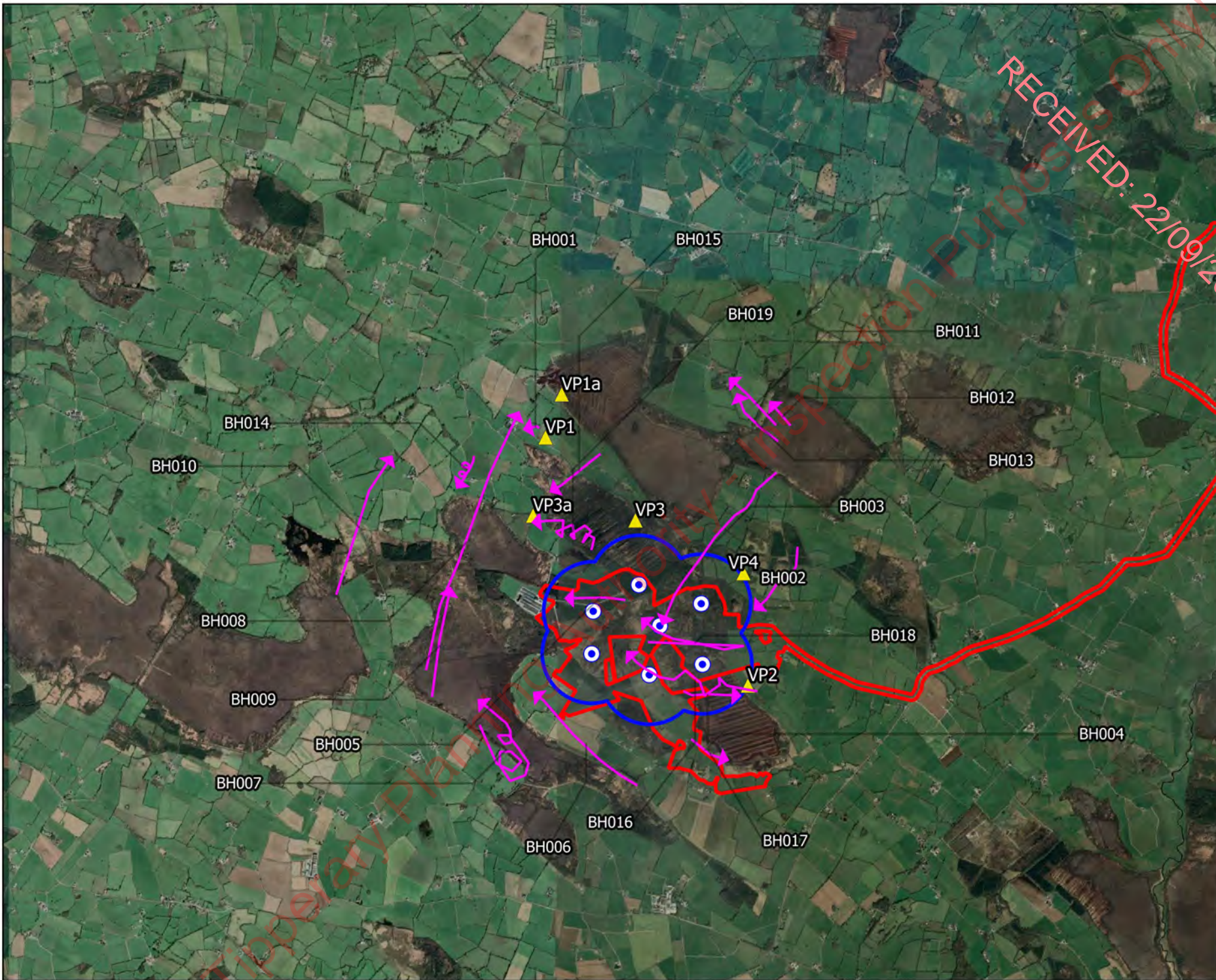
Waterbird Distribution Surveys							
Ref.	Location	Date	Time	Species	Number	Habitat and activity	Surveyor
BH099	Little Brosna Callows	18/02/2022	11:30	Black-headed Gull	14	wet grassland and watercourses; flying	AR
BH100	Dovegrove Callows	19/02/2022	08:57	Black-headed Gull	200	wet grassland; flying	AR
BH101	Sharavogue	19/02/2022	09:46	Black-headed Gull	22	wet grassland and watercourses; feeding	AR
BH102	Clonkelly	19/02/2022	10:15	Black-headed Gull	100	improved grassland and hedgerows; feeding/flying	AR
BH103	Carrig	19/02/2022	10:28	Black-headed Gull	60	improved grassland and hedgerows; feeding	AR
BH104	Ballylina	19/02/2022	11:04	Black-headed Gull	41	improved grassland and hedgerows; feeding	AR
BH105	Dovegrove Callows	10/03/2022	08:32	Black-headed Gull	16	improved grassland and wet grassland; flying	AR
BH106	Lackabrack	10/03/2022	13:10	Black-headed Gull	16	wet grassland; flying	AR
BH107	Lackabrack	11/03/2022	07:31	Black-headed Gull	300	improved grassland and hedgerows; flying	AR
BH108	Clonkelly	11/03/2022	10:41	Black-headed Gull	75	wet grassland; flying	AR
BH109	Gurteen	11/03/2022	10:53	Black-headed Gull	80	improved grassland and hedgerows; flying	AR
BH110	Kilgask	30/03/2022	11:20	Black-headed Gull	3	watercourses and wet grassland; feeding/flying	AR
BH111	Ballylina	30/03/2022	13:50	Black-headed Gull	16	wet grassland, improved grassland, and hedgerows; feeding	AR
BH112	Sharavogue	30/03/2022	15:07	Black-headed Gull	11	watercourses and wet grassland; flying/feeding	AR

Waterbird Distribution Surveys							
Ref.	Location	Date	Time	Species	Number	Habitat and activity	Surveyor
BH113	Little Brosna Callows	31/03/2022	09:00	Black-headed Gull	36	wet grassland; flying	AR
BH114	Little Brosna Callows	31/03/2022	10:30	Black-headed Gull	4	wet grassland; feeding	AR
BH115	Little Brosna Callows	11/04/2022	11:59	Black-headed Gull	2	wet grassland; flying	NL
BH116	Little Brosna Callows	26/04/2022	11:12	Black-headed Gull	20	marsh, lakes and ponds and wet grassland; flying	NL
BH117	Little Brosna Callows	18/05/2022	11:33	Black-headed Gull	3	watercourses and wet grassland; flying	NL
BH118	Little Brosna Callows	21/10/2022	09:53	Black-headed Gull	5	marsh and watercourses; feeding	NL
BH119	Little Brosna Callows	21/10/2022	10:04	Black-headed Gull	15	marsh and watercourses; feeding	NL
BH120	Little Brosna Callows	21/10/2022	12:09	Black-headed Gull	65	marsh and watercourses; flying	NL
BH121	Little Brosna Callows	25/10/2022	10:23	Black-headed Gull	5	marsh and watercourses; flying	NL
BH122	Little Brosna Callows	25/10/2022	10:49	Black-headed Gull	2	marsh and watercourses; flying	NL
BH123	Little Brosna Callows	25/10/2022	10:56	Black-headed Gull	3	marsh and watercourses; flying	NL
BH124	Little Brosna Callows	25/10/2022	12:07	Black-headed Gull	4	marsh and improved agricultural grassland; roosting	NL
BH125	Dovegrove Callows	28/10/2022	09:22	Black-headed Gull	4	watercourses; flying	NL
BH126	Little Brosna Callows	28/10/2022	11:03	Black-headed Gull	4	watercourses and marsh; flying	NL

Waterbird Distribution Surveys							
Ref.	Location	Date	Time	Species	Number	Habitat and activity	Surveyor
BH127	Cloghan Beg	22/11/2022	11:36	Black-headed Gull	10	improved agricultural grassland and watercourses; foraging	NL
BH128	Carrig	14/02/2023	17:28	Black-headed Gull	1	lakes and ponds; feeding	CF

Table 7-4-12-4 Black-headed Gull Incidental Data

Incidental Observations							
Ref.	Location	Date	Time	Species	Number	Habitat and activity	Surveyor
BH001	Breeding Raptor Survey; BRVP2/VP2	25/05/2022	11:45	Black-Headed Gull	1	cutover bog and improved agricultural grassland; fly SW	ZE



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- ### Map Legend
- EIA Site Boundary
  - Turbine Layout
  - 500m Radius of Turbines
  - Flight Observation



<b>Black-headed Gull Observations</b> <b>Vantage Point Surveys</b>	
Carrig Renewables Wind Farm	
Drawn By <b>S. Duff</b>	Checked By <b>D. Woods</b>
Project No. <b>211016</b>	Drawing No. <b>7.4.12.1</b>
Scale <b>1:50000</b>	Date <b>28.07.2023</b>
 <b>MKO</b> Planning and Environmental Consultants Tuam Road, Galway Ireland, F91 VV84 +353 (0) 91 235611 email: info@mkoireland.ie Website: www.mkoireland.ie	

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**Map Legend**

- EIA Site Boundary
- Turbine Layout
- 500m Survey Area
- Flight Observation

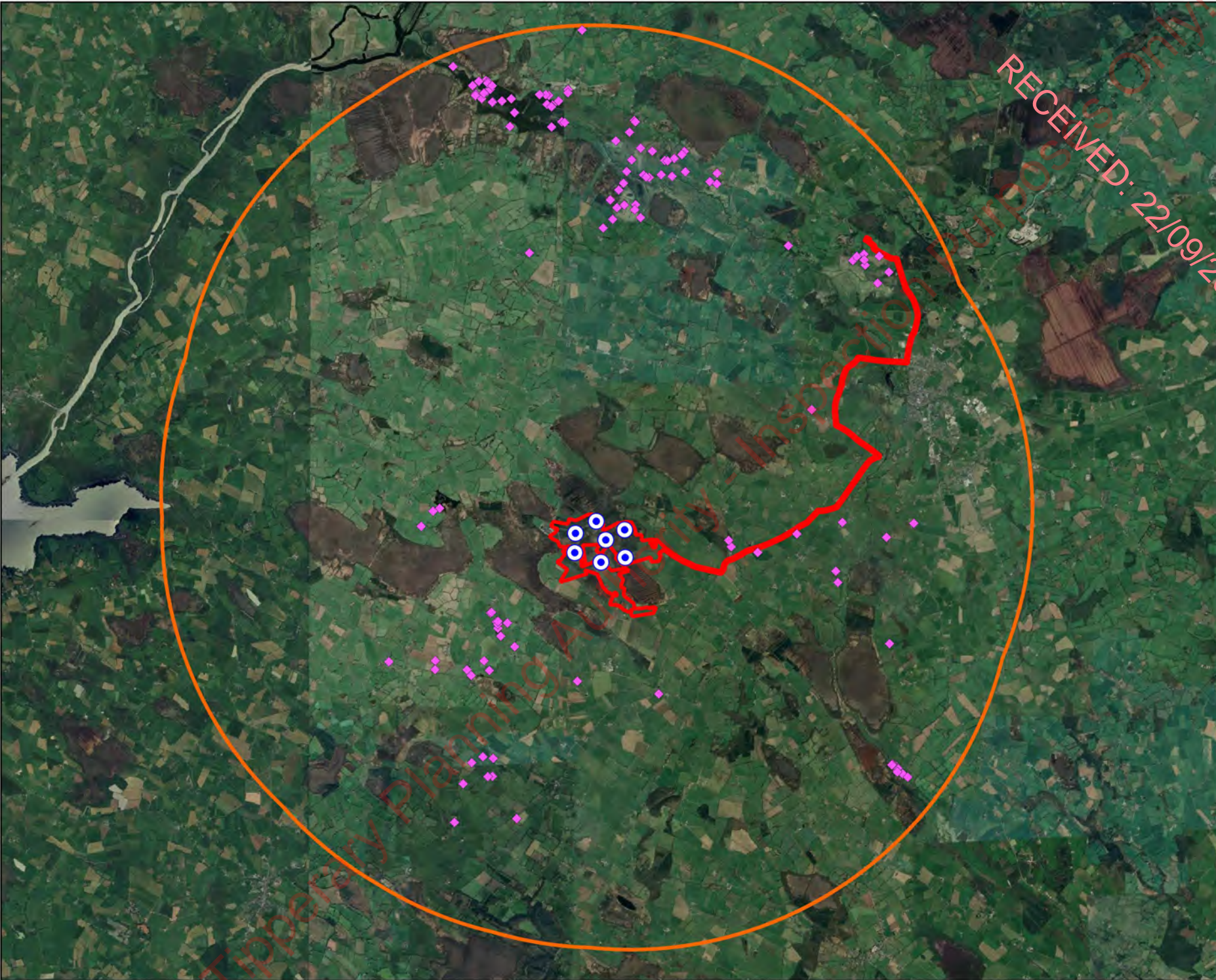
RECEIVED: 22/09/2023

DRAFT



<p><b>Black-headed Gull Observations</b> <b>Winter Walkover Surveys</b></p> <p>Carrig Renewables Wind Farm</p>	
<p>Drawn By <b>S. Duff</b></p> <p>Project No. <b>211016</b></p> <p>Scale <b>1:35000</b></p>	<p>Checked By <b>D. Woods</b></p> <p>Drawing No. <b>7.4.12.2</b></p> <p>Date <b>28.07.2023</b></p>
<p><b>MKO</b> Planning and Environmental Consultants Tuam Road, Galway Ireland, H91 VV84 +353 (0) 91 235611 email: info@mkofireland.ie Website: www.mkofireland.ie</p>	

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**Map Legend**

-  EIA Site Boundary
-  Turbine Layout
-  8km Survey Area
-  Observation

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Drawing Title:  
**Black-headed Gull Observations  
 Waterbird Distribution Surveys**

Project Title:  
 Carrig Renewables Wind Farm

Drawn By	Checked By
S. Duff	D. Woods
Project No.	Drawing No.
211016	7.4.12.3
Scale	Date
1:110000	28.07.2023



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**Map Legend**

- EIA Site Boundary
- Turbine Layout
- ➔ Observation



Drawing Title:  
**Black-headed Gull Observations  
Incidental Records**

Project Title:  
Carrig Renewables Wind Farm

Drawn By	Checked By
S. Duff	D. Woods
Project No.	Drawing No.
211016	7.4.12.4
Scale	Date
1:50000	28.07.2023

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## 7-4-13 CORMORANT

Table 7-4-13-1 Cormorant Vantage Point Survey Data

Vantage Point Surveys												
Ref.	VP	Date	Time	Species	Number	Duration of flight (s)	Band 1 (0-15m)	Band 2 (15-25m)	Band 3 (25-200m)	Band 4 (>200m)	Habitat and activity	Surveyor
CA001	VP1	14/10/2020	15:13	Cormorant	2	210	0	0	150	50	cutover bog and improved agricultural grassland; high circling	TF
CA002	VP4	29/11/2020	12:04	Cormorant	1	40	0	40	0	0	cutover bog, highly modified/non-native woodland and improved agricultural grassland; travelling	AR
CA003	VP2	12/12/2020	14:39	Cormorant	1	90	0	0	90	0	improved agricultural grassland, watercourses and highly modified/non-native woodland; travelling	AR
CA004	VP2	12/12/2020	14:45	Cormorant	2	90	0	0	90	0	improved agricultural grassland, watercourses and highly modified/non-native woodland; travelling	AR
CA005	VP2	12/12/2020	14:54	Cormorant	1	60	0	0	60	0	improved agricultural grassland, watercourses and highly modified/non-native woodland; travelling	AR
CA006	VP2	12/12/2020	15:09	Cormorant	1	20	0	0	20	0	improved agricultural grassland, watercourses and highly modified/non-native woodland; travelling	AR
CA007	VP2	12/12/2020	15:15	Cormorant	2	120	0	0	120	0	improved agricultural grassland, watercourses and highly modified/non-native woodland; travelling	AR
CA008	VP2	12/12/2020	15:40	Cormorant	1	20	0	20	0	0	improved agricultural grassland, watercourses and highly modified/non-native woodland; travelling	AR

Vantage Point Surveys												
Ref.	VP	Date	Time	Species	Number	Duration of flight (s)	Band 1 (0-15m)	Band 2 (15-25m)	Band 3 (25-200m)	Band 4 (>200m)	Habitat and activity	Surveyor
CA009	VP2	12/12/2020	16:05	Cormorant	1	15	0	15	0	0	improved agricultural grassland, watercourses and highly modified/non-native woodland; travelling	AR
CA010	VP3	13/12/2020	11:45	Cormorant	1	15	0	0	15	0	watercourses and highly modified/non-native woodland; travelling	AR
CA011	VP3	13/12/2020	12:55	Cormorant	2	20	20	0	0	0	watercourses and highly modified/non-native woodland; travelling	AR
CA012	VP3	13/12/2020	14:20	Cormorant	1	65	15	50	0	0	watercourses and highly modified/non-native woodland; travelling	AR
CA013	VP3	13/12/2020	14:27	Cormorant	1	60	20	40	0	0	watercourses and highly modified/non-native woodland; travelling/landed	AR
CA014	VP3	13/12/2020	14:59	Cormorant	2	40	10	30	0	0	watercourses and highly modified/non-native woodland; traveling/landed, not mapped	AR
CA015	VP3	13/12/2020	15:25	Cormorant	1	10	10	0	0	0	watercourses and highly modified/non-native woodland; travelling	AR
CA016	VP3	13/12/2020	15:42	Cormorant	1	5	5	0	0	0	watercourses and highly modified/non-native woodland; travelling/landed	AR
CA017	VP3	13/12/2020	15:57	Cormorant	1	10	10	0	0	0	watercourses and highly modified/non-native woodland; travelling/landed	AR
CA018	VP4	28/01/2021	12:19	Cormorant	1	60	0	0	60	0	highly modified/non-native woodland and bogs; travelling	AR
CA019	VP2	15/04/2021	20:21	Cormorant	1	120	0	0	120	0	conifer plantation and bogs; travelling	AR

Vantage Point Surveys												
Ref.	VP	Date	Time	Species	Number	Duration of flight (s)	Band 1 (0-15m)	Band 2 (15-25m)	Band 3 (25-200m)	Band 4 (>200m)	Habitat and activity	Surveyor
CA020	VP2	24/08/2021	07:58	Cormorant	1	120	0	0	120	0	improved grassland, bogs and conifer plantation; travelling	AR
CA021	VP2	24/08/2021	10:37	Cormorant	1	60	0	0	60	0	conifer plantation and bogs; travelling	AR
CA022	VP2	19/12/2021	10:41	Cormorant	1	40	0	0	40	0	improved grassland and hedgerows; travelling	AR

Table 7-4-13-2 Cormorant Breeding Walkover Survey Data

Breeding Walkover Surveys						
Ref.	Date	Time	Species	Number	Habitat and activity	Surveyor
CA001	25/07/2021	10:48	Cormorant	1	bogs and conifer plantation; travelling, adult	AR

Table 7-4-13-3 Cormorant Winter Walkover Survey Data

Winter Walkover Surveys						
Ref.	Date	Time	Species	Number	Habitat and activity	Surveyor
CA001	16/02/2021	10:00	Cormorant	1	highly modified/non-native woodland and bogs; flying, travelling (wintering)	AR

Table 7-4-13-4 Cormorant Waterbird Distribution Survey Data

Waterbird Distribution Surveys							
Ref.	Location	Date	Time	Species	Number	Habitat and activity	Surveyor
CA001		11/11/2020	10:30	Cormorant	2	wet grassland and watercourses; roosting	AR
CA002		14/11/2020	12:25	Cormorant	1	improved agricultural grassland; roosting	AR
CA003		14/11/2020	12:46	Cormorant	1	watercourses; roosting	AR
CA004		27/11/2020	10:00	Cormorant	1	watercourses and improved agricultural grassland; roosting	AR
CA005		15/12/2020	12:00	Cormorant	3	watercourses and improved agricultural grassland; flying	AR
CA006		15/12/2020	12:43	Cormorant	3	improved agricultural grassland; roosting	AR
CA007		29/12/2020	09:35	Cormorant	1	watercourses and improved agricultural grassland; roosting	AR
CA008		31/12/2020	10:40	Cormorant	2	watercourses and improved agricultural grassland; roosting	AR
CA009		31/12/2020	13:30	Cormorant	5	watercourses; roosting	AR
CA010		12/01/2021	09:14	Cormorant	1	improved agricultural grassland and watercourses; feeding	AR
CA011		14/01/2021	08:30	Cormorant	1	watercourses; , flying	AR
CA012		14/01/2021	09:40	Cormorant	1	improved agricultural grassland; feeding/roosting, roosting	AR
CA013		14/01/2021	13:30	Cormorant	3	watercourses and improved agricultural grassland; feeding/roosting, feeding/roosting	AR
CA014		15/02/2021	09:10	Cormorant	1	semi-natural grassland, improved agricultural grassland and watercourses; roosting	AR

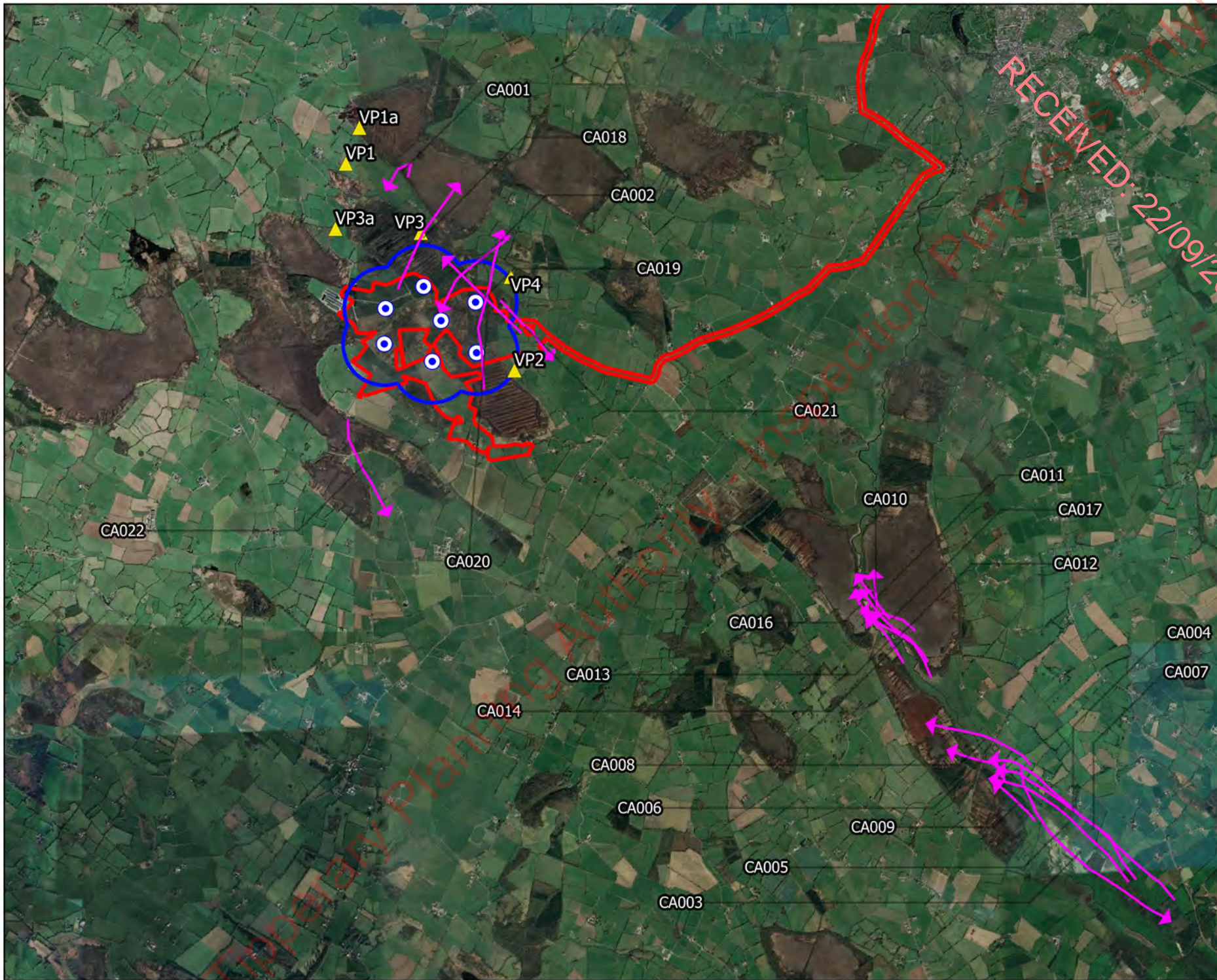
Waterbird Distribution Surveys							
Ref.	Location	Date	Time	Species	Number	Habitat and activity	Surveyor
CA015		16/03/2021	13:17	Cormorant	1	watercourses; flying	AR
CA016		20/03/2021	08:30	Cormorant	1	watercourses; perched/roosting	AR
CA017		20/03/2021	10:13	Cormorant	1	watercourses and wet grassland; flying	AR
CA018		22/03/2021	10:30	Cormorant	3	watercourses; flying	AR
CA019		24/03/2021	09:40	Cormorant	1	watercourses and semi-natural grassland; flying	AR
CA020		24/03/2021	12:15	Cormorant	4	watercourses and semi-natural grassland; roosting	AR
CA021		09/04/2021	07:30	Cormorant	1	wet grassland; roosting	AR
CA022		09/04/2021	09:40	Cormorant	2	wet grassland, watercourses and improved grassland; flying	AR
CA023		21/05/2021	09:56	Cormorant	3	wet grassland and watercourses; roosting	AR
CA024		21/05/2021	11:20	Cormorant	1	wet grassland and watercourses; roosting	AR
CA025		21/05/2021	11:20	Cormorant	1	wet grassland and watercourses; flying	AR
CA026		14/09/2021	08:33	Cormorant	1	wet grassland; roosting	AR
CA027		08/11/2021	09:50	Cormorant	2	wet grassland; roosting	AR
CA028		24/11/2021	08:50	Cormorant	1	improved grassland, watercourses and wet grassland; roosting	AR



Waterbird Distribution Surveys							
Ref.	Location	Date	Time	Species	Number	Habitat and activity	Surveyor
CA029		29/11/2021	11:30	Cormorant	2	wet grassland; flying	AR
CA030		06/12/2021	11:07	Cormorant	2	wet grassland; flying	AR
CA031		21/12/2021	12:00	Cormorant	4	wet grassland; feeding/flying	AR
CA032		31/01/2022	08:05	Cormorant	1	wet grassland; roosting	AR
CA033	Little Brosna Callows	18/02/2022	09:10	Cormorant	1	wet grassland and watercourses; roosting	AR
CA034	Little Brosna Callows	10/03/2022	11:35	Cormorant	1	wet grassland; roosting	AR
CA035	Little Brosna Callows	31/03/2022	11:15	Cormorant	1	wet grassland; roosting	AR
CA036	Little Brosna Callows	31/03/2022	11:53	Cormorant	1	wet grassland; roosting	AR
CA037	Little Brosna Callows	05/05/2022	12:08	Cormorant	1	watercourses and wet grassland; perched	NL
CA038	Little Brosna Callows	11/05/2022	10:32	Cormorant	1	watercourses and wet grassland; perched	NL
CA039	Little Brosna Callows	18/10/2022	11:04	Cormorant	1	watercourses; flushed from river	NL
CA040	Little Brosna Callows	03/11/2022	13:17	Cormorant	2	lakes and ponds; feeding	CF
CA041	Little Brosna Callows	09/11/2022	12:17	Cormorant	1	lakes and ponds; roosting	CF
CA042	Little Brosna Callows	22/11/2022	09:11	Cormorant	3	improved agricultural grassland; flying over	NL

Waterbird Distribution Surveys							
Ref.	Location	Date	Time	Species	Number	Habitat and activity	Surveyor
CA043	Little Brosna Callows	05/12/2022	14:36	Cormorant	1	lakes and ponds; roosting	CF
CA044	Little Brosna Callows	11/01/2023	12:29	Cormorant	1	lakes and ponds; feeding	CF
CA045	Little Brosna Callows	02/02/2023	17:36	Cormorant	1	lakes and ponds; feeding	CF
CA046	Little Brosna Callows	14/02/2023	17:51	Cormorant	1	lakes and ponds; feeding	CF
CA047	Little Brosna Callows	02/03/2023	16:04	Cormorant	1	lakes and ponds; feeding	CF
CA048	Little Brosna Callows	10/03/2023	16:11	Cormorant	1	lakes and ponds; feeding	CF

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### Map Legend

- EIA Site Boundary
- Turbine Layout
- 500m Radius of Turbines
- Flight Observation



Drawing Title:

**Cormorant Observations  
Vantage Point Surveys**

Project Title:

**Carrig Renewables Wind Farm**

Drawn By:

**S. Duff**

Checked By:

**D. Woods**

Project No.:

**211016**

Drawing No.:

**7.4.13.1**

Scale:

**1:60000**

Date:

**28.07.2023**



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**Map Legend**

- EIA Site Boundary
- Turbine Layout
- 500m Survey Area
- Flight Observation

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Drawing Title: **Cormorant Observations Breeding Walkover Surveys**

Project Title: **Carrig Renewables Wind Farm**

Drawn By	Checked By
<b>S. Duff</b>	<b>D. Woods</b>
Project No.	Drawing No.
<b>211016</b>	<b>7.4.13.2</b>
Scale	Date
<b>1:35000</b>	<b>28.07.2023</b>

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**Map Legend**

- EIA Site Boundary
- Turbine Layout
- 500m Survey Area
- Flight Observation

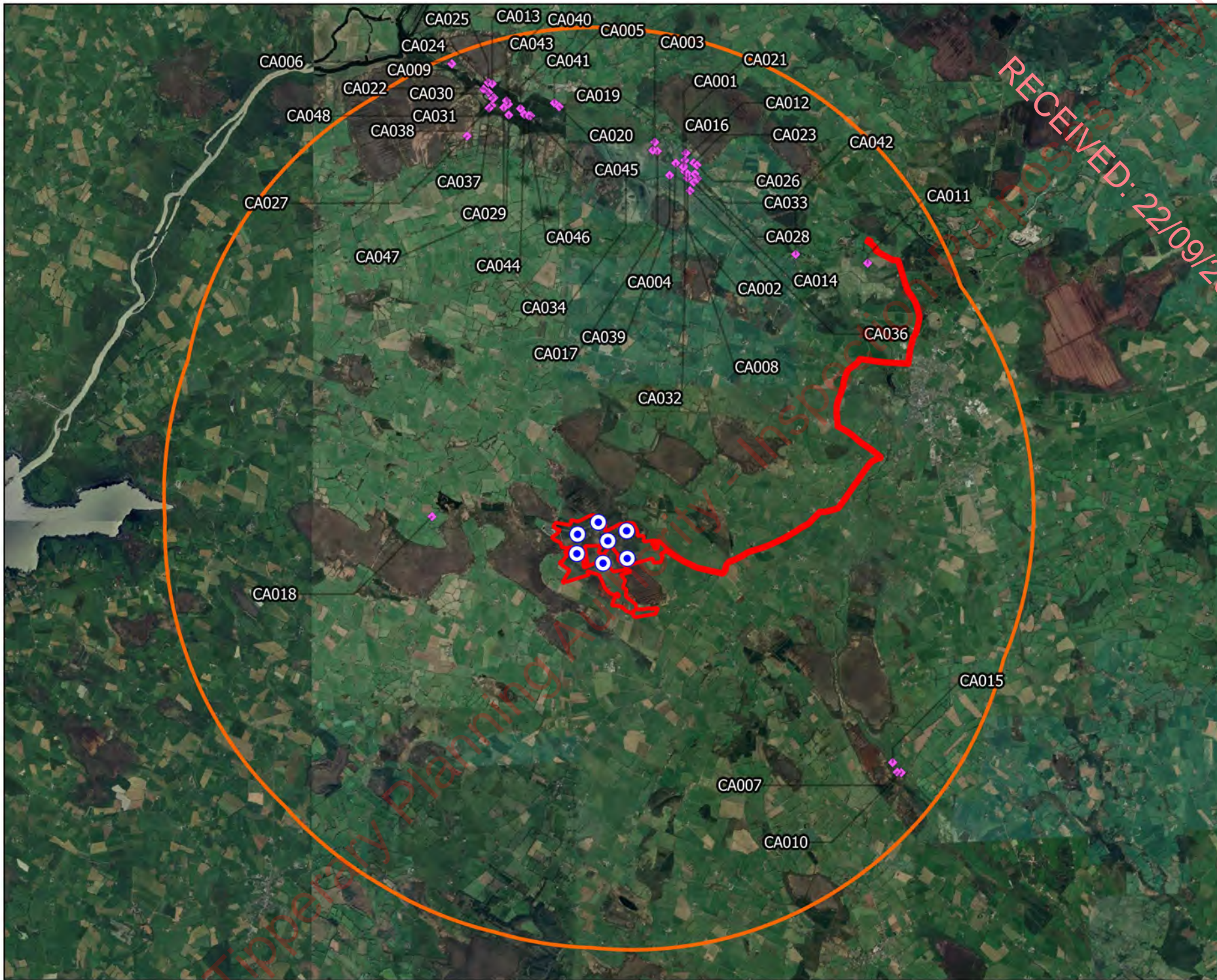
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CA001



<p><b>Drawing Title:</b> Cormorant Observations Winter Walkover Surveys</p>	
<p><b>Project Title:</b> Carrig Renewables Wind Farm</p>	
<b>Drawn By:</b> S. Duff	<b>Checked By:</b> D. Woods
<b>Project No.:</b> 211016	<b>Drawing No.:</b> 7.4.13.3
<b>Scale:</b> 1:35000	<b>Date:</b> 28.07.2023
<p><b>MKO</b> Planning and Environmental Consultants Tuam Road, Galway Ireland, H91 VV84 +353 (0) 91 235611 email: info@mkofireland.ie Website: www.mkofireland.ie</p>	

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**Map Legend**

- EIA Site Boundary
- Turbine Layout
- 8km Survey Area
- ◆ Observation



Drawing Title:

**Cormorant Observations  
Waterbird Distribution Surveys**

Project Title:

Carrig Renewables Wind Farm

Drawn By:

S. Duff

Checked By:

D. Woods

Project No.:

211016

Drawing No.:

7.4.13.4

Scale:

1:110000

Date:

28.07.2023



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## 7-4-14 PINTAIL

Table 7-4-14-1 Pintail Vantage Point Survey Data

Vantage Point Surveys												
Ref.	VP	Date	Time	Species	Number	Duration of flight (s)	Band 1 (0-15m)	Band 2 (15-25m)	Band 3 (25-200m)	Band 4 (>200m)	Habitat and activity	Surveyor
PT001	VP3	25/02/2021	13:41	Pintail	3	20	0	20	0	0	highly modified/non-native woodland and improved agricultural grassland; travelling, 2 female 1 male	AR

Table 7-4-14-2 Pintail Waterbird Distribution Survey Data

Waterbird Distribution Surveys							
Ref.	Location	Date	Time	Species	Number	Habitat and activity	Surveyor
PT001	Little Brosna Callows	09/10/2020	15:16	Pintail	5	wet grassland; roosting, on callow	TR
PT002	Little Brosna Callows	23/10/2020	13:39	Pintail	7	wet grassland; feeding	TR
PT003	Little Brosna Callows	23/10/2020	16:16	Pintail	10	wet grassland; roosting	TR
PT004	Little Brosna Callows	23/10/2020	16:20	Pintail	25	wet grassland; roosting/feeding	TR
PT005		11/11/2020	10:30	Pintail	40	watercourses and wet grassland; feeding	AR
PT006		11/11/2020	12:31	Pintail	140	watercourses; feeding	AR
PT007		14/11/2020	12:57	Pintail	1	watercourses; feeding	AR
PT008		14/11/2020	13:20	Pintail	20	watercourses; feeding	AR

Waterbird Distribution Surveys							
Ref.	Location	Date	Time	Species	Number	Habitat and activity	Surveyor
PT009		14/11/2020	13:51	Pintail	30	watercourses; feeding	AR
PT010		27/11/2020	10:00	Pintail	10	watercourses; feeding	AR
PT011		27/11/2020	10:30	Pintail	25	watercourses; feeding	AR
PT012		27/11/2020	10:50	Pintail	10	watercourses; feeding	AR
PT013		27/11/2020	11:15	Pintail	16	watercourses; feeding	AR
PT014		27/11/2020	11:42	Pintail	16	watercourses; feeding	AR
PT015		27/11/2020	12:15	Pintail	70	watercourses; feeding	AR
PT016		27/11/2020	13:20	Pintail	15	watercourses; feeding	AR
PT017		27/11/2020	16:10	Pintail	16	watercourses; feeding	AR
PT018		15/12/2020	10:20	Pintail	100	watercourses; feeding	AR
PT019		15/12/2020	10:50	Pintail	40	watercourses; feeding	AR
PT020		15/12/2020	12:00	Pintail	4	watercourses and improved agricultural grassland; feeding	AR
PT021		15/12/2020	12:43	Pintail	20	watercourses; feeding	AR
PT022		17/12/2020	13:20	Pintail	6	watercourses and improved agricultural grassland; feeding	AR



Waterbird Distribution Surveys							
Ref.	Location	Date	Time	Species	Number	Habitat and activity	Surveyor
PT023		29/12/2020	11:15	Pintail	2	watercourses; feeding	AR
PT024		29/12/2020	12:35	Pintail	2	watercourses; feeding	AR
PT025		31/12/2020	10:40	Pintail	150	watercourses; feeding	AR
PT026		31/12/2020	10:55	Pintail	30	watercourses and improved agricultural grassland; feeding/roosting	AR
PT027		31/12/2020	11:20	Pintail	40	watercourses; feeding	AR
PT028		31/12/2020	12:45	Pintail	100	watercourses; feeding	AR
PT029		31/12/2020	13:30	Pintail	40	watercourses; feeding	AR
PT030		31/12/2020	14:47	Pintail	196	watercourses; feeding	AR
PT031		14/01/2021	08:30	Pintail	10	watercourses and improved agricultural grassland; feeding/roosting, feeding	AR
PT032		14/01/2021	09:40	Pintail	40	watercourses and improved agricultural grassland; feeding/roosting feeding	AR
PT033		14/01/2021	10:00	Pintail	10	watercourses and improved agricultural grassland; feeding/roosting, feeding	AR
PT034		14/01/2021	12:05	Pintail	53	watercourses; feeding/roosting, feeding	AR
PT035		14/01/2021	12:45	Pintail	47	watercourses; feeding/roosting, feeding	AR
PT036		14/01/2021	13:30	Pintail	37	watercourses; feeding	AR

Waterbird Distribution Surveys							
Ref.	Location	Date	Time	Species	Number	Habitat and activity	Surveyor
PT037		14/01/2021	14:10	Pintail	93	watercourses; feeding/roosting, feeding	AR
PT038	Little Brosna Callows	29/01/2021	11:07	Pintail	1	watercourses; in water, flooding around lake	AR
PT039		29/01/2021	12:49	Pintail	13	improved agricultural grassland; feeding in water on flooded field	AR
PT040		30/01/2021	08:15	Pintail	160	improved agricultural grassland and watercourses; feeding/roosting, feeding	AR
PT041		30/01/2021	09:15	Pintail	30	improved agricultural grassland and watercourses; feeding/roosting, feeding/roosting	AR
PT042		30/01/2021	10:05	Pintail	47	watercourses; feeding/roosting, feeding/roosting	AR
PT043		30/01/2021	12:06	Pintail	20	improved agricultural grassland and watercourses; feeding/roosting, feeding	AR
PT044		30/01/2021	13:00	Pintail	2	watercourses; feeding/roosting, feeding	AR
PT045		30/01/2021	14:00	Pintail	120	watercourses; feeding/roosting, feeding	AR
PT046		14/02/2021	13:40	Pintail	2	improved agricultural grassland, hedgerows, and watercourses; feeding	AR
PT047		15/02/2021	09:10	Pintail	30	semi-natural grassland, improved agricultural grassland and watercourses; feeding	AR
PT048		15/02/2021	09:41	Pintail	35	semi-natural grassland, improved agricultural grassland and watercourses; feeding	AR
PT049		15/02/2021	10:07	Pintail	120	semi-natural grassland, improved agricultural grassland and watercourses; feeding	AR
PT050		15/02/2021	10:30	Pintail	325	semi-natural grassland and watercourses; feeding	AR

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Waterbird Distribution Surveys							
Ref.	Location	Date	Time	Species	Number	Habitat and activity	Surveyor
PT051		15/02/2021	11:00	Pintail	50	semi-natural grassland, watercourses, and improved agricultural grassland; feeding	AR
PT052		15/02/2021	13:08	Pintail	56	improved agricultural grassland, highly modified/non-native woodland, and hedgerows; feeding	AR
PT053		24/02/2021	13:08	Pintail	3	improved agricultural grassland, watercourses, and marsh; feeding	AR
PT054		26/02/2021	09:17	Pintail	157	improved agricultural grassland, semi-natural grassland, and watercourses; feeding	AR
PT055		26/02/2021	09:30	Pintail	57	improved agricultural grassland, semi-natural grassland, and watercourses; feeding	AR
PT056		26/02/2021	10:05	Pintail	37	semi-natural grassland and watercourses; feeding	AR
PT057		26/02/2021	12:00	Pintail	40	improved agricultural grassland and watercourses; feeding	AR
PT058		26/02/2021	13:37	Pintail	32	improved agricultural grassland, watercourses, and semi-natural grassland; feeding	AR
PT059		16/03/2021	10:10	Pintail	4	watercourses, reed and large sedge swamps and improved agricultural grassland; feeding	AR
PT060		20/03/2021	11:32	Pintail	100	watercourses and wet grassland; feeding	AR
PT061		20/03/2021	12:46	Pintail	200	watercourses; feeding	AR
PT062		20/03/2021	13:38	Pintail	96	watercourses and improved agricultural grassland; feeding	AR
PT063		24/03/2021	10:00	Pintail	60	watercourses and semi-natural grassland; feeding	AR
PT064		24/03/2021	12:15	Pintail	100	watercourses and semi-natural grassland; feeding	AR

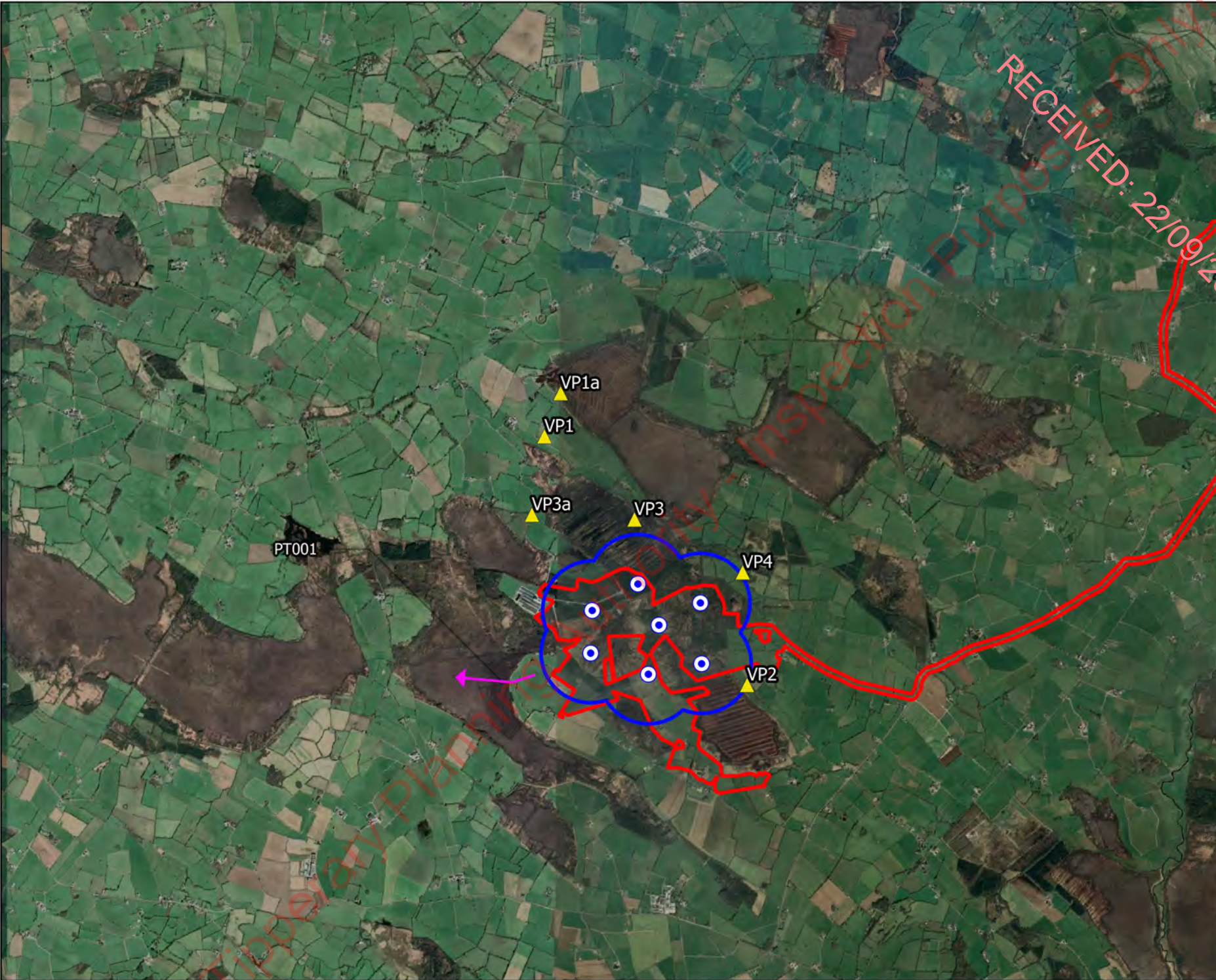
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Waterbird Distribution Surveys							
Ref.	Location	Date	Time	Species	Number	Habitat and activity	Surveyor
PT065		24/03/2021	12:15	Pintail	127	watercourses; feeding	AR
PT066		09/08/2021	08:10	Pintail	1	watercourses and improved grassland; feeding	AR
PT067		11/11/2021	08:32	Pintail	42	wet grassland; feeding	AR
PT068		11/11/2021	10:25	Pintail	37	wet grassland; feeding	AR
PT069		24/11/2021	11:42	Pintail	42	wet grassland and watercourses; roosting/feeding	AR
PT070		29/11/2021	11:30	Pintail	3	wet grassland; feeding	AR
PT071		06/12/2021	11:07	Pintail	10	wet grassland; feeding	AR
PT072		07/01/2022	09:50	Pintail	10	watercourses and wet grassland; feeding	AR
PT073		07/01/2022	10:46	Pintail	147	watercourses and wet grassland; feeding	AR
PT074		07/01/2022	11:40	Pintail	107	wet grassland; feeding	AR
PT075		07/01/2022	12:39	Pintail	100	wet grassland and watercourses; feeding	AR
PT076		31/01/2022	08:45	Pintail	17	wet grassland; feeding	AR
PT077		31/01/2022	11:40	Pintail	21	wet grassland; feeding	AR
PT078		31/01/2022	12:34	Pintail	40	wet grassland; feeding	AR

Waterbird Distribution Surveys							
Ref.	Location	Date	Time	Species	Number	Habitat and activity	Surveyor
PT079		05/02/2022	10:46	Pintail	4	watercourses and wet grassland; feeding	AR
PT080		06/02/2022	08:00	Pintail	46	wet grassland and watercourses; feeding/flying	AR
PT081	Little Brosna Callows	06/02/2022	10:51	Pintail	27	wet grassland; feeding	AR
PT082	Little Brosna Callows	06/02/2022	12:22	Pintail	120	wet grassland; feeding	AR
PT083	Little Brosna Callows	18/02/2022	08:54	Pintail	7	improved grassland and watercourses; flying	AR
PT084	Little Brosna Callows	18/02/2022	09:10	Pintail	31	wet grassland and watercourses; feeding	AR
PT085	Little Brosna Callows	18/02/2022	11:30	Pintail	46	wet grassland and watercourses; feeding	AR
PT086	Little Brosna Callows	18/02/2022	12:32	Pintail	150	wet grassland and watercourses; feeding	AR
PT087	Little Brosna Callows	18/02/2022	13:42	Pintail	15	wet grassland and watercourses; feeding	AR
PT088	Little Brosna Callows	10/03/2022	11:35	Pintail	170	wet grassland; feeding	AR
PT089	Little Brosna Callows	10/03/2022	12:40	Pintail	76	wet grassland; feeding	AR
PT090	Little Brosna Callows	11/03/2022	11:06	Pintail	21	wet grassland; feeding	AR
PT091	Little Brosna Callows	11/03/2022	12:32	Pintail	17	watercourses and wet grassland; feeding	AR
PT092	Little Brosna Callows	30/03/2022	11:20	Pintail	3	watercourses and wet grassland; feeding	AR

Waterbird Distribution Surveys							
Ref.	Location	Date	Time	Species	Number	Habitat and activity	Surveyor
PT093	Little Brosna Callows	31/03/2022	10:30	Pintail	26	wet grassland; feeding	AR
PT094	Little Brosna Callows	31/03/2022	13:31	Pintail	24	wet grassland; feeding	AR
PT095	Little Brosna Callows	25/10/2022	10:38	Pintail	5	marsh and watercourses; feeding	NL
PT096	Little Brosna Callows	28/10/2022	10:20	Pintail	2	watercourses and marsh; feeding	NL
PT097	Little Brosna Callows	03/11/2022	12:16	Pintail	5	lakes and ponds; feeding	CF
PT098	Little Brosna Callows	09/11/2022	11:14	Pintail	10	lakes and ponds; feeding	CF
PT099	Little Brosna Callows	22/11/2022	10:06	Pintail	14	marsh and watercourses; feeding & roosting	NL
PT100	Little Brosna Callows	22/11/2022	10:24	Pintail	12	marsh and watercourses; feeding & roosting	NL
PT101	Little Brosna Callows	22/11/2022	11:36	Pintail	10	marsh and watercourses; foraging	NL
PT102	Little Brosna Callows	29/11/2022	10:35	Pintail	84	marsh and watercourses; flying, feeding & roosting	NL
PT103	Little Brosna Callows	29/11/2022	10:52	Pintail	22	marsh and watercourses; feeding & roosting	NL
PT104	Little Brosna Callows	29/11/2022	10:59	Pintail	4	marsh and watercourses; feeding	NL
PT105	Little Brosna Callows	29/11/2022	11:01	Pintail	22	marsh and watercourses; feeding	NL
PT106	Little Brosna Callows	29/11/2022	12:29	Pintail	5	marsh and watercourses; feeding	NL

Waterbird Distribution Surveys							
Ref.	Location	Date	Time	Species	Number	Habitat and activity	Surveyor
PT107	Little Brosna Callows	05/12/2022	13:07	Pintail	90	lakes and ponds; feeding	CF
PT108	Little Brosna Callows	05/12/2022	14:35	Pintail	30	lakes and ponds; feeding	CF
PT109	Little Brosna Callows	08/12/2022	12:45	Pintail	10	lakes and ponds; feeding	CF
PT110	Little Brosna Callows	15/12/2022	14:50	Pintail	150	lakes and ponds; feeding	CF
PT111	Little Brosna Callows	04/01/2023	12:06	Pintail	60	lakes and ponds; feeding	CF
PT112	Little Brosna Callows	11/01/2023	12:23	Pintail	50	lakes and ponds; feeding	CF
PT113	Little Brosna Callows	18/01/2023	12:43	Pintail	60	lakes and ponds; feeding	CF
PT114	Little Brosna Callows	25/01/2023	13:09	Pintail	60	lakes and ponds; feeding	CF
PT115	Little Brosna Callows	25/01/2023	13:11	Pintail	20	lakes and ponds; feeding	CF
PT116	Little Brosna Callows	02/02/2023	17:35	Pintail	30	lakes and ponds; feeding	CF
PT117	Little Brosna Callows	08/02/2023	17:41	Pintail	15	lakes and ponds; feeding	CF
PT118	Little Brosna Callows	14/02/2023	17:51	Pintail	20	lakes and ponds; feeding	CF
PT119	Little Brosna Callows	22/02/2023	17:54	Pintail	50	lakes and ponds; feeding	CF



- ### Map Legend
- EIA/AR Site Boundary
  - Turbine Layout
  - 500m Radius of Turbines
  - Flight Observation

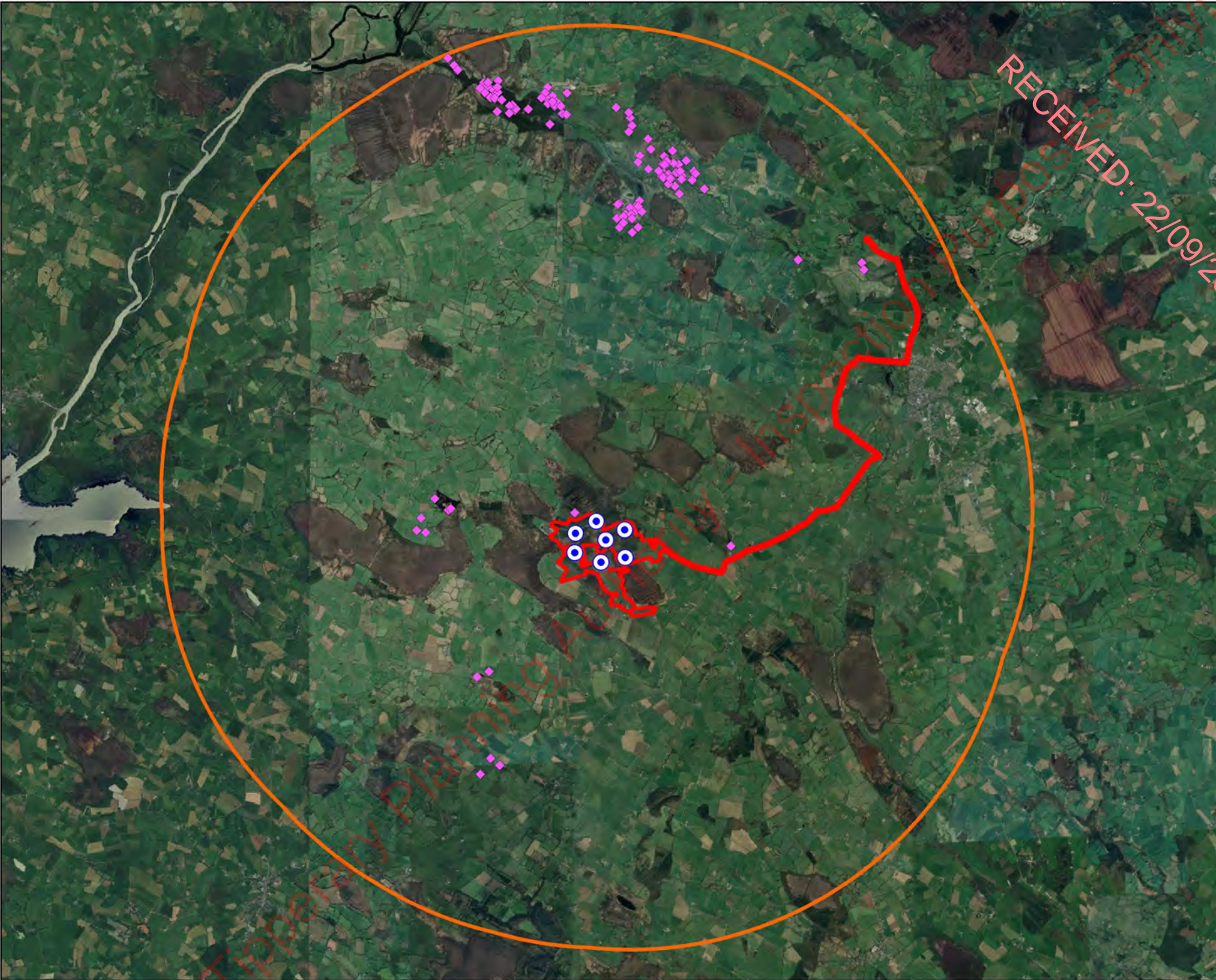


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Project Title: <b>Carrig Renewables Wind Farm</b>	
Drawn By: <b>S. Duff</b>	Checked By: <b>D. Woods</b>
Project No.: <b>211016</b>	Drawing No.: <b>7.4.14.1</b>
Scale: <b>1:50000</b>	Date: <b>28.07.2023</b>

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**Map Legend**

-  EIA Site Boundary
-  Turbine Layout
-  8km Survey Area
-  Observation



**Project Title:**  
Pintail Observations  
Waterbird Distribution Surveys

**Project Name:**  
Carrig Renewables Wind Farm

<b>Drawn By:</b> S. Duff	<b>Checked By:</b> D. Woods
<b>Project No.:</b> 211016	<b>Drawing No.:</b> 7.4.14.2
<b>Scale:</b> 1:110000	<b>Date:</b> 28.07.2023

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## 7-4-15 TEAL

Table 7-4-15-1 Teal Vantage Point Survey Data

Vantage Point Surveys												
Ref.	VP	Date	Time	Species	Number	Duration of flight (s)	Band 1 (0-15m)	Band 2 (15-25m)	Band 3 (25-200m)	Band 4 (>200m)	Habitat and activity	Surveyor
T.001	VP3	14/12/2021	07:44	Teal	2	0	0	0	0	0	bogs and lakes and ponds; calling, heard calling in dark	PDC

Table 7-4-15-2 Teal Winter Walkover Survey Data

Winter Walkover Surveys						
Ref.	Date	Time	Species	Number	Habitat and activity	Surveyor
T.001	31/01/2021		Teal	2	watercourses; feeding, male/female (wintering)	AR
T.002	16/02/2021	10:41	Teal	4	bogs and watercourses; swimming, small lake near pig farm (wintering)	AR
T.003	16/02/2021	14:36	Teal	4	improved agricultural grassland; feeding (wintering)	AR
T.004	16/03/2023	16:22	Teal	2	bogs; flushed (wintering)	CF

Table 7-4-15-3 Teal Waterbird Distribution Survey Data

Waterbird Distribution Surveys							
Ref.	Location	Date	Time	Species	Number	Habitat and activity	Surveyor
T.001	Area 2	20/09/2020		Teal	16	limestone/marl lakes; mixed flock of mallard and teal roosting on edge of unnamed lake	TK

Waterbird Distribution Surveys							
Ref.	Location	Date	Time	Species	Number	Habitat and activity	Surveyor
T.002	Redwood Bog	20/09/2020		Teal	8	lowland blanket bog; mixed flock of teal and mallard roosting in bog pool	TK
T.003	Area 2	29/09/2020		Teal	20	limestone/marl lakes; flock of teal roosting at edge of unnamed lake	TK
T.004	Little Brosna Callows	09/10/2020	15:14	Teal	780	wet grassland; roosting, on callow	TR
T.005	Little Brosna Callows	23/10/2020	16:15	Teal	240	wet grassland; feeding/roosting	TR
T.006	Little Brosna Callows	23/10/2020	16:19	Teal	400	wet grassland; roost/feed, approx.	TR
T.007		11/11/2020	10:30	Teal	1000	watercourses, wet grassland, and marsh; feeding	AR
T.008		11/11/2020	12:10	Teal	100	watercourses; feeding	AR
T.009		11/11/2020	12:31	Teal	1400	watercourses and improved agricultural grassland; feeding/roosting	AR
T.010		11/11/2020	16:05	Teal	20	watercourses and improved agricultural grassland; feeding	AR
T.011		14/11/2020	09:05	Teal	12	watercourses and improved agricultural grassland; feeding	AR
T.012		14/11/2020	10:30	Teal	10	watercourses; feeding	AR
T.013		14/11/2020	12:25	Teal	500	watercourses, improved agricultural grassland and wet grassland; feeding	AR
T.014		14/11/2020	12:57	Teal	400	watercourses and improved agricultural grassland; feeding	AR
T.015		14/11/2020	13:20	Teal	500	watercourses; feeding	AR

Waterbird Distribution Surveys							
Ref.	Location	Date	Time	Species	Number	Habitat and activity	Surveyor
T.016		14/11/2020	14:31	Teal	40	watercourses; feeding	AR
T.017		27/11/2020	10:00	Teal	50	watercourses and improved agricultural grassland; feeding	AR
T.018		27/11/2020	10:50	Teal	100	watercourses and improved agricultural grassland; feeding /roosting	AR
T.019		27/11/2020	11:15	Teal	100	watercourses; feeding	AR
T.020		27/11/2020	11:42	Teal	30	watercourses; feeding	AR
T.021		27/11/2020	12:15	Teal	500	watercourses; feeding	AR
T.022		27/11/2020	13:20	Teal	50	watercourses; feeding	AR
T.023		27/11/2020	14:40	Teal	10	watercourses; feeding	AR
T.024		27/11/2020	16:10	Teal	200	watercourses; feeding	AR
T.025		15/12/2020	08:40	Teal	1	watercourses; feeding	AR
T.026		15/12/2020	09:20	Teal	100	watercourses and improved agricultural grassland; feeding	AR
T.027		15/12/2020	09:50	Teal	70	watercourses and improved agricultural grassland; feeding/roosting	AR
T.028		15/12/2020	10:20	Teal	1000	watercourses and improved agricultural grassland; feeding/roosting	AR
T.029		15/12/2020	12:00	Teal	100	watercourses and improved agricultural grassland; feeding/roosting	AR

Waterbird Distribution Surveys							
Ref.	Location	Date	Time	Species	Number	Habitat and activity	Surveyor
T.030		15/12/2020	12:43	Teal	1000	watercourses and improved agricultural grassland; feeding	AR
T.031		17/12/2020	09:40	Teal	10	watercourses and improved agricultural grassland; feeding	AR
T.032		31/12/2020	10:40	Teal	700	watercourses and improved agricultural grassland; feeding/roosting	AR
T.033		31/12/2020	10:55	Teal	100	watercourses; feeding/roosting	AR
T.034		31/12/2020	12:45	Teal	100	watercourses and improved agricultural grassland; feeding/roosting	AR
T.035		31/12/2020	13:30	Teal	150	watercourses and improved agricultural grassland; feeding	AR
T.036		31/12/2020	14:47	Teal	184	watercourses; feeding/roosting	AR
T.037		31/12/2020	16:10	Teal	88	watercourses; roosting	AR
T.038		12/01/2021	10:15	Teal	200	improved agricultural grassland and watercourses; feeding	AR
T.039		12/01/2021	13:00	Teal	40	improved agricultural grassland and watercourses; feeding	AR
T.040		14/01/2021	08:30	Teal	300	watercourses and improved agricultural grassland; feeding/roosting, feeding	AR
T.041		14/01/2021	09:40	Teal	500	watercourses and improved agricultural grassland; feeding/roosting, feeding/roosting	AR
T.042		14/01/2021	10:20	Teal	76	watercourses and improved agricultural grassland; feeding/roosting, feeding	AR
T.043		14/01/2021	11:15	Teal	4	watercourses and improved agricultural grassland; flying	AR

Waterbird Distribution Surveys							
Ref.	Location	Date	Time	Species	Number	Habitat and activity	Surveyor
T.044		14/01/2021	12:05	Teal	300	watercourses and improved agricultural grassland; feeding/roosting, feeding	AR
T.045		14/01/2021	12:45	Teal	700	watercourses; feeding/roosting, feeding	AR
T.046		14/01/2021	13:30	Teal	300	watercourses and improved agricultural grassland; feeding/roosting, feeding/roosting	AR
T.047		14/01/2021	14:10	Teal	400	watercourses; feeding/roosting, feeding	AR
T.048	Little Brosna Callows	29/01/2021	11:07	Teal	120	watercourses; in water, flooding around lake	AR
T.049		29/01/2021	12:49	Teal	6	improved agricultural grassland; roosting in field	AR
T.050		30/01/2021	09:15	Teal	60	improved agricultural grassland and watercourses; feeding/roosting, feeding	AR
T.051		30/01/2021	10:05	Teal	62	watercourses; feeding/roosting, feeding	AR
T.052		30/01/2021	11:25	Teal	60	watercourses and improved agricultural grassland; feeding/roosting, feeding	AR
T.053		30/01/2021	12:06	Teal	30	watercourses; feeding/roosting, feeding	AR
T.054		30/01/2021	13:00	Teal	30	watercourses; feeding/roosting, feeding	AR
T.055		30/01/2021	14:00	Teal	250	watercourses; feeding/roosting, feeding	AR
T.056		14/02/2021	11:05	Teal	3	watercourses; feeding	AR
T.057		14/02/2021	13:40	Teal	60	improved agricultural grassland, hedgerows, and watercourses; feeding	AR

Waterbird Distribution Surveys							
Ref.	Location	Date	Time	Species	Number	Habitat and activity	Surveyor
T.058		15/02/2021	09:10	Teal	100	semi-natural grassland, improved agricultural grassland and watercourses; feeding	AR
T.059		15/02/2021	09:41	Teal	300	semi-natural grassland, improved agricultural grassland and watercourses; feeding	AR
T.060		15/02/2021	10:07	Teal	30	semi-natural grassland, improved agricultural grassland and watercourses; feeding	AR
T.061		15/02/2021	10:30	Teal	300	semi-natural grassland and watercourses; feeding	AR
T.062		15/02/2021	11:00	Teal	150	semi-natural grassland, watercourses, and improved agricultural grassland; feeding	AR
T.063		15/02/2021	13:08	Teal	20	improved agricultural grassland, highly modified/non-native woodland, and hedgerows; feeding	AR
T.064		24/02/2021	10:20	Teal	2	watercourses; feeding	AR
T.065		24/02/2021	11:00	Teal	26	improved agricultural grassland and watercourses; feeding	AR
T.066		24/02/2021	13:51	Teal	5	improved agricultural grassland and watercourses; feeding	AR
T.067		24/02/2021	14:00	Teal	14	improved agricultural grassland and watercourses; feeding	AR
T.068		26/02/2021	09:17	Teal	50	improved agricultural grassland, semi-natural grassland, and watercourses; feeding	AR
T.069		26/02/2021	10:05	Teal	20	semi-natural grassland and watercourses; feeding	AR
T.070		26/02/2021	12:00	Teal	100	improved agricultural grassland and watercourses; feeding	AR
T.071		26/02/2021	13:37	Teal	100	improved agricultural grassland, watercourses, and semi-natural grassland; feeding	AR

Waterbird Distribution Surveys							
Ref.	Location	Date	Time	Species	Number	Habitat and activity	Surveyor
T.072		16/03/2021	09:10	Teal	14	watercourses and reed and large sedge swamps; feeding	AR
T.073		16/03/2021	10:10	Teal	46	watercourses, reed and large sedge swamps and improved agricultural grassland; feeding	AR
T.074		20/03/2021	08:30	Teal	23	watercourses; feeding	AR
T.075		20/03/2021	11:32	Teal	200	watercourses and wet grassland; feeding	AR
T.076		20/03/2021	12:46	Teal	200	watercourses; feeding	AR
T.077		20/03/2021	13:38	Teal	100	watercourses and improved agricultural grassland; feeding	AR
T.078		22/03/2021	10:30	Teal	22	watercourses; feeding	AR
T.079		22/03/2021	13:01	Teal	3	watercourses and reed and large sedge swamps; feeding	AR
T.080		22/03/2021	13:45	Teal	4	watercourses; feeding	AR
T.081		24/03/2021	10:00	Teal	200	watercourses and semi-natural grassland; feeding	AR
T.082		24/03/2021	11:00	Teal	400	watercourses and semi-natural grassland; feeding	AR
T.083		24/03/2021	12:15	Teal	150	watercourses and semi-natural grassland; feeding	AR
T.084		24/03/2021	12:15	Teal	100	watercourses; feeding	AR
T.085		09/04/2021	07:45	Teal	5	wet grassland; feeding	AR



Waterbird Distribution Surveys							
Ref.	Location	Date	Time	Species	Number	Habitat and activity	Surveyor
T.086		09/04/2021	09:40	Teal	36	wet grassland, watercourses, and improved grassland; flying	AR
T.087		09/04/2021	11:05	Teal	15	watercourses and improved grassland; feeding	AR
T.088		23/04/2021	10:20	Teal	12	wet grassland; flying	AR
T.089		23/04/2021	11:10	Teal	5	wet grassland and watercourses; feeding	AR
T.090		31/08/2021	07:40	Teal	8	wet grassland and watercourses; feeding	AR
T.091		28/09/2021	08:35	Teal	5	watercourses and wet grassland; feeding	AR
T.092		08/11/2021	09:50	Teal	70	wet grassland; feeding	AR
T.093		08/11/2021	10:38	Teal	100	wet grassland; feeding	AR
T.094		08/11/2021	11:35	Teal	14	wet grassland and watercourses; feeding	AR
T.095		08/11/2021	13:21	Teal	47	wet grassland and watercourses; feeding	AR
T.096		11/11/2021	07:50	Teal	19	wet grassland and watercourses; feeding	AR
T.097		11/11/2021	08:32	Teal	46	wet grassland; feeding	AR
T.098		11/11/2021	10:25	Teal	200	wet grassland; feeding	AR
T.099		11/11/2021	13:20	Teal	6	wet grassland and watercourses; feeding	AR

Waterbird Distribution Surveys							
Ref.	Location	Date	Time	Species	Number	Habitat and activity	Surveyor
T.100		24/11/2021	11:42	Teal	30	wet grassland and watercourses; feeding	AR
T.101		24/11/2021	13:14	Teal	8	wet grassland and watercourses; feeding	AR
T.102		24/11/2021	14:10	Teal	18	watercourses; feeding	AR
T.103		29/11/2021	11:30	Teal	40	wet grassland; feeding	AR
T.104		29/11/2021	12:20	Teal	67	wet grassland; feeding	AR
T.105		29/11/2021	13:10	Teal	13	watercourses; feeding	AR
T.106		29/11/2021	14:02	Teal	5	wet grassland and watercourses; feeding	AR
T.107		05/12/2021	12:42	Teal	73	wet grassland; feeding	AR
T.108		06/12/2021	10:20	Teal	37	wet grassland; feeding	AR
T.109		06/12/2021	11:07	Teal	400	wet grassland; feeding	AR
T.110		06/12/2021	13:25	Teal	350	wet grassland; feeding	AR
T.111		20/12/2021	08:53	Teal	3	watercourses; feeding	AR
T.112		21/12/2021	12:00	Teal	1000	wet grassland; feeding/flying	AR
T.113		21/12/2021	13:21	Teal	75	wet grassland; feeding	AR

Waterbird Distribution Surveys							
Ref.	Location	Date	Time	Species	Number	Habitat and activity	Surveyor
T.114		07/01/2022	09:50	Teal	75	watercourses and wet grassland; feeding	AR
T.115		07/01/2022	10:46	Teal	200	watercourses and wet grassland; feeding	AR
T.116		07/01/2022	11:40	Teal	500	wet grassland; feeding	AR
T.117		07/01/2022	12:39	Teal	200	wet grassland and watercourses; feeding	AR
T.118		09/01/2022	07:30	Teal	2	watercourses and bogs; flying	AR
T.119		09/01/2022	10:50	Teal	20	wet grassland and watercourses; feeding	AR
T.120		30/01/2022	09:10	Teal	26	watercourses; feeding	AR
T.121		31/01/2022	08:45	Teal	100	wet grassland; feeding	AR
T.122		31/01/2022	11:40	Teal	1000	wet grassland; feeding	AR
T.123		31/01/2022	12:34	Teal	1500	wet grassland; feeding, Ashton's callow	AR
T.124		05/02/2022	07:30	Teal	22	watercourses; feeding	AR
T.125		05/02/2022	10:46	Teal	40	watercourses and wet grassland; feeding	AR
T.126		06/02/2022	08:00	Teal	2000	wet grassland and watercourses; feeding/flying	AR
T.127	Little Brosna Callows	06/02/2022	10:51	Teal	1000	wet grassland; feeding	AR

Waterbird Distribution Surveys							
Ref.	Location	Date	Time	Species	Number	Habitat and activity	Surveyor
T.128	Little Brosna Callows	06/02/2022	12:22	Teal	800	wet grassland; feeding	AR
T.129	Little Brosna Callows	18/02/2022	09:10	Teal	40	wet grassland and watercourses; feeding	AR
T.130	Little Brosna Callows	18/02/2022	10:23	Teal	26	wet grassland and watercourses; feeding	AR
T.131	Little Brosna Callows	18/02/2022	11:30	Teal	500	wet grassland and watercourses; feeding	AR
T.132	Little Brosna Callows	18/02/2022	12:32	Teal	1100	wet grassland and watercourses; feeding	AR
T.133	Little Brosna Callows	18/02/2022	13:42	Teal	300	wet grassland and watercourses; feeding	AR
T.134	Little Brosna Callows	19/02/2022	08:03	Teal	20	watercourses; feeding	AR
T.135	Little Brosna Callows	19/02/2022	08:24	Teal	50	wet grassland; feeding	AR
T.136	Little Brosna Callows	19/02/2022	08:57	Teal	60	wet grassland; feeding	AR
T.137	Little Brosna Callows	19/02/2022	12:53	Teal	50	wet grassland and watercourses; feeding	AR
T.138	Little Brosna Callows	19/02/2022	13:10	Teal	16	wet grassland, improved grassland, and hedgerows; feeding	AR
T.139	Little Brosna Callows	19/02/2022	13:36	Teal	3	watercourses and bogs; feeding	AR
T.140	Little Brosna Callows	10/03/2022	09:20	Teal	100	wet grassland; feeding	AR
T.141	Little Brosna Callows	10/03/2022	10:30	Teal	200	wet grassland; feeding	AR

Waterbird Distribution Surveys							
Ref.	Location	Date	Time	Species	Number	Habitat and activity	Surveyor
T.142	Little Brosna Callows	10/03/2022	11:35	Teal	1000	wet grassland; feeding	AR
T.143	Little Brosna Callows	10/03/2022	12:40	Teal	800	wet grassland; feeding	AR
T.144	Little Brosna Callows	11/03/2022	08:23	Teal	2	watercourses and bogs; feeding	AR
T.145	Little Brosna Callows	11/03/2022	08:43	Teal	6	wet grassland; feeding	AR
T.146	Little Brosna Callows	11/03/2022	09:04	Teal	14	watercourses and wet grassland; feeding	AR
T.147	Little Brosna Callows	11/03/2022	11:06	Teal	60	wet grassland; feeding	AR
T.148	Little Brosna Callows	11/03/2022	12:32	Teal	120	watercourses and wet grassland; feeding	AR
T.149	Little Brosna Callows	30/03/2022	10:35	Teal	1	watercourses and bogs; feeding	AR
T.150	Little Brosna Callows	31/03/2022	10:30	Teal	300	wet grassland; feeding	AR
T.151	Little Brosna Callows	31/03/2022	13:31	Teal	150	wet grassland; feeding	AR
T.152	Little Brosna Callows	18/10/2022	10:32	Teal	3	watercourses; feeding on water	NL
T.153	Little Brosna Callows	21/10/2022	09:46	Teal	3	marsh and watercourses; feeding	NL
T.154	Little Brosna Callows	03/11/2022	12:12	Teal	200	lakes and ponds; feeding	CF
T.155	Little Brosna Callows	09/11/2022	11:12	Teal	400	lakes and ponds; feeding	CF

Waterbird Distribution Surveys							
Ref.	Location	Date	Time	Species	Number	Habitat and activity	Surveyor
T.156	Little Brosna Callows	22/11/2022	10:24	Teal	4	marsh and watercourses; feeding & roosting	NL
T.157	Little Brosna Callows	29/11/2022	10:44	Teal	5	marsh and watercourses; feeding & roosting	NL
T.158	Little Brosna Callows	29/11/2022	11:04	Teal	1	marsh and watercourses; feeding	NL
T.159	Little Brosna Callows	05/12/2022	13:10	Teal	100	lakes and ponds; roosting	CF
T.160	Little Brosna Callows	05/12/2022	14:36	Teal	50	lakes and ponds; feeding	CF
T.161	Little Brosna Callows	08/12/2022	12:43	Teal	30	lakes and ponds; feeding	CF
T.162	Little Brosna Callows	15/12/2022	14:49	Teal	1000	lakes and ponds; feeding	CF
T.163	Little Brosna Callows	21/12/2022	13:57	Teal	10	lakes and ponds; feeding	CF
T.164	Little Brosna Callows	21/12/2022	14:02	Teal	200	lakes and ponds; feeding	CF
T.165	Little Brosna Callows	21/12/2022	15:01	Teal	1000	lakes and ponds; roosting	CF
T.166	Little Brosna Callows	04/01/2023	12:07	Teal	500	lakes and ponds; feeding	CF
T.167	Little Brosna Callows	04/01/2023	12:09	Teal	40	lakes and ponds; feeding	CF
T.168	Little Brosna Callows	11/01/2023	12:23	Teal	400	lakes and ponds; feeding	CF
T.169	Little Brosna Callows	11/01/2023	12:29	Teal	200	lakes and ponds; feeding	CF

Waterbird Distribution Surveys							
Ref.	Location	Date	Time	Species	Number	Habitat and activity	Surveyor
T.170	Little Brosna Callows	18/01/2023	12:43	Teal	600	lakes and ponds; feeding	CF
T.171	Little Brosna Callows	25/01/2023	13:09	Teal	400	lakes and ponds; feeding	CF
T.172	Little Brosna Callows	25/01/2023	13:11	Teal	100	lakes and ponds; feeding	CF
T.173	Little Brosna Callows	02/02/2023	17:34	Teal	500	lakes and ponds; feeding	CF
T.174	Little Brosna Callows	08/02/2023	17:40	Teal	200	lakes and ponds; feeding	CF
T.175	Little Brosna Callows	14/02/2023	17:51	Teal	800	lakes and ponds; feeding	CF
T.176	Little Brosna Callows	22/02/2023	17:29	Teal	10	lakes and ponds; feeding	CF
T.177	Little Brosna Callows	22/02/2023	17:54	Teal	400	lakes and ponds; feeding	CF
T.178	Little Brosna Callows	02/03/2023	16:02	Teal	500	lakes and ponds; feeding	CF
T.179	Little Brosna Callows	10/03/2023	16:08	Teal	40	lakes and ponds; feeding	CF
T.180	Little Brosna Callows	16/03/2023	16:12	Teal	60	lakes and ponds; feeding	CF
T.181	Little Brosna Callows	22/03/2023	16:16	Teal	100	lakes and ponds; feeding	CF

Table 7-4-15-4 Teal Incidental Data

Incidental Observations
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Ref.	Location	Date	Time	Species	Number	Habitat and activity	Surveyor
T.001	Vantage Point Survey; VP4	07/12/2022	12:38	Teal	60	lakes and ponds; feeding, large number of teal present in pond, not visible on Bing maps but visible on google, heard calling from VP so walked through woods to check	CF

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- ### Map Legend
- EIA Site Boundary
  - Turbine Layout
  - 500m Radius of Turbines
  - Non-flight Observation

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Drawing Title: <b>Teal Observations Vantage Point Surveys</b>	
Project Title: <b>Carrig Renewables Wind Farm</b>	
Drawn By: <b>S. Duff</b>	Checked By: <b>D. Woods</b>
Project No.: <b>211016</b>	Drawing No.: <b>7.4.15.1</b>
Scale: <b>1:50000</b>	Date: <b>28.07.2023</b>
<b>MKO</b> Planning and Environmental Consultants Tuam Road, Galway Ireland, F91 VV84 +353 (0) 91 235611 email: info@mkofireland.ie Website: www.mkofireland.ie	

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**Map Legend**

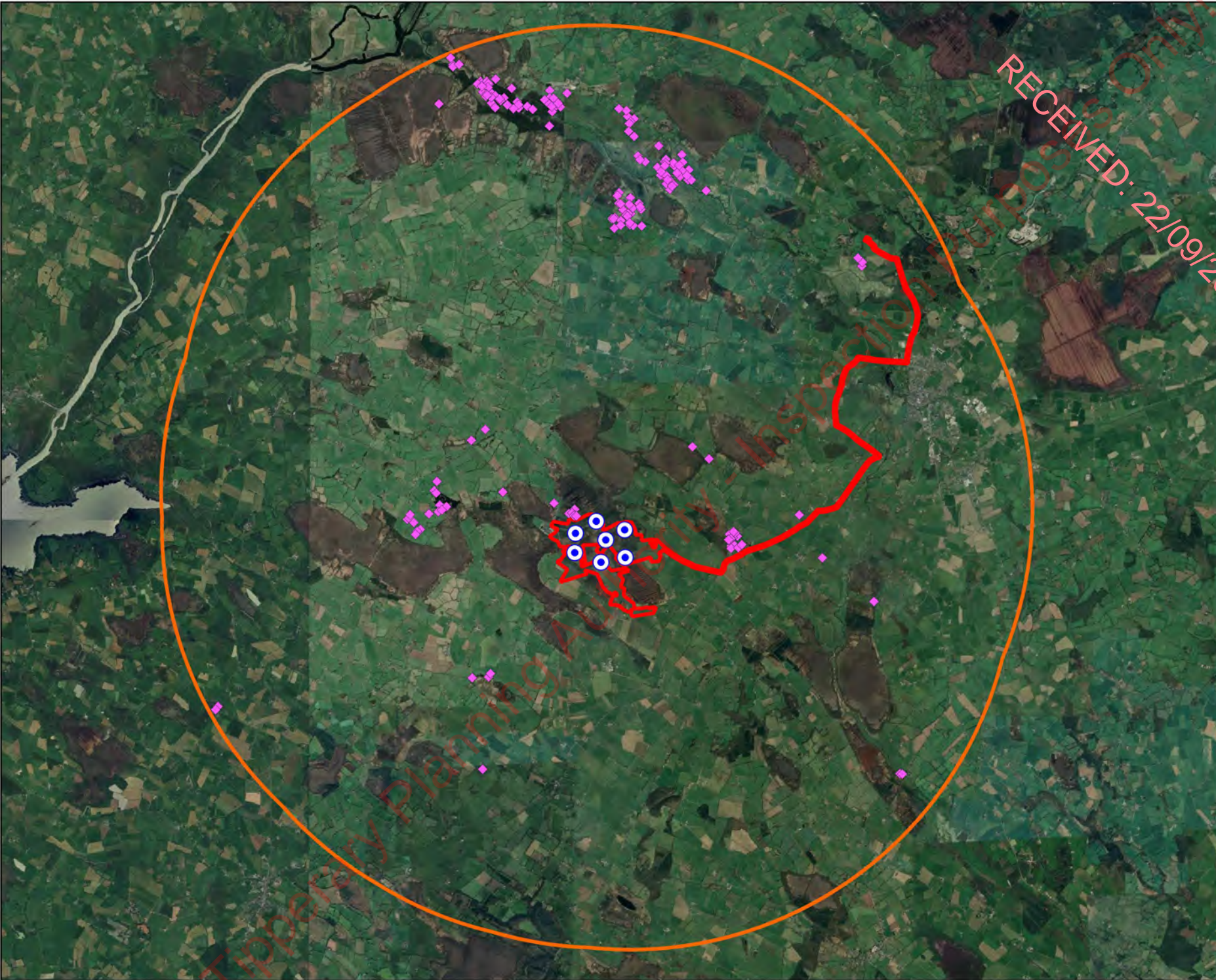
- EIA Site Boundary
- Turbine Layout
- 500m Survey Area
- Flight Observation

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Drawing Title: <b>Teal Observations Winter Walkover Surveys</b>	
Project Title: <b>Carrig Renewables Wind Farm</b>	
Drawn By: <b>S. Duff</b>	Checked By: <b>D. Woods</b>
Project No. <b>211016</b>	Drawing No. <b>7.4.15.2</b>
Scale <b>1:35000</b>	Date <b>28.07.2023</b>
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**Map Legend**

-  EIA Site Boundary
-  Turbine Layout
-  8km Survey Area
-  Observation



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**Teal Observations**  
**Waterbird Distribution Surveys**

Project Title:  
**Carrig Renewables Wind Farm**

Drawn By	Checked By
<b>S. Duff</b>	<b>D. Woods</b>
Project No.	Drawing No.
<b>211016</b>	<b>7.4.15.3</b>
Scale	Date
<b>1:110000</b>	<b>28.07.2023</b>

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 Website: www.mkofireland.ie



**Map Legend**

- EIA Site Boundary
- Turbine Layout
- Observation



Drawing Title: <b>Teal Observations Incidental Records</b>	
Project Title: <b>Carrig Renewables Wind Farm</b>	
Drawn By: <b>S. Duff</b>	Checked By: <b>D. Woods</b>
Project No: <b>211016</b>	Drawing No.: <b>7.4.15.4</b>
Scale: <b>1:50000</b>	Date: <b>28.07.2023</b>
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## 7-4-16 BARN OWL

**Note:** Sensitive data relating to breeding site has been omitted from this appendix and is provided in Confidential Appendix 7-7.

Table 7-4-16-1 Barn Owl Incidental Data

Incidental Observations							
Ref.	Location	Date	Time	Species	Number	Habitat and activity	Surveyor
BO001	Breeding Woodcock Survey; Sharragh T2	08/06/2022	23:08	Barn Owl	1	conifer plantation; flying over, flew overhead, perched briefly on a branch before flying away.	KG

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Map Legend

- EIA Site Boundary
- Turbine Layout
- ↗ Observation

BO001

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PROPOSED PLANNING PERMISSION PURPOSE ONLY



Drawing Title:  
**Barn Owl Observations  
Incidental Records**

Project Title:  
Carrig Renewables Wind Farm

Drawn By <b>S. Duff</b>	Checked By <b>D. Woods</b>
Project No. <b>211016</b>	Drawing No. <b>7.4.16.1</b>
Scale <b>1:50000</b>	Date <b>28.07.2023</b>

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## 7-4-17 CURLEW

**Note:** Sensitive data relating to breeding site has been omitted from this appendix and is provided in Confidential Appendix 7-7.

Table 7-4-17-1 Curlew Vantage Point Survey Data

Vantage Point Surveys												
Ref.	VP	Date	Time	Species	Number	Duration of flight (s)	Band 1 (0-15m)	Band 2 (15-25m)	Band 3 (25-200m)	Band 4 (>200m)	Habitat and activity	Surveyor
CU001	VP3	17/03/2021	09:45	Curlew	1	20	0	20	0	0	bogs, improved agricultural grassland and scrub; over calling	AR
CU002	VP1	08/07/2021	09:02	Curlew	1	30	0	30	0	0	improved grassland, hedgerows and bogs; travelling	AR
CU003	VP1	13/12/2021	07:46	Curlew	4	0	0	0	0	0	bogs and improved grassland; calling, at least 4 heard calling, hard to tell exactly where in the darkness	PDC
CU004	VP3	14/12/2021	07:45	Curlew	20	0	0	0	0	0	bogs and lakes and ponds; calling, estimate of numbers calling in dark	PDC
CU005	VP3	14/12/2021	08:25	Curlew	2	0	0	0	0	0	bogs; calling, calling but couldn't see them	PDC
CU006	VP3	17/02/2022	08:36	Curlew	2	30	0	30	0	0	bogs and conifer plantation; flying	AR
CU007	VP3	19/04/2022	07:43	Curlew	1	0	0	0	0	0	cutover bog; calling, flooded bog, heard only	ZE
CU008	VP3	19/04/2022	11:27	Curlew	1	0	0	0	0	0	cutover bog and highly modified/non-native woodland; call, heard only	ZE
CU009	VP1	07/06/2022	10:32	Curlew	1	0	0	0	0	0	bogs; calling, heard only	ZE
CU010	VP1	01/07/2022	10:51	Curlew	3	32	32	0	0	0	bogs; fly sw	ZE

Vantage Point Surveys												
CU011	VP3	04/07/2022	14:52	Curlew	17	15	15	0	0	0	bogs; fly, alarm calls, calling started with the appearance of the buzzards	ZE
CU012	VP1	21/07/2022	12:36	Curlew	1	0	0	0	0	0	bogs; calling, heard only	ZE
CU013	VP3	22/07/2022	12:20	Curlew	1	23	23	0	0	0	bogs and swamps; fly se, landed where the herons and mallards are, flooded part	ZE
CU014	VP4	19/10/2022	08:44	Curlew	1	20	0	0	20	0	improved grassland; flying	CF
CU015	VP1	25/10/2022	09:01	Curlew	2	40	0	0	40	0	bogs; flying	CF

Table 7-4-17-2 Curlew Breeding Walkover Survey Data

Breeding Walkover Surveys							
Ref.	Date	Time	Species	Number	Habitat and activity		Surveyor
CU001	13/04/2022	10:03	Curlew	1	bogs and improved agricultural grassland; fly se, call (suitable nesting habitat; possible breeder)		ZE
CU005	08/07/2022	09:23	Curlew	1	bogs and highly modified/non-native woodland; calling, heard only (suitable nesting habitat; possible breeder)		ZE

Table 7-4-17-3 Curlew Waterbird Distribution Survey Data

Waterbird Distribution Surveys							
Ref.	Location	Date	Time	Species	Number	Habitat and activity	Surveyor
CU001		14/11/2020	12:57	Curlew	3	watercourses; flying	AR
CU002		14/11/2020	13:51	Curlew	3	watercourses; flying	AR



Waterbird Distribution Surveys							
Ref.	Location	Date	Time	Species	Number	Habitat and activity	Surveyor
CU003		30/11/2020	10:22	Curlew	11	watercourses and improved agricultural grassland; roosting	AR
CU004		15/12/2020	08:40	Curlew	7	watercourses; roosting	AR
CU005		17/12/2020	11:20	Curlew	8	watercourses and improved agricultural grassland; roosting	AR
CU006		17/12/2020	13:20	Curlew	34	watercourses and improved agricultural grassland; feeding	AR
CU007		29/12/2020	10:20	Curlew	8	watercourses and improved agricultural grassland; roosting	AR
CU008		29/12/2020	11:15	Curlew	10	improved agricultural grassland; feeding	AR
CU009		29/12/2020	12:35	Curlew	17	watercourses and improved agricultural grassland; roosting	AR
CU010		29/12/2020	13:50	Curlew	10	watercourses and improved agricultural grassland; roosting	AR
CU011	Little Brosna Callows	29/01/2021	11:07	Curlew	21	watercourses; in water, flooding around lake	AR
CU012		29/01/2021	12:49	Curlew	19	improved agricultural grassland; roosting in field	AR
CU013		30/01/2021	14:00	Curlew	2	watercourses and improved agricultural grassland; feeding/roosting, roosting	AR
CU014		14/02/2021	12:30	Curlew	17	improved agricultural grassland; roosting/feeding	AR
CU015		14/02/2021	13:40	Curlew	9	improved agricultural grassland, hedgerows, and watercourses; roosting	AR
CU016		15/02/2021	09:10	Curlew	4	semi-natural grassland, improved agricultural grassland and watercourses; roosting	AR

Waterbird Distribution Surveys							
Ref.	Location	Date	Time	Species	Number	Habitat and activity	Surveyor
CU017		24/02/2021	10:20	Curlew	2	watercourses; feeding	AR
CU018		24/02/2021	12:20	Curlew	9	improved agricultural grassland and watercourses; roosting	AR
CU019		26/02/2021	08:10	Curlew	1	improved agricultural grassland, semi-natural grassland, and watercourses; roosting	AR
CU020		20/03/2021	11:32	Curlew	3	improved agricultural grassland; feeding	AR
CU021		24/03/2021	10:00	Curlew	2	watercourses and semi-natural grassland; feeding	AR
CU022		24/03/2021	11:00	Curlew	4	watercourses and semi-natural grassland; feeding	AR
CU023		09/04/2021	09:40	Curlew	1	wet grassland, watercourses, and improved grassland; flying	AR
CU024		21/05/2021	11:20	Curlew	1	wet grassland and watercourses; flying	AR
CU025		08/11/2021	09:50	Curlew	3	wet grassland; feeding	AR
CU026		08/11/2021	11:35	Curlew	3	wet grassland and watercourses; roosting	AR
CU027		08/11/2021	13:21	Curlew	7	wet grassland and watercourses; roosting	AR
CU028		11/11/2021	07:50	Curlew	8	wet grassland and watercourses; feeding	AR
CU029		11/11/2021	13:20	Curlew	17	wet grassland and watercourses; feeding	AR
CU030		24/11/2021	12:40	Curlew	7	wet grassland; feeding	AR

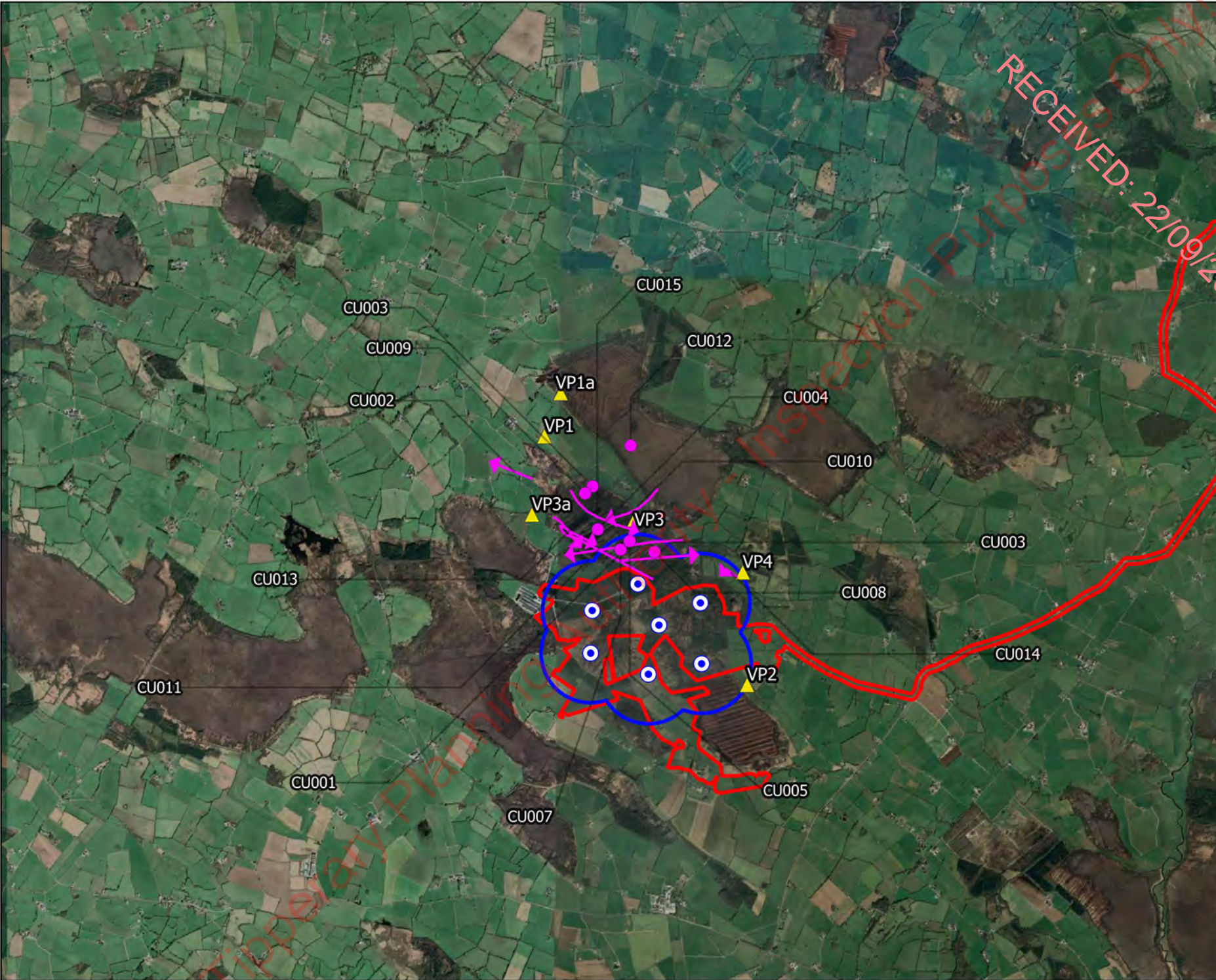
Waterbird Distribution Surveys							
Ref.	Location	Date	Time	Species	Number	Habitat and activity	Surveyor
CU031		24/11/2021	13:14	Curlew	12	wet grassland and watercourses; feeding/flying	AR
CU032		24/11/2021	14:10	Curlew	22	watercourses; feeding	AR
CU033		29/11/2021	11:30	Curlew	2	wet grassland; feeding	AR
CU034		05/12/2021	09:00	Curlew	27	watercourses; feeding	AR
CU035		06/12/2021	11:07	Curlew	4	wet grassland; feeding	AR
CU036		20/12/2021	07:46	Curlew	2	bogs, improved grassland, and hedgerows; flying/calling	AR
CU037		21/12/2021	07:30	Curlew	9	bogs and watercourses; calling/flying	AR
CU038		21/12/2021	12:00	Curlew	3	wet grassland; feeding/flying	AR
CU039		07/01/2022	07:30	Curlew	11	watercourses; roosting	AR
CU040		07/01/2022	09:50	Curlew	17	watercourses and wet grassland; feeding	AR
CU041		09/01/2022	09:43	Curlew	17	improved grassland and wet grassland; feeding	AR
CU042		09/01/2022	10:50	Curlew	19	wet grassland and watercourses; feeding/flying	AR
CU043		09/01/2022	11:47	Curlew	12	watercourses; feeding	AR
CU044		30/01/2022	09:10	Curlew	16	watercourses; feeding	AR

Waterbird Distribution Surveys							
Ref.	Location	Date	Time	Species	Number	Habitat and activity	Surveyor
CU045		30/01/2022	10:50	Curlew	6	wet grassland and improved grassland; roosting	AR
CU046		31/01/2022	11:40	Curlew	10	wet grassland; feeding	AR
CU047		05/02/2022	07:30	Curlew	17	watercourses; flying	AR
CU048		05/02/2022	10:46	Curlew	10	watercourses and wet grassland; feeding	AR
CU049		06/02/2022	08:00	Curlew	10	wet grassland and watercourses; feeding/flying	AR
CU050	Little Brosna Callows	18/02/2022	11:30	Curlew	3	wet grassland and watercourses; roosting	AR
CU051	Little Brosna Callows	19/02/2022	12:01	Curlew	9	wet grassland and improved grassland; roosting	AR
CU052	Little Brosna Callows	19/02/2022	12:53	Curlew	7	wet grassland and watercourses; feeding	AR
CU053	Little Brosna Callows	10/03/2022	11:03	Curlew	6	wet grassland; feeding	AR
CU054	Little Brosna Callows	10/03/2022	11:35	Curlew	4	wet grassland; feeding	AR
CU055	Little Brosna Callows	30/03/2022	11:20	Curlew	3	watercourses and wet grassland; feeding	AR
CU056	Little Brosna Callows	31/03/2022	09:00	Curlew	2	wet grassland; feeding	AR
CU057	Little Brosna Callows	05/05/2022	13:04	Curlew	1	watercourses and wet grassland; grazing	NL
CU058	Little Brosna Callows	11/05/2022	10:45	Curlew	1	watercourses and wet grassland; heard calling	NL

Waterbird Distribution Surveys							
Ref.	Location	Date	Time	Species	Number	Habitat and activity	Surveyor
CU059	Little Brosna Callows	18/10/2022	10:45	Curlew	3	semi-natural grassland; feeding	NL
CU060	Little Brosna Callows	25/10/2022	10:22	Curlew	2	marsh and watercourses; feeding	NL
CU061	Little Brosna Callows	28/10/2022	08:24	Curlew	15	turloughs; roosting	NL
CU062	Little Brosna Callows	28/10/2022	10:39	Curlew	15	watercourses and marsh; feeding	NL
CU063	Little Brosna Callows	03/11/2022	10:47	Curlew	1	lakes and ponds; roosting	CF
CU064	Little Brosna Callows	22/11/2022	08:22	Curlew	4	turloughs; flushed	NL
CU065	Little Brosna Callows	29/11/2022	08:35	Curlew	8	turloughs; flying and calling	NL
CU066	Little Brosna Callows	29/11/2022	08:39	Curlew	1	improved agricultural grassland; grazing	NL
CU067	Little Brosna Callows	05/12/2022	13:13	Curlew	7	lakes and ponds; feeding	CF
CU068	Little Brosna Callows	04/01/2023	12:02	Curlew	13	lakes and ponds; feeding	CF
CU069	Little Brosna Callows	11/01/2023	12:19	Curlew	12	lakes and ponds; feeding	CF
CU070	Little Brosna Callows	08/02/2023	17:25	Curlew	10	lakes and ponds; feeding	CF
CU071	Little Brosna Callows	14/02/2023	17:27	Curlew	10	lakes and ponds; feeding	CF
CU072	Little Brosna Callows	16/03/2023	16:13	Curlew	1	lakes and ponds; feeding	CF

Table 7-4-17-4 Curlew Incidental Data

Incidental Observations							
Ref.	Location	Date	Time	Species	Number	Habitat and activity	Surveyor
CU006	Breeding Raptor Survey; VP3	26/04/2022	07:40	Curlew	1	cutover bog and highly modified/non-native woodland; calling, only heard	ZE
CU007	Breeding Woodcock Survey; T4	30/05/2022	21:32	Curlew	1	bogs; calling, heard only	ZE
CU008	Breeding Woodcock Survey; T4	30/05/2022	22:30	Curlew	1	bogs; calling, heard only	ZE
CU009	Breeding Woodcock Survey; T4	30/05/2022	22:42	Curlew	1	bogs; calling, heard only	ZE
CU010	Breeding Raptor Survey; Sharragh BRVP1	20/06/2022	07:40	Curlew	1	bogs; calling, heard only; another calling @07:45	ZE
CU013	Breeding Raptor Survey; BRVP2	21/06/2022	07:15	Curlew	1	cutover bog and conifer plantation; fly NE	ZE
CU014	Breeding Woodcock Survey; Woodcock T4	23/06/2022	22:06	Curlew	2	cutover bog; calling, heard only	ZE
CU015	Breeding Woodcock Survey; Woodcock T1	29/06/2022	22:00	Curlew	1	bogs and highly modified/non-native woodland; calling, heard only	ZE
CU016	Hen Harrier Roost Survey; HHVP2	25/10/2022	18:50	Curlew	1	cutover bog; heard calling	PM



- ### Map Legend
- EIAR Site Boundary
  - Turbine Layout
  - 500m Radius of Turbines
  - Flight Observation
  - Non-flight Observation



Drawing Title: <b>Curlew Observations Vantage Point Surveys</b>	
Project Title: <b>Carrig Renewables Wind Farm</b>	
Drawn By: <b>S. Duff</b>	Checked By: <b>D. Woods</b>
Project No: <b>211016</b>	Drawing No.: <b>7.4.17.1</b>
Scale: <b>1:50000</b>	Date: <b>28.07.2023</b>
<b>MKO</b> Planning and Environmental Consultants Tuam Road, Galway Ireland, H91 VV84 +353 (0) 91 235611 email: info@mkoireland.ie Website: www.mkoireland.ie	

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**Map Legend**

- EIA Site Boundary
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- 500m Survey Area
- Flight Observation

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CU005

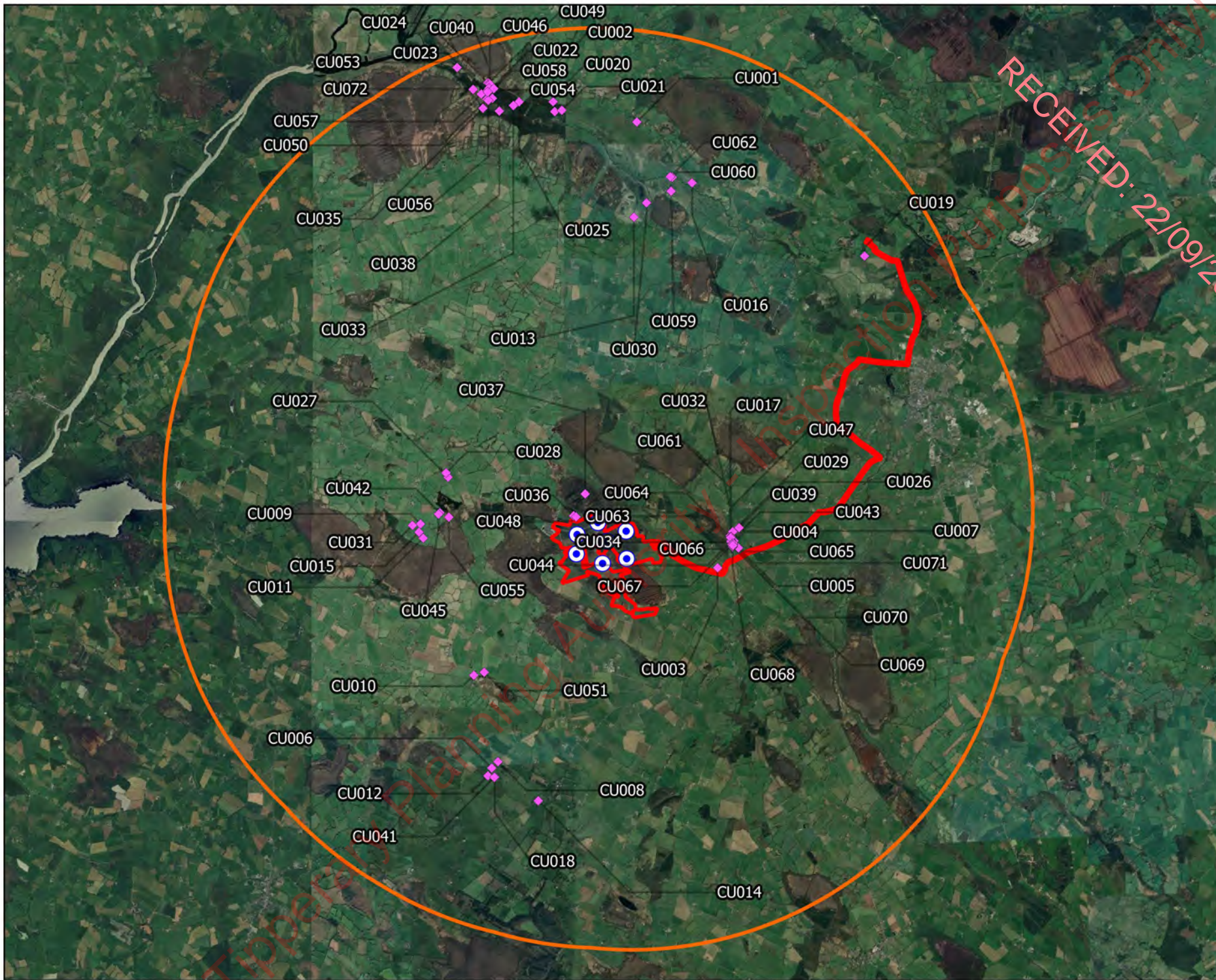
CU001



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<p><b>Curlew Observations</b> <b>Breeding Walkover Surveys</b></p>	
<p>Project Title: <b>Carrig Renewables Wind Farm</b></p>	
Drawn By:	Checked By:
<b>S. Duff</b>	<b>D. Woods</b>
Project No.:	Drawing No.:
<b>211016</b>	<b>7.4.17.2</b>
Scale:	Date:
<b>1:35000</b>	<b>28.07.2023</b>
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**Map Legend**

- EIAR Site Boundary
- Turbine Layout
- 8km Survey Area
- ◆ Observation



Drawing Title:  
**Curlew Observations  
 Waterbird Distribution Surveys**

Project Title:  
**Carrig Renewables Wind Farm**

Drawn By: <b>S. Duff</b>	Checked By: <b>D. Woods</b>
Project No. <b>211016</b>	Drawing No. <b>7.4.17.3</b>
Scale <b>1:110000</b>	Date <b>28.07.2023</b>

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- EIA Site Boundary
- ⊙ Turbine Layout
- Observation

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Drawing Title: <b>Curlew Observations Incidental Records</b>	
Project Title: <b>Carrig Renewables Wind Farm</b>	
Drawn By: <b>S. Duff</b>	Checked By: <b>D. Woods</b>
Project No: <b>211016</b>	Drawing No.: <b>7.4.17.4</b>
Scale: <b>1:50000</b>	Date: <b>28.07.2023</b>
<b>MKO</b> Planning and Environmental Consultants <small>Tuam Road, Galway          Ireland, F91 VW84          +353 (0) 91 235611          email: info@mkofireland.ie          Website: www.mkofireland.ie</small>	

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## 7-4-18 KESTREL

**Note:** Sensitive data relating to breeding sites has been omitted from this appendix and is provided in Confidential Appendix 7-7.

Table 7-4-18-1 Kestrel Vantage Point Survey Data

Vantage Point Surveys												
Ref.	VP	Date	Time	Species	Number	Duration of flight (s)	Band 1 (0-15m)	Band 2 (15-25m)	Band 3 (25-200m)	Band 4 (>200m)	Habitat and activity	Surveyor
K.001	VP1	14/10/2020	13:23	Kestrel	1	40	40	0	0	0	improved agricultural grassland and hedgerows; perched then flight, female adult	TR
K.002	VP1	14/10/2020	13:44	Kestrel	1	35	35	0	0	0	improved agricultural grassland and cutover bog; flight, mobbed by hc	TR
K.003	VP1	14/10/2020	14:21	Kestrel	1	210	100	110	0	0	improved agricultural grassland and highly modified/non-native woodland; hunting, adult	TR
K.004	VP1	14/10/2020	14:23	Kestrel	1	200	0	200	0	0	improved agricultural grassland and highly modified/non-native woodland; hunting, hunting	TR
K.005	VP1	14/10/2020	14:37	Kestrel	1	20	0	20	0	0	improved agricultural grassland and scrub; hunting, hunt	TR
K.006	VP1	14/10/2020	14:50	Kestrel	1	150	0	40	20	90	improved agricultural grassland; mobbing peregrine	TR
K.007	VP1	14/10/2020	14:58	Kestrel	1	70	0	70	0	0	improved agricultural grassland; hunting, hunt	TR
K.008	VP1	14/10/2020	15:03	Kestrel	1	130	90	40	0	0	improved agricultural grassland; travelling, hunting	TR
K.009	VP1	14/10/2020	15:07	Kestrel	1	30	30	0	0	0	improved agricultural grassland; travelling	TR
K.010	VP1	14/10/2020	15:12	Kestrel	4	40	0	10	30	0	improved agricultural grassland; circling	TR

Vantage Point Surveys												
Ref.	VP	Date	Time	Species	Number	Duration of flight (s)	Band 1 (0-15m)	Band 2 (15-25m)	Band 3 (25-200m)	Band 4 (>200m)	Habitat and activity	Surveyor
K.011	VP1	14/10/2020	15:32	Kestrel	2	150	0	150	0	0	improved agricultural grassland and bogs; travelling	TR
K.012	VP2	15/10/2020	14:32	Kestrel	1	40	0	40	0	0	improved agricultural grassland; flight	TR
K.013	VP2	15/10/2020	15:37	Kestrel	1	50	0	50	0	0	cutover bog; hunting	TR
K.014	VP2	15/10/2020	15:39	Kestrel	1	40	40	0	0	0	cutover bog; travelling	TR
K.015	VP1	12/11/2020	10:12	Kestrel	1	15	15	0	0	0	improved agricultural grassland and hedgerows; hunting	AR
K.016	VP1	12/11/2020	11:40	Kestrel	1	20	20	0	0	0	improved agricultural grassland and hedgerows; travelling, male	AR
K.017	VP1	12/11/2020	12:43	Kestrel	1	20	20	0	0	0	improved agricultural grassland and hedgerows; hunting, male	AR
K.018	VP1	12/11/2020	12:52	Kestrel	1	60	60	0	0	0	improved agricultural grassland and hedgerows; hunting, male	AR
K.019	VP1	12/11/2020	13:56	Kestrel	1	120	40	80	0	0	improved agricultural grassland and hedgerows; hunting, male	AR
K.020	VP3	13/11/2020	10:41	Kestrel	1	160	30	130	0	0	improved agricultural grassland, hedgerows and scrub; hunting, female	AR
K.021	VP3	13/11/2020	11:50	Kestrel	1	60	0	60	0	0	improved agricultural grassland and hedgerows; hunting, female	AR
K.022	VP3	13/11/2020	11:56	Kestrel	1	20	0	20	0	0	bogs; hunting, male	AR
K.023	VP3	13/11/2020	12:24	Kestrel	1	60	0	60	0	0	bogs and semi-natural woodland; hunting, female	AR
K.024	VP3	13/11/2020	12:38	Kestrel	1	30	0	30	0	0	semi-natural woodland; hunting	AR

Vantage Point Surveys												
Ref.	VP	Date	Time	Species	Number	Duration of flight (s)	Band 1 (0-15m)	Band 2 (15-25m)	Band 3 (25-200m)	Band 4 (>200m)	Habitat and activity	Surveyor
K.025	VP3	13/11/2020	12:52	Kestrel	1	25	0	25	0	0	mixed broadleaved/conifer woodland; hunting	AR
K.026	VP3	13/11/2020	13:50	Kestrel	1	15	0	15	0	0	improved agricultural grassland; hunting, male	AR
K.027	VP2	28/11/2020	09:33	Kestrel	1	30	0	30	0	0	freshwater and bogs; hunting	AR
K.028	VP2	28/11/2020	09:59	Kestrel	1	120	40	80	0	0	bogs; hunting	AR
K.029	VP2	28/11/2020	12:52	Kestrel	1	30	0	30	0	0	bogs; hunting	AR
K.030	VP2	28/11/2020	13:32	Kestrel	1	60	0	0	60	0	improved agricultural grassland and highly modified/non-native woodland; hunting	AR
K.031	VP4	29/11/2020	08:14	Kestrel	1	20	20	0	0	0	cutover bog, improved agricultural grassland and highly modified/non-native woodland; travelling	AR
K.032	VP4	29/11/2020	09:32	Kestrel	1	10	10	0	0	0	improved agricultural grassland; hunting, female	AR
K.033	VP2	12/12/2020	15:48	Kestrel	1	20	10	10	0	0	improved agricultural grassland and hedgerows; travelling	AR
K.034	VP3	13/12/2020	13:12	Kestrel	1	15	15	0	0	0	improved agricultural grassland and highly modified/non-native woodland; travelling	AR
K.035	VP1	14/12/2020	11:39	Kestrel	2	4	4	0	0	0	improved agricultural grassland and hedgerows; travelling, female	AR
K.036	VP1	14/12/2020	12:38	Kestrel	1	15	15	0	0	0	improved agricultural grassland and hedgerows; travelling/hunting, female	AR
K.037	VP1	14/12/2020	12:40	Kestrel	1	10	10	0	0	0	improved agricultural grassland and hedgerows; hunting, male	AR

Vantage Point Surveys												
Ref.	VP	Date	Time	Species	Number	Duration of flight (s)	Band 1 (0-15m)	Band 2 (15-25m)	Band 3 (25-200m)	Band 4 (>200m)	Habitat and activity	Surveyor
K.038	VP1	14/12/2020	15:22	Kestrel	1	10	10	0	0	0	improved agricultural grassland and hedgerows; hunting	AR
K.039	VP1	14/12/2020	16:02	Kestrel	1	30	0	30	0	0	improved agricultural grassland and bogs; hunting	AR
K.040	VP1	14/12/2020	16:38	Kestrel	1	10	0	10	0	0	improved agricultural grassland; hunting	AR
K.041	VP3	16/12/2020	12:35	Kestrel	2	30	30	0	0	0	improved agricultural grassland and highly modified/non-native woodland; travelling/hunting, male	AR
K.042	VP3	16/12/2020	12:42	Kestrel	1	20	0	20	0	0	bogs and highly modified/non-native woodland; hunting, male	AR
K.043	VP3	16/12/2020	13:09	Kestrel	1	15	0	15	0	0	highly modified/non-native woodland; hunting, male	AR
K.044	VP3	16/12/2020	13:15	Kestrel	1	10	10	0	0	0	highly modified/non-native woodland; travelling	AR
K.045	VP3	16/12/2020	13:25	Kestrel	1	20	20	0	0	0	improved agricultural grassland and hedgerows; hunting, female	AR
K.046	VP3	16/12/2020	13:57	Kestrel	1	25	25	0	0	0	improved agricultural grassland and highly modified/non-native woodland; hunting, female	AR
K.047	VP3	16/12/2020	14:49	Kestrel	1	30	0	30	0	0	improved agricultural grassland and hedgerows; hunting	AR
K.048	VP4	28/12/2020	13:42	Kestrel	1	10	0	10	0	0	highly modified/non-native woodland; hunting	AR
K.049	VP2	30/12/2020	12:54	Kestrel	2	5	0	5	0	0	mixed conifer woodland; travelling	AR
K.050	VP2	30/12/2020	13:54	Kestrel	1	10	0	10	0	0	bogs; hunting, female	AR
K.051	VP2	30/12/2020	14:23	Kestrel	1	20	0	20	0	0	highly modified/non-native woodland and bogs; hunting, female	AR

Vantage Point Surveys												
Ref.	VP	Date	Time	Species	Number	Duration of flight (s)	Band 1 (0-15m)	Band 2 (15-25m)	Band 3 (25-200m)	Band 4 (>200m)	Habitat and activity	Surveyor
K.052	VP2	30/12/2020	15:55	Kestrel	1	10	10	0	0	0	highly modified/non-native woodland; travelling, female	AR
K.053	VP1	13/01/2021	10:29	Kestrel	1	60	0	60	0	0	improved agricultural grassland and hedgerows; travelling, female	AR
K.054	VP1	13/01/2021	10:59	Kestrel	1	60	60	0	0	0	improved agricultural grassland and hedgerows; hunting and hovering, male	AR
K.055	VP1	13/01/2021	12:17	Kestrel	1	10	10	0	0	0	improved agricultural grassland and hedgerows; hunting, male	AR
K.056	VP1	13/01/2021	12:40	Kestrel	1	15	15	0	0	0	improved agricultural grassland, hedgerows and bogs; travelling, male	AR
K.057	VP1	13/01/2021	13:03	Kestrel	1	5	5	0	0	0	highly modified/non-native woodland and bogs; travelling, male	AR
K.058	VP1	13/01/2021	13:16	Kestrel	1	10	0	10	0	0	improved agricultural grassland; hunting and hovering, male	AR
K.059	VP1	13/01/2021	13:43	Kestrel	1	15	15	0	0	0	improved agricultural grassland and hedgerows; hunting and hovering, male	AR
K.060	VP3	15/01/2021	10:16	Kestrel	1	5	5	0	0	0	improved agricultural grassland and hedgerows; travelling, female	AR
K.061	VP3	15/01/2021	12:03	Kestrel	1	60	0	60	0	0	improved agricultural grassland and highly modified/non-native woodland; hunting, female	AR
K.062	VP3	15/01/2021	13:01	Kestrel	1	15	15	0	0	0	improved agricultural grassland and hedgerows; travelling, male	AR
K.063	VP3	15/01/2021	13:14	Kestrel	1	10	0	10	0	0	improved agricultural grassland; hunting, male	AR
K.064	VP2	16/01/2021	11:54	Kestrel	1	10	0	10	0	0	improved agricultural grassland; hunting	AR

Vantage Point Surveys												
Ref.	VP	Date	Time	Species	Number	Duration of flight (s)	Band 1 (0-15m)	Band 2 (15-25m)	Band 3 (25-200m)	Band 4 (>200m)	Habitat and activity	Surveyor
K.065	VP4	28/01/2021	08:37	Kestrel	1	10	10	0	0	0	improved agricultural grassland and highly modified/non-native woodland; travelling, female	AR
K.066	VP4	28/01/2021	08:41	Kestrel	1	10	10	0	0	0	improved agricultural grassland and highly modified/non-native woodland; travelling, female	AR
K.067	VP4	28/01/2021	11:09	Kestrel	1	20	0	20	0	0	highly modified/non-native woodland and bogs; hunting	AR
K.068	VP4	28/01/2021	11:36	Kestrel	1	60	0	40	20	0	highly modified/non-native woodland and bogs; hunting	AR
K.069	VP1	13/02/2021	16:49	Kestrel	1	5	5	0	0	0	improved agricultural grassland and hedgerows; male hunting then flew off	AR
K.070	VP1	13/02/2021	17:03	Kestrel	1	5	5	0	0	0	improved agricultural grassland and hedgerows; travelling	AR
K.071	VP4	17/02/2021	13:10	Kestrel	1	60	0	60	0	0	highly modified/non-native woodland and improved agricultural grassland; hunting, female	AR
K.072	VP4	17/02/2021	15:22	Kestrel	1	30	0	30	0	0	highly modified/non-native woodland; travelling, female	AR
K.073	VP4	17/02/2021	15:56	Kestrel	1	40	40	0	0	0	highly modified/non-native woodland; hunting	AR
K.074	VP4	17/02/2021	17:37	Kestrel	1	30	30	0	0	0	highly modified/non-native woodland and bogs; travelling, female	AR
K.075	VP4	17/02/2021	18:05	Kestrel	1	15	0	15	0	0	highly modified/non-native woodland and bogs; hunting, male	AR
K.076	VP3	25/02/2021	13:09	Kestrel	1	90	65	25	0	0	bogs and improved agricultural grassland; hunting, female	AR
K.077	VP3	25/02/2021	14:42	Kestrel	1	30	10	20	0	0	bogs; hunting, male	AR



Vantage Point Surveys												
Ref.	VP	Date	Time	Species	Number	Duration of flight (s)	Band 1 (0-15m)	Band 2 (15-25m)	Band 3 (25-200m)	Band 4 (>200m)	Habitat and activity	Surveyor
K.078	VP3	25/02/2021	15:13	Kestrel	1	60	20	40	0	0	bogs; hunting, male	AR
K.079	VP3	25/02/2021	15:36	Kestrel	1	60	0	0	60	0	highly modified/non-native woodland; hunting	AR
K.080	VP3	25/02/2021	16:02	Kestrel	1	20	20	0	0	0	highly modified/non-native woodland and semi-natural grassland; travelling, male	AR
K.081	VP3	25/02/2021	16:14	Kestrel	1	10	10	0	0	0	improved agricultural grassland and hedgerows; travelling, male	AR
K.082	VP3	25/02/2021	16:31	Kestrel	1	10	10	0	0	0	highly modified/non-native woodland; hunting, female	AR
K.083	VP3	25/02/2021	17:17	Kestrel	1	30	0	30	0	0	highly modified/non-native woodland; hunting	AR
K.084	VP3	25/02/2021	17:38	Kestrel	1	20	20	0	0	0	highly modified/non-native woodland; travelling	AR
K.085	VP3	25/02/2021	18:21	Kestrel	1	10	10	0	0	0	highly modified/non-native woodland; travelling	AR
K.086	VP2	27/02/2021	12:32	Kestrel	1	20	20	0	0	0	bogs; travelling	AR
K.087	VP2	27/02/2021	15:31	Kestrel	1	30	30	0	0	0	bogs; hunting	AR
K.088	VP3	17/03/2021	10:04	Kestrel	2	30	15	15	0	0	improved agricultural grassland and hedgerows;	AR
K.089	VP3	17/03/2021	13:10	Kestrel	1	30	30	0	0	0	improved agricultural grassland; hunting	AR
K.090	VP2	18/03/2021	12:29	Kestrel	1	60	0	60	0	0	bogs, improved agricultural grassland and hedgerows; travelling, female	AR
K.091	VP1	19/03/2021	09:03	Kestrel	1	5	5	0	0	0	improved agricultural grassland and hedgerows; hunting	AR

Vantage Point Surveys												
Ref.	VP	Date	Time	Species	Number	Duration of flight (s)	Band 1 (0-15m)	Band 2 (15-25m)	Band 3 (25-200m)	Band 4 (>200m)	Habitat and activity	Surveyor
K.092	VP1	19/03/2021	11:20	Kestrel	1	10	10	0	0	0	improved agricultural grassland; travelling, male	AR
K.093	VP1	07/04/2021	14:37	Kestrel	1	60	0	60	0	0	improved grassland and hedgerows; hunting, male	AR
K.094	VP1	07/04/2021	14:42	Kestrel	1	30	30	0	0	0	improved grassland and hedgerows; hunting, male	AR
K.095	VP1	07/04/2021	15:15	Kestrel	1	90	0	60	30	0	improved grassland, hedgerows and bogs; soaring, male	AR
K.096	VP1	07/04/2021	16:22	Kestrel	1	20	20	0	0	0	improved grassland, hedgerows and bogs; travelling, female	AR
K.097	VP1	07/04/2021	16:24	Kestrel	1	10	10	0	0	0	improved grassland, hedgerows and bogs; travelling, female	AR
K.098	VP1	07/04/2021	16:41	Kestrel	1	10	10	0	0	0	improved grassland and hedgerows; , female	AR
K.099	VP1	07/04/2021	16:41	Kestrel	1	10	10	0	0	0	improved grassland and hedgerows; , male	AR
K.101	VP1	07/04/2021	17:06	Kestrel	1	60	0	0	60	0	improved grassland and hedgerows; , male/mobbed by jackdaws	AR
K.103	VP1	07/04/2021	18:22	Kestrel	1	90	0	90	0	0	improved grassland and hedgerows; hunting	AR
K.105	VP1	07/04/2021	19:37	Kestrel	2	30	30	0	0	0	improved grassland, hedgerows and bogs; travelling, 1, 2cy male 1 adult male	AR
K.106	VP3	08/04/2021	14:34	Kestrel	1	45	0	45	0	0	bogs, hedgerows and highly modified/non-native woodland; hunting, female	AR
K.107	VP3	08/04/2021	18:43	Kestrel	1	30	30	0	0	0	improved grassland; hunting, male	AR
K.108	VP2	15/04/2021	15:06	Kestrel	1	60	0	60	0	0	cutover bog; hunting, female	AR

Vantage Point Surveys												
Ref.	VP	Date	Time	Species	Number	Duration of flight (s)	Band 1 (0-15m)	Band 2 (15-25m)	Band 3 (25-200m)	Band 4 (>200m)	Habitat and activity	Surveyor
K.109	VP2	15/04/2021	19:06	Kestrel	1	30	0	0	30	0	conifer plantation; travelling, female	AR
K.110	VP2	15/04/2021	19:41	Kestrel	1	60	0	60	0	0	bogs; hunting, female	AR
K.111	VP4	16/04/2021	17:18	Kestrel	1	30	0	30	0	0	bogs; hunting	AR
K.112	VP4	08/05/2021	09:07	Kestrel	1	40	0	40	0	0	conifer plantation; travelling	AR
K.113	VP4	08/05/2021	11:03	Kestrel	1	10	10	0	0	0	conifer plantation and improved grassland; travelling, female	AR
K.114	VP1	09/05/2021	06:27	Kestrel	1	120	0	120	0	0	bogs, improved grassland and hedgerows; hunting, male	AR
K.115	VP1	09/05/2021	07:07	Kestrel	1	60	60	0	0	0	bogs, improved grassland and hedgerows; hunting, male	AR
K.116	VP1	09/05/2021	09:04	Kestrel	1	10	10	0	0	0	bogs and hedgerows; travelling	AR
K.117	VP1	09/05/2021	10:17	Kestrel	1	30	30	0	0	0	improved grassland and hedgerows; travelling	AR
K.118	VP3	11/05/2021	09:46	Kestrel	1	10	0	10	0	0	bogs; hunting	AR
K.119	VP3	11/05/2021	10:11	Kestrel	1	20	0	20	0	0	bogs; hunting	AR
K.120	VP3	11/05/2021	10:34	Kestrel	1	60	0	60	0	0	improved grassland and hedgerows; hunting	AR
K.121	VP2	04/06/2021	11:07	Kestrel	1	30	0	10	20	0	bogs; hunting, female	AR
K.122	VP1	06/06/2021	08:51	Kestrel	1	10	10	0	0	0	improved grassland and hedgerows; hunting, female	AR

Vantage Point Surveys												
Ref.	VP	Date	Time	Species	Number	Duration of flight (s)	Band 1 (0-15m)	Band 2 (15-25m)	Band 3 (25-200m)	Band 4 (>200m)	Habitat and activity	Surveyor
K.123	VP1	06/06/2021	09:48	Kestrel	1	5	0	0	5	0	improved grassland and hedgerows; hunting	AR
K.124	VP1	06/06/2021	12:25	Kestrel	1	100	80	20	0	0	improved grassland and hedgerows; hunting, male	AR
K.125	VP1	06/06/2021	12:37	Kestrel	2	120	0	0	120	0	bogs; hunting, male and female hunting insects	AR
K.126	VP1	06/06/2021	13:26	Kestrel	1	120	0	120	0	0	improved grassland and scrub; hunting, male	AR
K.127	VP1	06/06/2021	13:47	Kestrel	1	120	0	0	120	0	bogs; hunting, male hunting insects over bog	AR
K.128	VP1	06/06/2021	14:11	Kestrel	1	60	0	0	60	0	bogs; hunting, female	AR
K.129	VP3	07/06/2021	09:48	Kestrel	1	300	0	300	0	0	improved grassland and highly modified/non-native woodland; hunting, female	AR
K.130	VP3	07/06/2021	10:00	Kestrel	1	120	0	120	0	0	improved grassland and hedgerows; hunting, male	AR
K.131	VP1	08/07/2021	09:27	Kestrel	1	10	10	0	0	0	improved grassland and hedgerows; hunting, male	AR
K.132	VP4	09/07/2021	10:04	Kestrel	2	120	0	0	120	0	bogs; hunting, hunting together	AR
K.133	VP4	09/07/2021	10:56	Kestrel	1	90	0	90	0	0	conifer plantation; hunting, male	AR
K.134	VP4	09/07/2021	11:24	Kestrel	1	30	0	30	0	0	conifer plantation; travelling, female	AR
K.135	VP3	10/07/2021	11:27	Kestrel	1	15	15	0	0	0	improved grassland and hedgerows; hunting, female	AR
K.136	VP2	17/07/2021	11:46	Kestrel	1	120	0	0	120	0	cutover bog; hunting, catching insects, female	AR

Vantage Point Surveys												
Ref.	VP	Date	Time	Species	Number	Duration of flight (s)	Band 1 (0-15m)	Band 2 (15-25m)	Band 3 (25-200m)	Band 4 (>200m)	Habitat and activity	Surveyor
K.137	VP4	20/08/2021	10:48	Kestrel	1	30	0	0	30	0	bogs; travelling, female	AR
K.138	VP2	24/08/2021	08:37	Kestrel	1	60	60	0	0	0	bogs; hunting, female	AR
K.139	VP3	25/08/2021	09:14	Kestrel	1	20	20	0	0	0	bogs and conifer plantation; hunting, female	AR
K.140	VP3	25/08/2021	10:20	Kestrel	1	60	0	60	0	0	improved grassland and hedgerows; hunting, female	AR
K.141	VP3	25/08/2021	11:11	Kestrel	1	20	20	0	0	0	improved grassland and hedgerows; travelling, female	AR
K.142	VP1	25/09/2021	17:57	Kestrel	1	30	0	30	0	0	improved grassland and hedgerows; hunting, female	AR
K.143	VP2	29/09/2021	14:43	Kestrel	1	120	0	40	80	0	cutover bog and improved grassland; hunting, female	AR
K.144	VP2	29/09/2021	15:55	Kestrel	1	60	0	0	60	0	bogs; hunting, female	AR
K.145	VP2	29/09/2021	16:58	Kestrel	1	20	20	0	0	0	highly modified/non-native woodland and bogs; travelling, female	AR
K.146	VP3	30/09/2021	15:49	Kestrel	1	30	0	30	0	0	improved grassland and hedgerows; hunting, male	AR
K.147	VP3	30/09/2021	16:27	Kestrel	1	10	0	0	10	0	conifer plantation; hunting, male	AR
K.148	VP3	30/09/2021	19:11	Kestrel	1	60	0	60	0	0	improved grassland and hedgerows; hunting, female	AR
K.149	VP4	15/10/2021	12:11	Kestrel	1	43	0	43	0	0	improved agricultural grassland and hedgerows; travelling, male flew through viewshed from behind vp. lost behind trees.	PDC

Vantage Point Surveys												
Ref.	VP	Date	Time	Species	Number	Duration of flight (s)	Band 1 (0-15m)	Band 2 (15-25m)	Band 3 (25-200m)	Band 4 (>200m)	Habitat and activity	Surveyor
K.150	VP2	19/10/2021	10:45	Kestrel	1	11	0	11	0	0	improved grassland and linear woodland/scrub; travelling, heard calling then briefly seen being chased by corvid	PDC
K.151	VP1	21/10/2021	09:37	Kestrel	1	35	35	0	0	0	improved agricultural grassland; travelling, female low flight across viewshed. lost when gp flew into view	PDC
K.152	VP1	21/10/2021	12:34	Kestrel	1	52	0	0	52	0	improved agricultural grassland; travelling, male hunting and travelling through viewshed. lost behind vp.	PDC
K.153	VP3	22/10/2021	11:53	Kestrel	1	88	0	88	0	0	improved grassland; hunting	PDC
K.154	VP1	09/11/2021	14:08	Kestrel	1	30	0	0	30	0	improved grassland and hedgerows; travelling, female	AR
K.155	VP1	09/11/2021	14:57	Kestrel	1	20	20	0	0	0	improved grassland and hedgerows; travelling, female	AR
K.156	VP1	09/11/2021	16:21	Kestrel	1	10	10	0	0	0	improved grassland and hedgerows; hunting, male	AR
K.157	VP2	10/11/2021	12:36	Kestrel	1	60	0	60	0	0	bogs and conifer plantation; hunting	AR
K.158	VP2	10/11/2021	14:27	Kestrel	1	60	0	60	0	0	bogs; hunting	AR
K.159	VP2	10/11/2021	14:47	Kestrel	1	30	0	30	0	0	improved grassland and highly modified/non-native woodland; hunting	AR
K.160	VP2	10/11/2021	16:56	Kestrel	1	120	40	80	0	0	bogs; hunting	AR
K.161	VP2	10/11/2021	17:10	Kestrel	1	40	40	0	0	0	improved grassland and hedgerows; hunting, female	AR

Vantage Point Surveys												
Ref.	VP	Date	Time	Species	Number	Duration of flight (s)	Band 1 (0-15m)	Band 2 (15-25m)	Band 3 (25-200m)	Band 4 (>200m)	Habitat and activity	Surveyor
K.162	VP3	30/11/2021	12:22	Kestrel	1	120	0	120	0	0	improved grassland and conifer plantation; hunting, female	AR
K.163	VP3	30/11/2021	12:37	Kestrel	1	60	60	0	0	0	improved grassland; hunting, female	AR
K.164	VP3	30/11/2021	12:50	Kestrel	1	30	30	0	0	0	improved grassland; hunting, female	AR
K.165	VP3	30/11/2021	13:52	Kestrel	1	30	30	0	0	0	improved grassland; hunting, 2cy male	AR
K.166	VP4	01/12/2021	10:24	Kestrel	1	134	0	0	134	0	improved grassland; hunting	PDC
K.167	VP1	13/12/2021	11:39	Kestrel	1	35	0	35	0	0	improved agricultural grassland; travelling, flew across viewshed. female	PDC
K.168	VP3	14/12/2021	09:11	Kestrel	1	12	12	0	0	0	highly modified/non-native woodland; travelling, briefly seen flying into trees	PDC
K.169	VP3	14/12/2021	11:46	Kestrel	1	153	0	153	0	0	improved agricultural grassland and bogs; hunting	PDC
K.170	VP3	14/12/2021	11:47	Kestrel	1	27	27	0	0	0	improved grassland and highly modified/non-native woodland; travelling, flew over whilst previous k was hunting. lost both against low sun.	PDC
K.171	VP2	19/12/2021	08:53	Kestrel	1	20	0	20	0	0	bogs; hunting, female	AR
K.172	VP2	19/12/2021	11:06	Kestrel	1	10	0	10	0	0	bogs; hunting, female	AR
K.173	VP1	06/01/2022	13:31	Kestrel	1	5	5	0	0	0	improved grassland and hedgerows; flying, female low over field	AR
K.174	VP2	27/01/2022	16:05	Kestrel	1	60	0	60	0	0	improved grassland and hedgerows; hunting	AR

Vantage Point Surveys												
Ref.	VP	Date	Time	Species	Number	Duration of flight (s)	Band 1 (0-15m)	Band 2 (15-25m)	Band 3 (25-200m)	Band 4 (>200m)	Habitat and activity	Surveyor
K.175	VP2	27/01/2022	16:31	Kestrel	1	60	0	60	0	0	improved grassland and hedgerows; hunting	AR
K.176	VP4	28/01/2022	16:26	Kestrel	1	60	0	60	0	0	bogs; hunting, female	AR
K.177	VP1	07/02/2022	10:06	Kestrel	1	20	20	0	0	0	improved grassland and hedgerows; flying/landed, male	AR
K.178	VP1	07/02/2022	10:54	Kestrel	1	30	30	0	0	0	bogs, hedgerows and improved grassland; flying, male	AR
K.179	VP1	07/02/2022	10:55	Kestrel	1	60	0	60	0	0	improved grassland and hedgerows; hunting, male	AR
K.180	VP4	08/02/2022	09:38	Kestrel	1	20	0	20	0	0	bogs; flying	AR
K.181	VP4	08/02/2022	10:26	Kestrel	1	60	0	60	0	0	bogs; hunting	AR
K.182	VP2	16/02/2022	11:56	Kestrel	1	30	30	0	0	0	bogs; hunting, female	AR
K.183	VP3	17/02/2022	09:11	Kestrel	1	120	120	0	0	0	improved grassland and hedgerows; hunting, female	AR
K.184	VP3	17/02/2022	09:17	Kestrel	1	30	0	30	0	0	bogs; travelling, female	AR
K.185	VP3	17/02/2022	10:48	Kestrel	1	60	0	60	0	0	conifer plantation and improved grassland; hunting, female	AR
K.186	VP3	17/02/2022	12:03	Kestrel	1	30	0	30	0	0	improved grassland; hunting, female	AR
K.187	VP3	17/02/2022	13:08	Kestrel	1	30	0	30	0	0	conifer plantation; hunting, male	AR
K.188	VP2	29/03/2022	18:23	Kestrel	1	60	0	60	0	0	improved grassland and hedgerows; hunting	AR



Vantage Point Surveys												
Ref.	VP	Date	Time	Species	Number	Duration of flight (s)	Band 1 (0-15m)	Band 2 (15-25m)	Band 3 (25-200m)	Band 4 (>200m)	Habitat and activity	Surveyor
K.189	VP3	19/04/2022	10:57	Kestrel	1	33	33	0	0	0	cutover bog and improved agricultural grassland; fly ne	ZE
K.190	VP1	20/04/2022	09:26	Kestrel	1	63	63	0	0	0	improved agricultural grassland and cutover bog; hunting	ZE
K.191	VP4	21/04/2022	11:30	Kestrel	1	90	0	5	85	0	highly modified/non-native woodland and cutover bog; fly, hover, hunt	ZE
K.192	VP4	21/04/2022	11:39	Kestrel	1	60	0	0	60	0	highly modified/non-native woodland and cutover bog; fly, hover	ZE
K.193	VP2	22/04/2022	06:26	Kestrel	1	54	0	0	54	0	highly modified/non-native woodland and cutover bog; fly, hover	ZE
K.194	VP2	22/04/2022	09:06	Kestrel	1	300	0	0	300	0	conifer plantation and cutover bog; fly w, hover	ZE
K.195	VP2	22/04/2022	09:18	Kestrel	1	420	120	300	0	0	cutover bog and highly modified/non-native woodland; fly, hover, hunt, male	ZE
K.196	VP2	22/04/2022	09:44	Kestrel	1	150	150	0	0	0	cutover bog, highly modified/non-native woodland and improved agricultural grassland; fly, hover, perch on tree top, same male	ZE
K.197	VP2	22/04/2022	09:54	Kestrel	1	120	120	0	0	0	cutover bog and improved agricultural grassland; fly ne, male	ZE
K.198	VP2	22/04/2022	10:08	Kestrel	1	275	5	60	210	0	highly modified/non-native woodland and improved agricultural grassland; fly, hover, hunt	ZE
K.199	VP2	22/04/2022	11:08	Kestrel	1	420	180	240	0	0	cutover bog, highly modified/non-native woodland and improved agricultural grassland; fly, hover, hunt	ZE

Vantage Point Surveys												
Ref.	VP	Date	Time	Species	Number	Duration of flight (s)	Band 1 (0-15m)	Band 2 (15-25m)	Band 3 (25-200m)	Band 4 (>200m)	Habitat and activity	Surveyor
K.200	VP2	22/04/2022	11:22	Kestrel	1	397	397	0	0	0	highly modified/non-native woodland and cutover bog; fly, hover, h6nt	ZE
K.201	VP2	22/04/2022	11:32	Kestrel	1	210	210	0	0	0	cutover bog; fly, hover, hunt	ZE
K.202	VP2	22/04/2022	11:35	Kestrel	1	45	45	0	0	0	cutover bog; hunt	ZE
K.203	VP4	09/05/2022	20:23	Kestrel	1	520	0	520	0	0	highly modified/non-native woodland; fly se, hover	ZE
K.204	VP1	12/05/2022	16:33	Kestrel	1	79	79	0	0	0	improved agricultural grassland and highly modified/non-native woodland; fly, hover, hunt	ZE
K.205	VP1	12/05/2022	17:15	Kestrel	1	58	58	0	0	0	cutover bog, linear woodland/scrub and improved agricultural grassland; fly, hover, h6nt, male	ZE
K.206	VP1	12/05/2022	17:30	Kestrel	1	21	21	0	0	0	improved agricultural grassland; hunt, male	ZE
K.207	VP2	16/05/2022	20:17	Kestrel	1	130	0	0	130	0	conifer plantation and cutover bog; fly nw, hover	ZE
K.208	VP2	16/05/2022	20:32	Kestrel	1	347	347	0	0	0	highly modified/non-native woodland and improved agricultural grassland; fly, hover, hunt	ZE
K.209	VP2	16/05/2022	20:49	Kestrel	1	99	99	0	0	0	improved agricultural grassland and highly modified/non-native woodland; hunt	ZE
K.210	VP2	16/05/2022	21:06	Kestrel	1	180	180	0	0	0	improved agricultural grassland; hunt, first bird	ZE
K.211	VP2	16/05/2022	21:08	Kestrel	1	160	0	160	0	0	conifer plantation; fly, hover, second bird, appeared shortly after the first	ZE

Vantage Point Surveys												
Ref.	VP	Date	Time	Species	Number	Duration of flight (s)	Band 1 (0-15m)	Band 2 (15-25m)	Band 3 (25-200m)	Band 4 (>200m)	Habitat and activity	Surveyor
K.212	VP2	16/05/2022	21:34	Kestrel	1	120	120	0	0	0	cutover bog and highly modified/non-native woodland; hunt	ZE
K.213	VP1	07/06/2022	09:42	Kestrel	1	820	120	700	100	0	bogs, improved agricultural grassland and linear woodland/scrub; fly s, hover, hunt, male	ZE
K.214	VP1	07/06/2022	12:22	Kestrel	1	43	0	0	43	0	highly modified/non-native woodland; fly ne, hover	ZE
K.216	VP1	07/06/2022	12:40	Kestrel	1	303	303	0	0	0	highly modified/non-native woodland and cutover bog; fly, hover, hunt	ZE
K.217	VP1	07/06/2022	13:59	Kestrel	1	23	23	0	0	0	bogs and linear woodland/scrub; fly nw	ZE
K.218	VP2	10/06/2022	09:52	Kestrel	1	41	0	41	0	0	conifer plantation; fly, hover	ZE
K.219	VP3	04/07/2022	13:28	Kestrel	1	60	0	60	0	0	conifer plantation; hover, fly se	ZE
K.220	VP3	04/07/2022	13:37	Kestrel	1	294	10	284	0	0	bogs and conifer plantation; fly, hover	ZE
K.221	VP3	04/07/2022	14:20	Kestrel	1	6	6	0	0	0	highly modified/non-native woodland and bogs; hunt	ZE
K.222	VP3	04/07/2022	14:25	Kestrel	1	19	19	0	0	0	bogs and highly modified/non-native woodland; fly, hunt, male	ZE
K.223	VP2	05/07/2022	13:25	Kestrel	1	142	142	0	0	0	highly modified/non-native woodland, bogs and improved agricultural grassland; hunt, male; perched before and after until approx. 14:23	ZE
K.224	VP1	21/07/2022	11:08	Kestrel	2	540	390	150	0	0	improved agricultural grassland, linear woodland/scrub and bogs; fly,	ZE

Vantage Point Surveys												
Ref.	VP	Date	Time	Species	Number	Duration of flight (s)	Band 1 (0-15m)	Band 2 (15-25m)	Band 3 (25-200m)	Band 4 (>200m)	Habitat and activity	Surveyor
											hover, hunt, possibly adult with fledgling	
K.225	VP1	21/07/2022	12:27	Kestrel	2	120	0	120	0	0	improved agricultural grassland and bogs; fly ne, one mobbing the buzzard	ZE
K.226	VP1	21/07/2022	12:34	Kestrel	1	12	12	0	0	0	bogs; fly, hover	ZE
K.227	VP1	21/07/2022	12:44	Kestrel	1	4	4	0	0	0	bogs and linear woodland/scrub; hover, hunt	ZE
K.228	VP1	21/07/2022	12:48	Kestrel	1	49	49	0	0	0	bogs; fly, hover	ZE
K.229	VP1	21/07/2022	13:35	Kestrel	1	223	0	123	100	0	improved agricultural grassland and bogs; fly w, hover, female	ZE
K.230	VP1	21/07/2022	13:42	Kestrel	1	23	23	0	0	0	linear woodland/scrub, bogs and improved agricultural grassland; hover, hunt	ZE
K.231	VP1	21/07/2022	14:36	Kestrel	1	173	173	0	0	0	improved agricultural grassland, bogs and linear woodland/scrub; fly, hover, hunt	ZE
K.232	VP3	22/07/2022	12:22	Kestrel	1	6	6	0	0	0	bogs; perched before flew into the bog, male	ZE
K.233	VP3	22/07/2022	13:34	Kestrel	1	147	147	0	0	0	bogs and improved agricultural grassland; perched before fly ne, hover, male	ZE
K.234	VP4	26/07/2022	10:19	Kestrel	1	200	0	60	140	0	improved agricultural grassland and linear woodland/scrub; fly, hover	ZE
K.235	VP4	26/07/2022	10:21	Kestrel	2	180	0	30	150	0	improved agricultural grassland and semi-natural woodland; fly s, hover, second bird joined the first	ZE
K.236	VP2	28/07/2022	12:27	Kestrel	1	242	0	242	0	0	cutover bog and improved agricultural grassland; fly s, hover	ZE

Vantage Point Surveys												
Ref.	VP	Date	Time	Species	Number	Duration of flight (s)	Band 1 (0-15m)	Band 2 (15-25m)	Band 3 (25-200m)	Band 4 (>200m)	Habitat and activity	Surveyor
K.237	VP2	28/07/2022	13:51	Kestrel	1	158	10	60	88	0	cutover bog and improved agricultural grassland; fly mnw, hover, first bird	ZE
K.238	VP2	28/07/2022	13:52	Kestrel	2	93	0	0	93	0	cutover bog; fly, hover, circling, second bird joined from n	ZE
K.239	VP2	28/07/2022	13:54	Kestrel	3	211	0	0	211	0	cutover bog; fly, hover, circling, third bird joined from nw	ZE
K.240	VP2	28/07/2022	14:00	Kestrel	1	150	5	145	0	0	bogs and improved agricultural grassland; fly, hover, hunt, female	ZE
K.241	VP2	28/07/2022	14:21	Kestrel	1	130	30	100	0	0	bogs; fly ne, hover, hunt	ZE
K.242	VP2	28/07/2022	14:45	Kestrel	2	37	37	0	0	0	bogs and scrub/transitional woodland; hover, hunt, one stayed hovering	ZE
K.243	VP2	28/07/2022	14:47	Kestrel	1	158	158	0	0	0	bogs and scrub/transitional woodland; hover, hunt, the second bird hunt	ZE
K.244	VP3	05/08/2022	14:15	Kestrel	1	570	500	70	0	0	bogs, semi-natural woodland and conifer plantation; fly se, hover, hunt, female	ZE
K.245	VP3	05/08/2022	14:29	Kestrel	3	203	203	0	0	0	bogs and semi-natural woodland; fly, hover, two flew ne, one back sw	ZE
K.246	VP3	05/08/2022	15:16	Kestrel	1	249	249	0	0	0	bogs, improved agricultural grassland and linear woodland/scrub; fly nw, hover	ZE
K.247	VP4	23/08/2022	14:25	Kestrel	1	28	28	0	0	0	semi-natural woodland and improved agricultural grassland; fly, hover	ZE
K.248	VP4	23/08/2022	14:37	Kestrel	1	56	46	10	0	0	improved agricultural grassland and semi-natural woodland; fly nw, hover	ZE

Vantage Point Surveys												
Ref.	VP	Date	Time	Species	Number	Duration of flight (s)	Band 1 (0-15m)	Band 2 (15-25m)	Band 3 (25-200m)	Band 4 (>200m)	Habitat and activity	Surveyor
K.249	VP4	23/08/2022	15:50	Kestrel	1	81	81	0	0	0	semi-natural woodland; circling, hover	ZE
K.250	VP2	24/08/2022	09:45	Kestrel	1	104	104	0	0	0	bogs and semi-natural woodland; fly, hover hunt, possibly female	ZE
K.251	VP2	24/08/2022	10:39	Kestrel	1	164	164	0	0	0	bogs, improved agricultural grassland and linear woodland/scrub; fly, hover hunt, female; hunt over the cutover bog	ZE
K.252	VP2	24/08/2022	11:03	Kestrel	1	86	86	0	0	0	bogs and linear woodland/scrub; flew from ditch and over the hedge, hover as well, female, likely the same bird	ZE
K.253	VP2	24/08/2022	11:38	Kestrel	1	379	379	0	0	0	improved agricultural grassland, cutover bog and linear woodland/scrub; fly, hover, hunt, female	ZE
K.254	VP2	24/08/2022	12:12	Kestrel	1	150	30	120	0	0	cutover bog and semi-natural woodland; fly, hover, flew into trees when mobbed by a crow	ZE
K.255	VP2	24/08/2022	12:16	Kestrel	1	8	8	0	0	0	linear woodland/scrub and semi-natural woodland; hunt	ZE
K.256	VP2	24/08/2022	12:28	Kestrel	1	124	60	64	0	0	cutover bog and linear woodland/scrub; fly, hover, hunt, female	ZE
K.257	VP2	24/08/2022	13:12	Kestrel	3	240	30	30	180	0	cutover bog and improved agricultural grassland; fly n, hover, circling, one appeared from e and two from w; one bird was hunting over the cutover bog for a short period; all flew n	ZE
K.258	VP2	24/08/2022	13:19	Kestrel	1	10	10	0	0	0	improved agricultural grassland and linear woodland/scrub; fly to bog	ZE

Vantage Point Surveys												
Ref.	VP	Date	Time	Species	Number	Duration of flight (s)	Band 1 (0-15m)	Band 2 (15-25m)	Band 3 (25-200m)	Band 4 (>200m)	Habitat and activity	Surveyor
											from field and over hedgerow very low	
K.259	VP2	24/08/2022	13:32	Kestrel	1	360	360	0	0	0	improved agricultural grassland and linear woodland/scrub; fly, hover, hunt, female	ZE
K.260	VP2	24/08/2022	13:48	Kestrel	1	415	5	125	285	0	cutover bog, improved agricultural grassland and semi-natural woodland; fly nw, hover, disappeared behind trees	ZE
K.261	VP2	24/08/2022	14:04	Kestrel	1	44	44	0	0	0	bogs; hunt	ZE
K.262	VP2	24/08/2022	14:23	Kestrel	1	197	197	0	0	0	linear woodland/scrub, improved agricultural grassland and cutover bog; fly, hover, hunt, car drove into the bog shortly after this observation; approx 200m from hunting spot	ZE
K.263	VP2	24/08/2022	14:43	Kestrel	1	148	148	0	0	0	improved agricultural grassland and linear woodland/scrub; fly over the field, hover, female	ZE
K.264	VP2	24/08/2022	15:44	Kestrel	1	840	840	0	0	0	linear woodland/scrub, improved agricultural grassland and cutover bog; fly, hover, hunt, female; perched twice for short period; calling twice with short interval between the two calls	ZE
K.265	VP3	01/09/2022	16:36	Kestrel	1	76	0	76	0	0	semi-natural woodland, cutover bog and improved agricultural grassland; fly, hover	ZE
K.266	VP1	02/09/2022	15:52	Kestrel	1	39	39	0	0	0	bogs and linear woodland/scrub; fly, hover	ZE

Vantage Point Surveys												
Ref.	VP	Date	Time	Species	Number	Duration of flight (s)	Band 1 (0-15m)	Band 2 (15-25m)	Band 3 (25-200m)	Band 4 (>200m)	Habitat and activity	Surveyor
K.267	VP1	02/09/2022	18:29	Kestrel	1	65	65	0	0	0	linear woodland/scrub, improved agricultural grassland and bogs; fly nw	ZE
K.268	VP4	06/09/2022	16:58	Kestrel	1	7	7	0	0	0	improved agricultural grassland and linear woodland/scrub; fly se, female; flew close to the ground when flying over the field	ZE
K.269	VP2	07/09/2022	15:42	Kestrel	1	145	2	3	140	0	bogs; fly, hover, hunt	ZE
K.270	VP2	07/09/2022	16:08	Kestrel	1	117	0	117	0	0	conifer plantation; fly, hover, disappeared in trees	ZE
K.271	VP2	07/09/2022	17:18	Kestrel	1	135	25	110	0	0	bogs and semi-natural woodland; fly n, hover	ZE
K.272	VP2	07/09/2022	17:27	Kestrel	1	325	0	0	325	0	bogs and conifer plantation; fly nw, hover	ZE
K.273	VP2	21/10/2022	08:55	Kestrel	1	600	0	0	600	100	bogs; hunting	CF
K.274	VP3	27/10/2022	11:58	Kestrel	1	60	0	0	60	0	bogs; hunting	CF
K.275	VP3	27/10/2022	13:21	Kestrel	1	240	0	240	0	0	bogs; hunting	CF
K.276	VP2	16/11/2022	16:12	Kestrel	1	20	0	0	20	20	bogs; hunting	CF
K.277	VP1	17/11/2022	13:45	Kestrel	1	40	0	0	40	0	improved grassland; hunting	CF
K.278	VP2	05/01/2023	14:59	Kestrel	1	20	20	0	0	0	improved grassland; flying	CF
K.279	VP2	06/01/2023	15:29	Kestrel	1	120	0	120	0	0	bogs; hunting	CF



Vantage Point Surveys												
Ref.	VP	Date	Time	Species	Number	Duration of flight (s)	Band 1 (0-15m)	Band 2 (15-25m)	Band 3 (25-200m)	Band 4 (>200m)	Habitat and activity	Surveyor
K.280	VP2	06/01/2023	15:30	Kestrel	1	600	0	0	600	0	bogs; hunting	CF
K.281	VP2	06/01/2023	15:31	Kestrel	1	600	120	120	260	0	bogs; hunting	CF
K.282	VP2	06/01/2023	15:33	Kestrel	1	1200	60	140	1000	0	bogs; hunting	CF
K.283	VP3a	09/01/2023	15:51	Kestrel	1	20	0	20	0	0	improved grassland; perched then flying away	CF
K.284	VP3a	13/02/2023	18:06	Kestrel	1	30	30	0	0	0	improved grassland; flying	CF
K.285	VP2	24/02/2023	13:58	Kestrel	1	120	0	0	100	20	bogs; hunting	CF
K.286	VP2	24/02/2023	13:59	Kestrel	1	240	0	0	240	0	bogs; hunting	CF
K.287	VP1a	08/03/2023	13:33	Kestrel	1	600	0	0	600	0	bogs; hunting	CF
K.288	VP2	14/03/2023	13:15	Kestrel	1	60	0	0	40	20	bogs; flying	CF
K.289	VP2	14/03/2023	13:18	Kestrel	1	240	0	0	240	0	bogs; hunting	CF

Table 7-4-18-2 Kestrel Breeding Walkover Survey Data

Breeding Walkover Surveys						
Ref.	Date	Time	Species	Number	Habitat and activity	Surveyor
K.002	25/06/2021	11:04	Kestrel	1	conifer plantation; flying (suitable nesting habitat; possible breeder)	AR

Breeding Walkover Surveys						
Ref.	Date	Time	Species	Number	Habitat and activity	Surveyor
K.003	18/07/2021	09:20	Kestrel	1	bogs; hunting (suitable nesting habitat; possible breeder)	AR
K.004	18/07/2021	12:26	Kestrel	1	bogs; hunting (suitable nesting habitat; possible breeder)	AR
K.005	18/07/2021	12:38	Kestrel	1	bogs; attacking, female (courtship and display; probable breeding)	AR
K.006	13/04/2022	12:09	Kestrel	1	improved agricultural grassland, highly modified/non-native woodland and cutover bog; fly, hover, male (suitable nesting habitat; possible breeder)	ZE
K.007	13/04/2022	13:15	Kestrel	1	cutover bog and highly modified/non-native woodland; fly w, hover (suitable nesting habitat; possible breeder)	ZE
K.008	18/05/2022	11:20	Kestrel	1	conifer plantation and cutover bog; hunt (suitable nesting habitat; possible breeder)	ZE
K.009	18/05/2022	11:48	Kestrel	1	improved agricultural grassland; hunting, male (suitable nesting habitat; possible breeder)	ZE
K.010	19/05/2022	11:02	Kestrel	1	bogs and improved grassland; fly, hover, outside of 500m (suitable nesting habitat; possible breeder)	ZE
K.011	19/05/2022	12:01	Kestrel	1	cutover bog and conifer plantation; hunt (suitable nesting habitat; possible breeder)	ZE
K.012	16/06/2022	08:24	Kestrel	1	improved agricultural grassland, highly modified/non-native woodland and linear woodland/scrub; fly sw, male; was likely hunting here as it took off from the ground (suitable nesting habitat; possible breeder)	ZE
K.013	11/07/2022	10:04	Kestrel	1	conifer plantation and cutover bog; fly, hover (suitable nesting habitat; possible breeder)	ZE
K.014	11/07/2022	10:33	Kestrel	2	conifer plantation; hunting over clearfell, female, fledgling (suitable nesting habitat; possible breeder)	ZE
K.016	11/07/2022	11:00	Kestrel	1	conifer plantation; hunting over clearfell (suitable nesting habitat; possible breeder)	ZE

Table 7-4-18-3 Kestrel Breeding Raptor Survey Data

Breeding Raptor Surveys								
Ref.	BR	Date	Time	Species	Number	Habitat and activity	Breeding status	Surveyor
K.001	BRVP2	20/04/2021	10:51	Kestrel	1	conifer plantation and bogs, hunting, female hunting over bog and plantation	agitated behaviour; probable breeding	AR
K.004	BRVP1	21/04/2021	10:38	Kestrel	1	bogs and mixed broadleaved/conifer woodland, hunting, same bird as above	suitable nesting habitat; possible breeder	AR
K.005	Breeding Raptor Transect	22/04/2021	07:42	Kestrel	1	improved grassland, hunting, female hunting	suitable nesting habitat; possible breeder	AR
K.006	Breeding Raptor Transect	22/04/2021	10:10	Kestrel	1	bogs, travelling, female low over bog	suitable nesting habitat; possible breeder	AR
K.007	Breeding Raptor Transect	22/04/2021	11:14	Kestrel	1	bogs, hunting, male hunting over bog	suitable nesting habitat; possible breeder	AR
K.009	Breeding Raptor Transect	10/05/2021	09:20	Kestrel	1	bogs and conifer plantation, hunting	suitable nesting habitat; possible breeder	AR
K.011	Breeding Raptor Transect	14/05/2021	08:01	Kestrel	1	improved grassland and hedgerows, hunting, male	suitable nesting habitat; possible breeder	AR
K.012	Breeding Raptor Transect	14/05/2021	10:07	Kestrel	1	bogs, hunting, male hunting	suitable nesting habitat; possible breeder	AR
K.013	Breeding Raptor Transect	14/05/2021	10:59	Kestrel	1	improved grassland and hedgerows, perched, male perched then flew	suitable nesting habitat; possible breeder	AR
K.014	Breeding Raptor Transect	14/05/2021	12:36	Kestrel	1	conifer plantation and bogs, hunting, male hunting	suitable nesting habitat; possible breeder	AR
K.015	Breeding Raptor Transect	08/06/2021	11:19	Kestrel	1	bogs, hunting, female	suitable nesting habitat; possible breeder	AR

Breeding Raptor Surveys								
Ref.	BR	Date	Time	Species	Number	Habitat and activity	Breeding status	Surveyor
K.016	Breeding Raptor Transect	08/06/2021	13:34	Kestrel	1	bogs, hunting, female	suitable nesting habitat; possible breeder	AR
K.017	Breeding Raptor Transect	29/06/2021	08:31	Kestrel	1	bogs, hunting, male	suitable nesting habitat; possible breeder	AR
K.018	Breeding Raptor Transect	29/06/2021	10:18	Kestrel	1	improved grassland, hunting, male	suitable nesting habitat; possible breeder	AR
K.019	Breeding Raptor Transect	29/06/2021	13:11	Kestrel	1	bogs, hunting, female	suitable nesting habitat; possible breeder	AR
K.020	Breeding Raptor Transect	07/07/2021	14:01	Kestrel	1	improved grassland, hunting	suitable nesting habitat; possible breeder	AR
K.021	Breeding Raptor Transect	23/07/2021	08:46	Kestrel	1	bogs, hunting, male	suitable nesting habitat; possible breeder	AR
K.022	Breeding Raptor Transect	23/07/2021	09:14	Kestrel	1	bogs and highly modified/non-native woodland, travelling, male	suitable nesting habitat; possible breeder	AR
K.023	Breeding Raptor Transect	23/07/2021	11:27	Kestrel	1	bogs, hunting, male	suitable nesting habitat; possible breeder	AR
K.024	Breeding Raptor Transect	24/07/2021	07:42	Kestrel	1	bogs, hunting, male	suitable nesting habitat; possible breeder	AR
K.025	Breeding Raptor Transect	24/07/2021	10:06	Kestrel	1	improved grassland, travelling, female	suitable nesting habitat; possible breeder	AR
K.027	BRVP1	26/04/2022	10:23	Kestrel	1	cutover bog and highly modified/non-native woodland, fly ese, chased by crow	suitable nesting habitat; possible breeder	ZE
K.028	BRVP1	26/04/2022	11:10	Kestrel	1	improved agricultural grassland and highly modified/non-native woodland, hover, hunt	suitable nesting habitat; possible breeder	ZE

Breeding Raptor Surveys								
Ref.	BR	Date	Time	Species	Number	Habitat and activity	Breeding status	Surveyor
K.029	BRVP1	26/04/2022	11:34	Kestrel	1	cutover bog, linear woodland/scrub and improved agricultural grassland, fly ne, call, fighting in trees with jackdaws before flying away	pair; probable breeding	ZE
K.030	BRVP1	26/04/2022	11:46	Kestrel	1	linear woodland/scrub, cutover bog and improved agricultural grassland, fly perch, female	pair; probable breeding	ZE
K.031	BRVP1	26/04/2022	11:47	Kestrel	2	linear woodland/scrub, cutover bog and improved agricultural grassland, fly, perch, male came back, perched, then both leftse	pair; probable breeding	ZE
K.032	BRVP2	27/04/2022	12:53	Kestrel	1	conifer plantation and cutover bog, fly n, hover, transect	suitable nesting habitat; possible breeder	ZE
K.033	BRVP1	24/05/2022	09:46	Kestrel	1	bogs and highly modified/non-native woodland, fly se, male	suitable nesting habitat; possible breeder	ZE
K.034	BRVP1	24/05/2022	11:18	Kestrel	2	cutover bog and highly modified/non-native woodland, display	courtship and display; probable breeding	ZE
K.035	BRVP1	24/05/2022	11:36	Kestrel	2	cutover bog and highly modified/non-native woodland, display, male landed in the cutover bog, female flew se	courtship and display; probable breeding	ZE
K.036	BRVP2	25/05/2022	09:09	Kestrel	1	conifer plantation and cutover bog, fly, hover, hunt	suitable nesting habitat; possible breeder	ZE
K.037	BRVP2	25/05/2022	13:09	Kestrel	1	conifer plantation and cutover bog, fly, hunt, male	suitable nesting habitat; possible breeder	ZE
K.038	BRVP1	20/06/2022	09:11	Kestrel	1	bogs and highly modified/non-native woodland, perch, fly nw, male; perched first on dead tree from 08:50, moved to another @09:03 and perched until flew through trees nw	suitable nesting habitat; possible breeder	ZE
K.039	BRVP1	20/06/2022	10:43	Kestrel	2	bogs and highly modified/non-native woodland, fly sw, male flew sw, female perch on conifer trees	pair; probable breeding	ZE
K.040	BRVP1	20/06/2022	11:28	Kestrel	1	cutover bog and linear woodland/scrub, fly, perch, female	suitable nesting habitat; possible breeder	ZE
K.041	BRVP2	21/06/2022	07:38	Kestrel	1	conifer plantation and cutover bog, fly, hover	suitable nesting habitat; possible breeder	ZE

Breeding Raptor Surveys								
Ref.	BR	Date	Time	Species	Number	Habitat and activity	Breeding status	Surveyor
K.042	BRVP1	06/07/2022	09:29	Kestrel	1	bogs, semi-natural woodland and improved agricultural grassland, fly, hover	suitable nesting habitat; possible breeder	ZE
K.043	BRVP3	25/07/2022	09:21	Kestrel	1	highly modified/non-native woodland, fly, hover	suitable nesting habitat; possible breeder	ZE
K.044	BRVP3	25/07/2022	09:45	Kestrel	1	semi-natural woodland, fly, hover	suitable nesting habitat; possible breeder	ZE
K.045	BRVP3	25/07/2022	09:48	Kestrel	1	semi-natural woodland, fly, hover	suitable nesting habitat; possible breeder	ZE
K.047	BRVP3	25/07/2022	10:23	Kestrel	1	improved agricultural grassland and linear woodland/scrub, hunt, female	suitable nesting habitat; possible breeder	ZE
K.050	BRVP3	25/07/2022	10:34	Kestrel	1	semi-natural woodland and improved agricultural grassland, fly, hover, hunt	suitable nesting habitat; possible breeder	ZE
K.051	BRVP3	25/07/2022	10:40	Kestrel	1	semi-natural woodland, fly, hover	suitable nesting habitat; possible breeder	ZE
K.053	BRVP4	25/07/2022	13:25	Kestrel	1	scrub/transitional woodland, improved agricultural grassland and conifer plantation, hover, fly, hunt	suitable nesting habitat; possible breeder	ZE
K.054	BRVP4	25/07/2022	14:16	Kestrel	1	conifer plantation, scrub/transitional woodland and improved agricultural grassland, fly, hover, flying in the 25 - 200 m height bound	suitable nesting habitat; possible breeder	ZE
K.056	ML VP	29/07/2022	10:20	Kestrel	1	conifer plantation, hover	suitable nesting habitat; possible breeder	ZE
K.057	ML VP	29/07/2022	10:44	Kestrel	1	conifer plantation, fly w into woods	suitable nesting habitat; possible breeder	ZE
K.058	ML VP	29/07/2022	11:23	Kestrel	1	conifer plantation, hover over clearfell	suitable nesting habitat; possible breeder	ZE
K.059	ML VP	29/07/2022	11:26	Kestrel	1	conifer plantation, hover, not the same bird as the one over the clearfell	suitable nesting habitat; possible breeder	ZE
K.060	ML VP	29/07/2022	11:39	Kestrel	1	conifer plantation and cutover bog, fly from w over clearfell, hover, perch, fly over the bog and hover, tractor moved again at 12:05, kestrel gone	suitable nesting habitat; possible breeder	ZE

Breeding Raptor Surveys								
Ref.	BR	Date	Time	Species	Number	Habitat and activity	Breeding status	Surveyor
K.061	ML VP	29/07/2022	12:13	Kestrel	1	cutover bog and conifer plantation, fly, hover, hunt, gone approx. at 12:25	suitable nesting habitat; possible breeder	ZE

Table 7-4-18-4 Kestrel Winter Walkover Survey Data

Winter Walkover Surveys							
Ref.	Date	Time	Species	Number	Habitat and activity	Surveyor	
K.001	30/10/2020	10:17	Kestrel	1	improved agricultural grassland and wet grassland; flight (wintering)	TR	
K.002	30/10/2020	10:52	Kestrel	1	cutover bog; hunt (wintering)	TR	
K.003	30/10/2020	12:42	Kestrel	2	hedgerows and raised bog; hunting (wintering)	TR	
K.004	30/10/2020	14:10	Kestrel	1	cutover bog; hunting (wintering)	TR	
K.005	31/01/2021	09:36	Kestrel	1	improved agricultural grassland and hedgerows; travelling (wintering)	AR	
K.006	31/01/2021	01:40	Kestrel	1	improved agricultural grassland; hunting, female (wintering)	AR	
K.007	31/01/2021	08:52	Kestrel	1	bogs; hunting, male (wintering)	AR	
K.008	31/01/2021	09:07	Kestrel	1	bogs; hunting, male (wintering)	AR	
K.009	16/02/2021	08:07	Kestrel	1	improved agricultural grassland and hedgerows; flying, travelling (wintering)	AR	
K.010	16/02/2021	13:05	Kestrel	1	bogs and highly modified/non-native woodland; hunting, 20 meters high (wintering)	AR	

Winter Walkover Surveys						
Ref.	Date	Time	Species	Number	Habitat and activity	Surveyor
K.011	25/03/2021	07:20	Kestrel	1	bogs and improved agricultural grassland; hunting, height 15mts (wintering)	AR
K.012	25/03/2021	12:07	Kestrel	1	improved agricultural grassland; hunting (wintering)	AR
K.013	25/03/2021	13:27	Kestrel	1	bogs; hunting, height 20mts (wintering)	AR
K.014	23/11/2021	09:11	Kestrel	1	improved grassland and hedgerows; hunting, female ()	AR
K.015	23/11/2021	11:09	Kestrel	1	improved grassland; hunting, male ()	AR
K.016	23/11/2021	12:25	Kestrel	1	improved grassland; perched, female ()	AR
K.017	03/02/2022	13:26	Kestrel	1	bogs and highly modified/non-native woodland; travelling, spotted BZ in forestry, dive bombed it, chased it off then turned and continued on its way (wintering)	PDC
K.018	15/03/2022	11:34	Kestrel	1	bogs; hunting (wintering)	PDC
K.019	15/03/2022	13:16	Kestrel	1	cultivated land and highly modified/non-native woodland; hunting (wintering)	PDC
K.020	11/11/2022	12:30	Kestrel	1	improved grassland; hunting (wintering)	CF

Table 7-4-18-5 Kestrel Incidental Data

Incidental Observations							
Ref.	Location	Date	Time	Species	Number	Habitat and activity	Surveyor
K.001	Hen Harrier Roost Survey; HHVP2	13/11/2020	15:20	Kestrel	1	bogs and mixed broadleaved/conifer woodland; hunting, adult male	AR



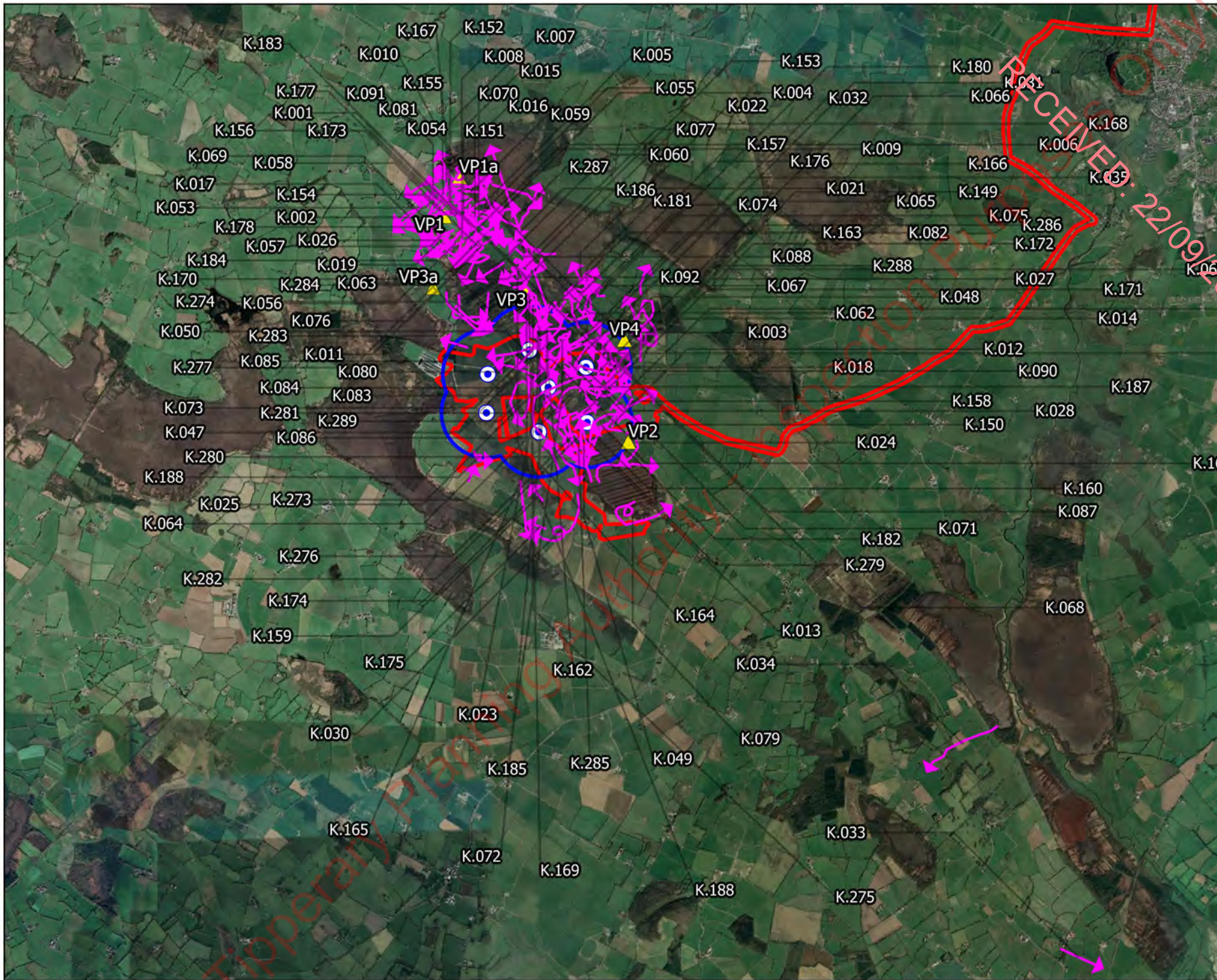
Incidental Observations							
Ref.	Location	Date	Time	Species	Number	Habitat and activity	Surveyor
K.002	Hen Harrier Roost Survey; HHVP2	13/11/2020	15:27	Kestrel	1	conifer plantation; hunting, adult male	AR
K.003	Hen Harrier Roost Survey; HHVP4	30/11/2020	15:57	Kestrel	1	bogs; hunting, adult male	AR
K.004	Waterfowl Distribution Survey; Sharragh	15/12/2020	10:50	Kestrel	1	watercourses; hunting	AR
K.005	Hen Harrier Roost Survey; HHVP2	16/12/2020	09:01	Kestrel	1	bogs and highly modified/non-native woodland; hunting, adult male	AR
K.006	Hen Harrier Roost Survey; HHVP2	16/12/2020	09:48	Kestrel	1	bogs and highly modified/non-native woodland; hunting, adult male	AR
K.007	Hen Harrier Roost Survey; HHVP4	29/12/2020	15:56	Kestrel	1	bogs and highly modified/non-native woodland; hunting, male	AR
K.008	Hen Harrier Roost Survey; HHVP1	15/01/2021		Kestrel	1	bogs; travelling, male	AR
K.009	Hen Harrier Roost Survey; HHVP1	15/01/2021		Kestrel	1	bogs; hunting, male	AR
K.010	Hen Harrier Roost Survey; HHVP1	15/01/2021		Kestrel	1	bogs; travelling, female	AR
K.011	Hen Harrier Roost Survey; HHVP4	29/01/2021		Kestrel	1	bogs and conifer plantation; hunting, male	AR
K.012	Hen Harrier Roost Survey; HHVP4	29/01/2021		Kestrel	1	bogs and conifer plantation; hunting, male	AR
K.013	Hen Harrier Roost Survey; HHVP3	30/01/2021		Kestrel	1	bogs; hunting	AR
K.014	Hen Harrier Roost Survey; HHVP3	30/01/2021		Kestrel	1	bogs; hunting, female	AR
K.015	Hen Harrier Roost Survey; HHVP2	24/02/2021	16:10	Kestrel	1	bogs and highly modified/non-native woodland; hunting, female, height 15ms	AR

Incidental Observations							
Ref.	Location	Date	Time	Species	Number	Habitat and activity	Surveyor
K.016	Hen Harrier Roost Survey; HHVP2	24/02/2021	16:41	Kestrel	1	bogs and highly modified/non-native woodland; hunting	AR
K.017	Hen Harrier Roost Survey; HHVP2	24/02/2021	17:52	Kestrel	1	bogs and improved agricultural grassland; travelling	AR
K.018	Hen Harrier Roost Survey; HHVP1	25/02/2021	07:31	Kestrel	1	bogs; travelling, height 10 meters	AR
K.019	Hen Harrier Roost Survey; HHVP1	25/02/2021	08:07	Kestrel	1	bogs and improved agricultural grassland; hunting, height 15 meters	AR
K.020	Hen Harrier Roost Survey; HHVP1	25/02/2021	09:20	Kestrel	1	bogs; hunting, height 20 meters	AR
K.021	Hen Harrier Roost Survey; HHVP3	26/02/2021	16:27	Kestrel	1	bogs; hunting, height 15 meters	AR
K.022	Hen Harrier Roost Survey; HHVP3	26/02/2021	17:25	Kestrel	1	bogs and highly modified/non-native woodland; hunting, height 20 meters	AR
K.023	Hen Harrier Roost Survey; HHVP4	27/02/2021	07:11	Kestrel	1	bogs and conifer plantation; hunting, height 20 meters	AR
K.024	Hen Harrier Roost Survey; HHVP2	17/03/2021	17:10	Kestrel	1	bogs; hunting	AR
K.025	Hen Harrier Roost Survey; HHVP1	19/03/2021	18:16	Kestrel	1	bogs and hedgerows; going to roost	AR
K.026	Breeding Woodcock Survey; Transect B	10/06/2021	22:10	Kestrel	1	improved grassland and hedgerows; hunting, male	AR
K.027	Wildfowl Distribution Survey; Little Brosna Callows	13/10/2021	12:05	Kestrel	1	improved agricultural grassland; perched, flew up onto telegraph pole with prey. Male	PDC
K.028	Wildfowl Distribution Survey; Little Brosna Callows	13/10/2021	13:11	Kestrel	1	wet grassland; hunting	PDC
K.029	Wildfowl Distribution Survey; Redwood Bog	26/10/2021	10:37	Kestrel	1	bogs; hunting	PDC

Incidental Observations							
Ref.	Location	Date	Time	Species	Number	Habitat and activity	Surveyor
K.030	Wildfowl Distribution Survey; Little Brosna Callows	26/10/2021	11:31	Kestrel	2	improved agricultural grassland; female perched, male hunting	PDC
K.031	Wildfowl Distribution Survey; Little Brosna Callows	26/10/2021	12:50	Kestrel	1	wet grassland; hunting	PDC
K.032	Hen Harrier Roost Survey; HHVP1	08/11/2021	15:16	Kestrel	1	bogs; hunting, female	AR
K.033	Hen Harrier Roost Survey; HHVP1	08/11/2021	16:11	Kestrel	1	bogs; travelling, female	AR
K.034	Hen Harrier Roost Survey; HHVP4	11/11/2021	14:51	Kestrel	1	bogs; hunting, male	AR
K.035	Hen Harrier Roost Survey; HHVP4	11/11/2021	15:37	Kestrel	1	bogs; hunting, same as above male	AR
K.036	Hen Harrier Roost Survey; HHVP3	24/11/2021	15:37	Kestrel	1	bogs; hunting, female	AR
K.037	Hen Harrier Roost Survey; HHVP2	29/11/2021	15:05	Kestrel	1	bogs; hunting	AR
K.038	Hen Harrier Roost Survey; HHVP2	29/11/2021	16:13	Kestrel	1	bogs; hunting, male	AR
K.039	Hen Harrier Roost Survey; HHVP2	05/12/2021	16:05	Kestrel	1	bogs; hunting	AR
K.040	Hen Harrier Roost Survey; HHVP2	05/12/2021	16:11	Kestrel	1	bogs and conifer plantation; flying	AR
K.041	Hen Harrier Roost Survey; HHVP1	06/12/2021	14:44	Kestrel	1	bogs; hunting	AR
K.042	Hen Harrier Roost Survey; HHVP1	06/12/2021	15:56	Kestrel	1	bogs; hunting	AR
K.043	Vantage Point Survey; Behind VP1	13/12/2021	10:52	Kestrel	1	linear woodland/scrub; perched, perched on treetop	PDC

Incidental Observations							
Ref.	Location	Date	Time	Species	Number	Habitat and activity	Surveyor
K.044	Vantage Point Survey; Sharragh farm	13/12/2021	11:12	Kestrel	1	improved agricultural grassland; perched, moved from perch behind VP1 to large tree near farm and perched there	PDC
K.045	Hen Harrier Roost Survey; Sharragh	28/01/2022	08:20	Kestrel	1	bogs; hunting, female	AR
K.046	Hen Harrier Roost Survey; Sharragh	28/01/2022	10:01	Kestrel	1	bogs; hunting, female	AR
K.047	Hen Harrier Roost Survey; Sharragh	30/01/2022	16:49	Kestrel	1	bogs; hunting, female	AR
K.048	Hen Harrier Roost Survey; Sharragh	31/01/2022	15:17	Kestrel	1	bogs; hunting, male	AR
K.049	Hen Harrier Roost Survey; Sharragh	31/01/2022	16:20	Kestrel	1	bogs; hunting, male	AR
K.050	Hen Harrier Roost Survey; Sharragh	06/02/2022	16:26	Kestrel	1	bogs; hunting, female	AR
K.051	Hen Harrier Roost Survey; Sharragh	17/02/2022	16:10	Kestrel	1	bogs; hunting, female	AR
K.052	Hen Harrier Roost Survey; Sharragh	17/02/2022	16:36	Kestrel	1	bogs; hunting, female	AR
K.053	Hen Harrier Roost Survey; HHVP1	30/03/2022	18:42	Kestrel	1	bogs and hedgerows; flying/display, male over bog (displaying)	AR
K.054	Wildfowl Distribution Survey; Ashton Callows	22/04/2022	11:00	Kestrel	1	lakes and ponds; hovering	NL
K.055	Wildfowl Distribution Survey; Brosna Callows	05/05/2022	13:23	Kestrel	1	improved agricultural grassland; hovering	NL
K.056	Wildfowl Distribution Survey; Ashton Callows	11/05/2022	09:21	Kestrel	1	lakes and ponds, marsh, and wet grassland; hovering	NL
K.057	Breeding Raptor Survey; Lismacrorry	27/06/2022	10:02	Kestrel	1	improved agricultural grassland; hunting, female	ZE

Incidental Observations							
Ref.	Location	Date	Time	Species	Number	Habitat and activity	Surveyor
K.058	Breeding Raptor Survey; Lackabrack/Munnia	25/07/2022	11:15	Kestrel	1	improved agricultural grassland; fly, perched on pole for a moment, female or possibly a fledgeling	ZE
K.059	Breeding Raptor Survey; Gurteen Agricultural college	25/07/2022	11:21	Kestrel	1	improved agricultural grassland; fly s over the road, at the 2km boundary	ZE
K.060	Wildfowl Distribution Survey; Little River Brosna Callows	21/10/2022	12:32	Kestrel	1	bogs; flying and hunting on bog	NL
K.061	Hen Harrier Roost Survey; HHVP1	27/10/2022	17:08	Kestrel	1	raised bog; travelling; perched in tree	PM
K.062	Hen Harrier Roost Survey; HHVP1	27/10/2022	17:20	Kestrel	1	raised bog; travelling, female	PM
K.063	Hen Harrier Roost Survey; HHVP1	27/10/2022	17:53	Kestrel	1	raised bog and cutover bog; travelling, landed on bog after being mobbed by thrushes	PM
K.064	Waterbird Distribution Survey; Ashton Callows	22/11/2022	09:46	Kestrel	1	marsh; perched	NL
K.065	Hen Harrier Roost Survey; HHVP1	24/11/2022	15:32	Kestrel	1	cutover bog; hunting	PM
K.066	Hen Harrier Roost Survey; HHVP3	25/11/2022	13:52	Kestrel	1	bogs; hunting	CF
K.067	Waterbird Distribution Survey; Ashton Callows bird hide woodland	29/11/2022	11:42	Kestrel	1	scrub/transitional woodland; flushed from ground	NL
K.068	Hen Harrier Roost Survey; HHVP2	29/11/2022	16:25	Kestrel	1	mixed broadleaved/conifer woodland; hunting	PM
K.069	Hen Harrier Roost Survey; HHVP2	14/02/2023	14:09	Kestrel	1	bogs; hunting	CF
K.070	Hen Harrier Roost Survey; HHVP2	14/02/2023	14:10	Kestrel	1	bogs; hunting	CF

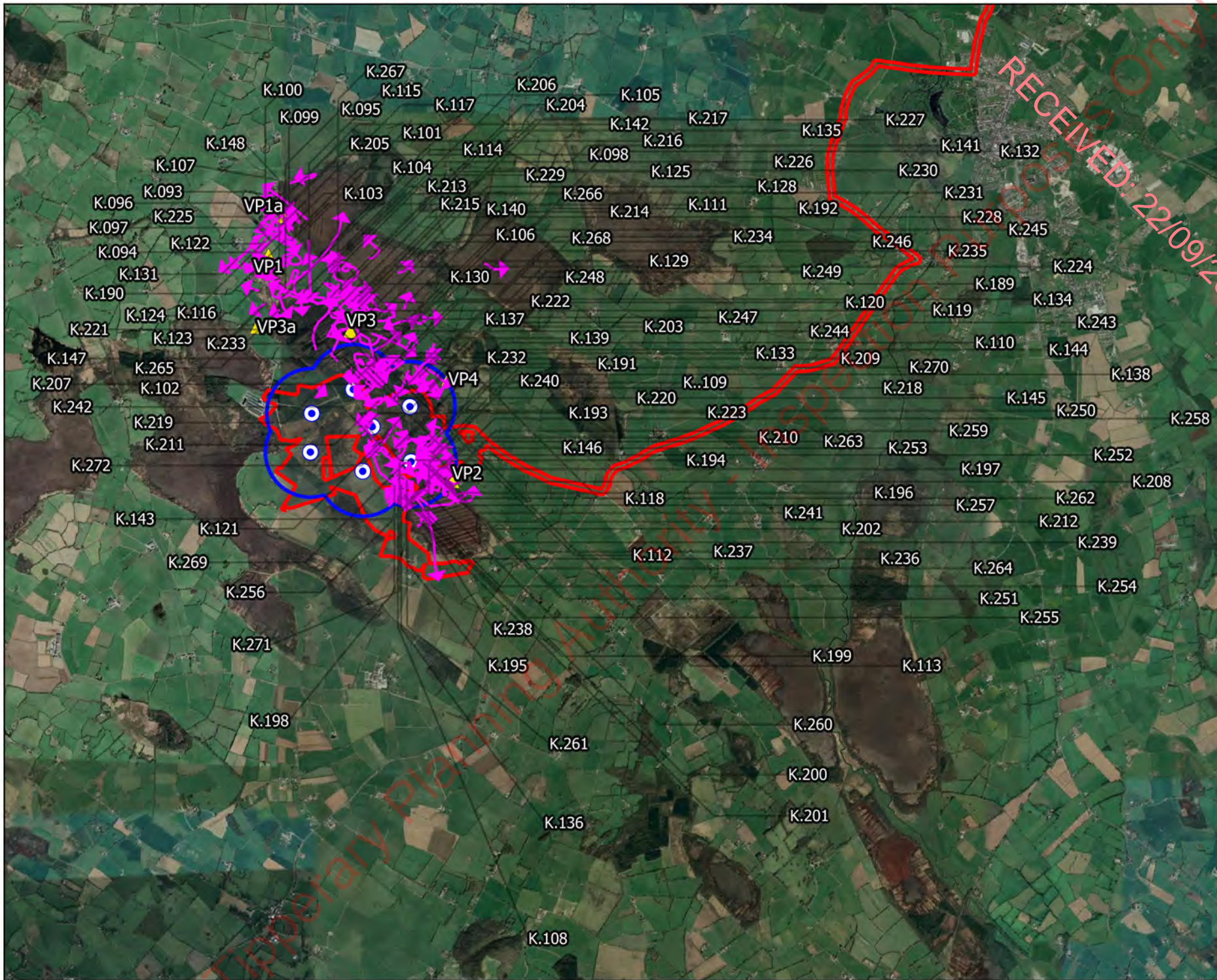


- ### Map Legend
- EIAR Site Boundary
  - Turbine Layout
  - 500m Radius of Turbines
  - Flight Observation



<b>Drawing Title:</b> Kestrel Observations (Winter) Vantage Point Surveys	
<b>Project Title:</b> Carrig Renewables Wind Farm	
<b>Drawn By:</b> S. Duff	<b>Checked By:</b> D. Woods
<b>Project No.:</b> 211016	<b>Drawing No.:</b> 7.4.18.1a
<b>Scale:</b> 1:55000	<b>Date:</b> 28.07.2023
 <b>MKO</b> Planning and Environmental Consultants Tuam Road, Galway Ireland, H91 VV84 +353 (0)91 235611 email: info@mkofireland.ie Website: www.mkofireland.ie	

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- Flight Observation



Drawing Title:  
**Kestrel Observations (Breeding)  
 Vantage Point Surveys**

Project Title:  
**Carrig Renewables Wind Farm**

Drawn By: <b>S. Duff</b>	Checked By: <b>D. Woods</b>
Project No. <b>211016</b>	Drawing No. <b>7.4.18.1b</b>
Scale <b>1:55000</b>	Date <b>28.07.2023</b>

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**Map Legend**

- EIA Site Boundary
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- Flight Observation

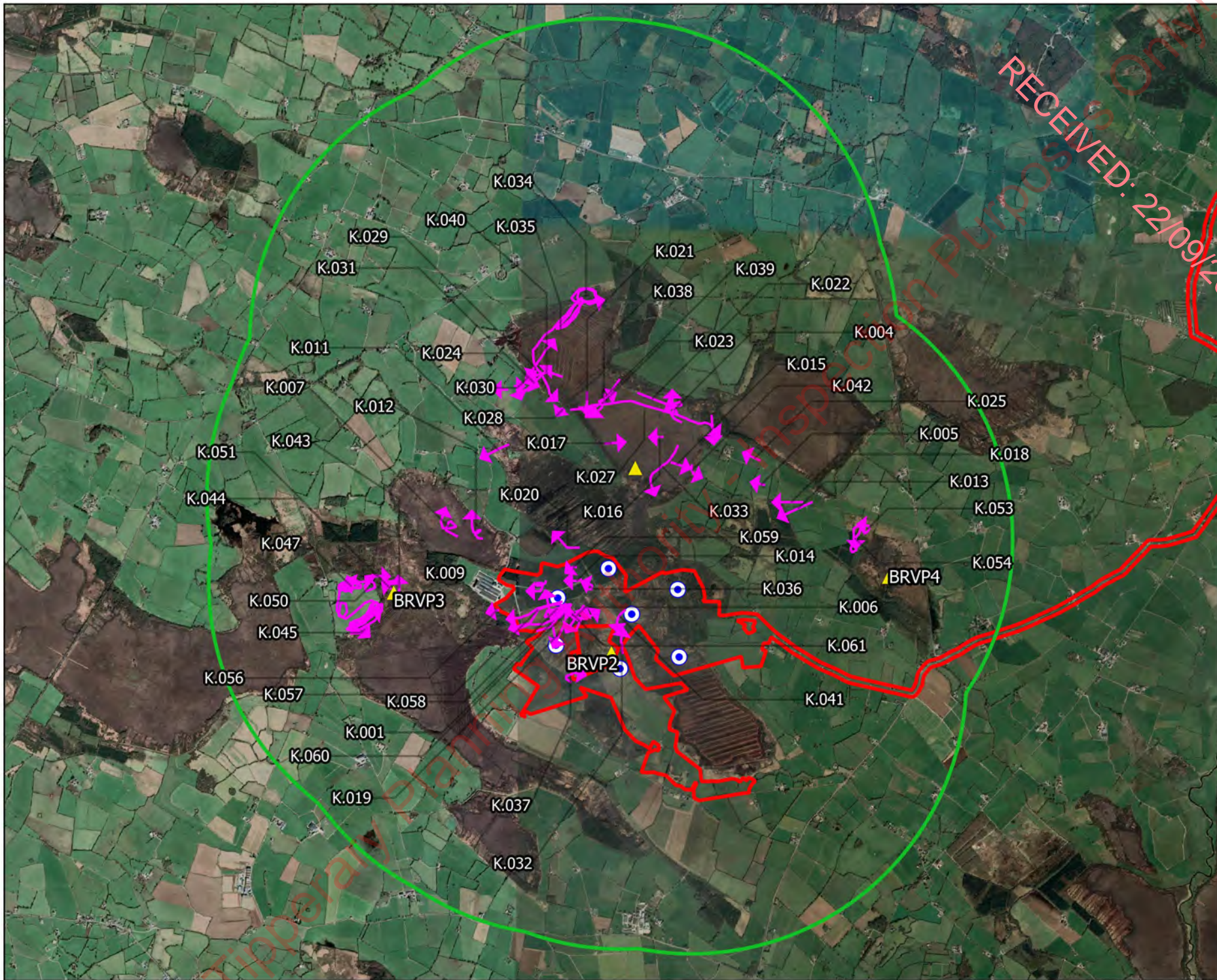
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<b>Kestrel Observations Breeding Walkover Surveys</b>	
Project Title: <b>Carrig Renewables Wind Farm</b>	
Drawn By	Checked By
<b>S. Duff</b>	<b>D. Woods</b>
Project No.	Drawing No.
<b>211016</b>	<b>7.4.18.2</b>
Scale	Date
<b>1:35000</b>	<b>28.07.2023</b>
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- EIAR Site Boundary
  - Turbine Layout
  - 2km Survey Area
  - ▲ BRVP Locations
  - Flight Observation

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Drawing Title: <b>Kestrel Observations Breeding Raptor Surveys</b>	
Project Title: <b>Carrig Renewables Wind Farm</b>	
Drawn By: <b>S. Duff</b>	Checked By: <b>D. Woods</b>
Project No.: <b>211016</b>	Drawing No.: <b>7.4.18.3</b>
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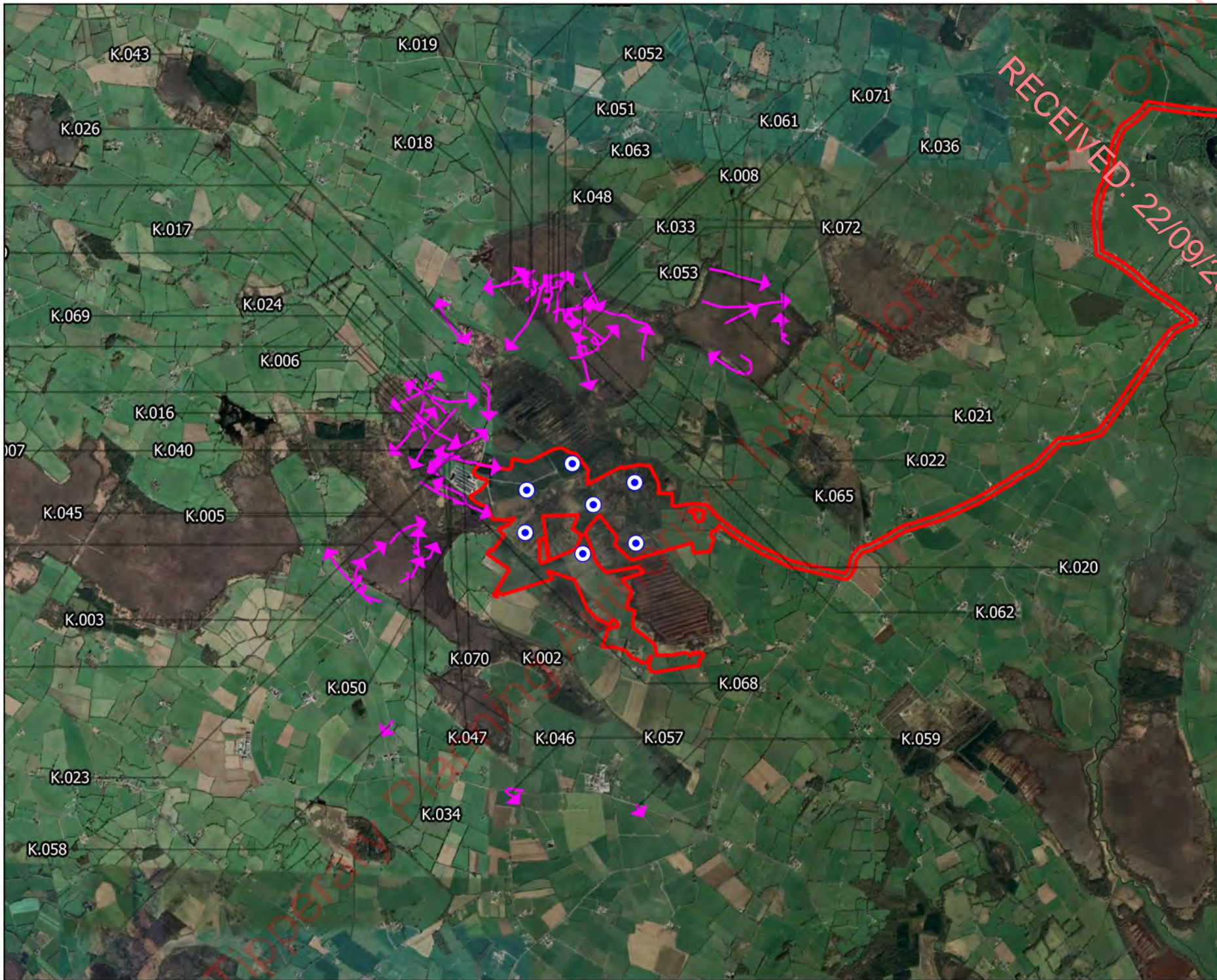
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- Turbine Layout
- 500m Survey Area
- Flight Observation

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<b>Kestrel Observations Winter Walkover Surveys</b>	
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Drawn By:	Checked By:
S. Duff	D. Woods
Project No.:	Drawing No.:
211016	7.4.18.4
Scale:	Date:
1:35000	28.07.2023
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### Map Legend

- EIAR Site Boundary
- Turbine Layout
- Observation

RECEIVED: 22/09/2023



Drawing Title:

**Kestrel Observations  
Incidental Records**

Project No.:

Carrig Renewables Wind Farm

Drawn By:

S. Duff

Checked By:

D. Woods

Project No.:

211016

Drawing No.:

7.4.18.5

Scale:

1:50000

Date:

28.07.2023



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## 7-4-19 SNIPE

Table 7-4-19-1 Snipe Vantage Point Survey Data

Vantage Point Surveys												
Ref.	VP	Date	Time	Species	Number	Duration of flight (s)	Band 1 (0-15m)	Band 2 (15-25m)	Band 3 (25-200m)	Band 4 (>200m)	Habitat and activity	Surveyor
SN001	VP3	13/10/2020	17:05	Snipe	2	0	0	0	0	0	cutover bog; calling, no visual - rough location	CMCK
SN002	VP1	14/10/2020	16:50	Snipe	4	35	35	0	0	0	improved agricultural grassland; travelling	TR
SN003	VP1	14/10/2020	17:57	Snipe	2	180	0	180	0	0	improved agricultural grassland; flight, travelling through	TR
SN004	VP1	14/10/2020	19:11	Snipe	1	5	5	0	0	0	improved agricultural grassland; landing	TR
SN005	VP1	14/10/2020	19:11	Snipe	1	5	5	0	0	0	cutover bog; travelling	TR
SN006	VP2	30/12/2020	11:39	Snipe	1	20	0	0	20	0	mixed conifer woodland; travelling	AR
SN007	VP2	15/04/2021	16:10	Snipe	1	60	0	60	0	0	bogs; display flight, short display flight	AR
SN008	VP2	12/05/2021	05:39	Snipe	1	120	0	80	40	0	bogs; displaying	AR
SN009	VP2	12/05/2021	06:03	Snipe	1	90	0	0	90	0	bogs; displaying	AR
SN010	VP2	12/05/2021	07:10	Snipe	1	120	0	0	120	0	bogs; displaying	AR
SN011	VP2	04/06/2021	07:10	Snipe	1	60	0	0	60	0	bogs; display flight	AR
SN012	VP2	04/06/2021	07:38	Snipe	1	30	0	30	0	0	bogs; display flight	AR

Vantage Point Surveys												
Ref.	VP	Date	Time	Species	Number	Duration of flight (s)	Band 1 (0-15m)	Band 2 (15-25m)	Band 3 (25-200m)	Band 4 (>200m)	Habitat and activity	Surveyor
SN013	VP2	04/06/2021	08:10	Snipe	2	220	0	100	120	0	bogs; display flight	AR
SN014	VP1	13/12/2021	07:44	Snipe	3	0	0	0	0	0	improved agricultural grassland; calling, flying around vp calling in the darkness	PDC
SN015	VP3	14/12/2021	07:46	Snipe	1	0	0	0	0	0	bogs; calling	PDC
SN016	VP2	19/12/2021	07:51	Snipe	2	20	0	20	0	0	bogs; flying	AR
SN017	VP2	19/12/2021	08:10	Snipe	1	10	10	0	0	0	bogs; flying	AR
SN018	VP2	27/01/2022	17:48	Snipe	3	10	10	0	0	0	cutover bog; flying	AR
SN019	VP3	17/02/2022	07:50	Snipe	3	10	0	10	0	0	bogs; flying	AR
SN020	VP3	19/04/2022	05:33	Snipe	2	0	0	0	0	0	cutover bog; drumming, only heard	ZE
SN021	VP3	19/04/2022	07:16	Snipe	1	0	0	0	0	0	cutover bog; sing, only heard, flooded bog	ZE
SN022	VP3	19/04/2022	07:55	Snipe	1	90	90	0	0	0	cutover bog; fly/display, sing, flooded bog	ZE
SN023	VP3	19/04/2022	08:18	Snipe	1	0	0	0	0	0	cutover bog; sing, only heard	ZE
SN024	VP3	19/04/2022	09:09	Snipe	1	30	30	0	0	0	cutover bog; fly,sing, sang before and after the flight	ZE
SN025	VP3	19/04/2022	11:10	Snipe	1	0	0	0	0	0	cutover bog; sing, only heard	ZE
SN026	VP3	19/04/2022	11:17	Snipe	2	300	20	5	275	0	cutover bog; display, drumming, second joined after 30 s from n	ZE

Vantage Point Surveys												
Ref.	VP	Date	Time	Species	Number	Duration of flight (s)	Band 1 (0-15m)	Band 2 (15-25m)	Band 3 (25-200m)	Band 4 (>200m)	Habitat and activity	Surveyor
SN027	VP3	19/04/2022	11:26	Snipe	1	0	0	0	0	0	cutover bog; sing, heard only	ZE
SN028	VP3	19/04/2022	11:46	Snipe	1	34	0	34	0	0	cutover bog; display	ZE
SN029	VP3	19/04/2022	11:54	Snipe	1	0	0	0	0	0	cutover bog; sing, only heard	ZE
SN030	VP1	12/05/2022	17:24	Snipe	1	0	0	0	0	0	cutover bog; sing, heard only	ZE
SN031	VP3	12/05/2022	19:19	Snipe	1	0	0	0	0	0	cutover bog; sing, flooded, recolonizing bog	ZE
SN032	VP3	12/05/2022	19:57	Snipe	1	0	0	0	0	0	cutover bog; sing, heard only	ZE
SN033	VP3	12/05/2022	21:47	Snipe	1	0	0	0	0	0	cutover bog; sing, drumming, heard only, continued throughout the survey and after	ZE
SN034	VP3	12/05/2022	21:47	Snipe	1	0	0	0	0	0	cutover bog; sing, drumming, heard only, continued throughout the survey and after	ZE
SN035	VP3	12/05/2022	21:59	Snipe	2	0	0	0	0	0	cutover bog; sing, drumming, heard only, continued throughout the survey and after	ZE
SN036	VP1	07/06/2022	09:45	Snipe	1	20	20	0	0	0	bogs; fly, drumming	ZE
SN037	VP3	08/06/2022	09:33	Snipe	1	0	0	0	0	0	cutover bog; ssing, heard only	ZE
SN038	VP3	08/06/2022	09:46	Snipe	1	35	35	0	0	0	cutover bog; fly, drumming	ZE
SN039	VP3	08/06/2022	09:55	Snipe	1	55	55	0	0	0	bogs, improved agricultural grassland and highly modified/non-native woodland; fly, drumming	ZE

Vantage Point Surveys												
Ref.	VP	Date	Time	Species	Number	Duration of flight (s)	Band 1 (0-15m)	Band 2 (15-25m)	Band 3 (25-200m)	Band 4 (>200m)	Habitat and activity	Surveyor
SN040	VP3	08/06/2022	10:36	Snipe	1	0	0	0	0	0	bogs; sing, heard only	ZE
SN041	VP3	08/06/2022	11:03	Snipe	1	12	12	0	0	0	bogs; fly, sing, drumming	ZE
SN042	VP3	08/06/2022	11:24	Snipe	1	53	53	0	0	0	bogs; fly, sing, drumming	ZE
SN043	VP3	08/06/2022	13:18	Snipe	1	0	0	0	0	0	cutover bog; sing, in heather at the edge of the ditch	ZE
SN044	VP1	01/07/2022	08:52	Snipe	1	0	0	0	0	0	bogs; sing, heard only, repeated several times	ZE
SN045	VP3	04/07/2022	12:23	Snipe	1	5	5	0	0	0	bogs; fly up and down again	ZE
SN046	VP3	04/07/2022	12:47	Snipe	1	5	5	0	0	0	bogs; fly few meters nw	ZE
SN047	VP3	04/07/2022	13:08	Snipe	1	0	0	0	0	0	bogs; sing, heard only	ZE
SN048	VP3	04/07/2022	14:06	Snipe	1	15	15	0	0	0	bogs; fly	ZE
SN049	VP3	04/07/2022	14:36	Snipe	1	0	0	0	0	0	bogs; sing, heard only	ZE
SN050	VP3	22/07/2022	11:25	Snipe	1	0	0	0	0	0	peatlands ; sing	ZE
SN051	VP3	01/09/2022	19:07	Snipe	2	45	10	35	0	0	bogs, linear woodland/scrub and improved agricultural grassland; fly n, call	ZE
SN052	VP3	01/09/2022	21:09	Snipe	1	0	0	0	0	0	bogs; calling	ZE
SN053	VP2	07/09/2022	18:16	Snipe	1	13	13	0	0	0	cutover bog; fly into ditch in cutover bog, call, mobbed by swallow	ZE

Vantage Point Surveys												
Ref.	VP	Date	Time	Species	Number	Duration of flight (s)	Band 1 (0-15m)	Band 2 (15-25m)	Band 3 (25-200m)	Band 4 (>200m)	Habitat and activity	Surveyor
SN054	VP4	19/10/2022	08:46	Snipe	1	15	0	0	15	0	improved grassland; flying	CF
SN055	VP2	21/10/2022	09:51	Snipe	2	15	0	0	15	0	improved grassland; flying	CF
SN056	VP1	25/10/2022	07:30	Snipe	1	20	0	0	20	0	improved grassland; flying	CF
SN057	VP3	27/10/2022	08:22	Snipe	1	20	0	0	20	0	bogs; flying	CF
SN058	VP3	27/10/2022	10:08	Snipe	1	60	10	10	40	0	bogs; flying	CF
SN059	VP1	17/11/2022	17:10	Snipe	3	10	5	5	0	0	bogs; flying	CF
SN060	VP1	17/11/2022	17:26	Snipe	12	15	5	10	0	0	bogs; flying, over span of 40 min following sunset, same route	CF
SN061	VP1a	24/01/2023	15:57	Snipe	4	20	10	10	0	0	bogs; flushed by dog	CF
SN062	VP1a	28/02/2023	13:49	Snipe	4	30	15	15	0	0	bogs; flushed	CF



Table 7-4-19-2 Snipe Breeding Walkover Survey Data

Breeding Walkover Surveys						
Ref.	Date	Time	Species	Number	Habitat and activity	Surveyor
SN001	11/04/2021	07:10	Snipe	1	bogs; flushed ()	AR
SN002	11/04/2021	07:42	Snipe	1	bogs; flushed ()	AR
SN003	11/04/2021	11:37	Snipe	1	bogs; flushed ()	AR
SN004	25/06/2021	10:06	Snipe	1	bogs; flying/landing ()	AR
SN005	28/06/2021	09:46	Snipe	1	bogs; display flight (courtship and display; probable breeding)	AR
SN006	16/07/2021	09:59	Snipe	2	bogs; flushed ()	AR
SN007	25/07/2021	07:14	Snipe	1	bogs; flushed ()	AR
SN008	13/04/2022	08:45	Snipe	1	cutover bog and improved agricultural grassland; fly, drumming (singing male; possible breeder)	ZE
SN009	13/04/2022	08:46	Snipe	1	cutover bog; fly, sing (singing male; possible breeder)	ZE
SN010	13/04/2022	10:24	Snipe	1	cutover bog; flushed (suitable nesting habitat; possible breeder)	ZE
SN011	13/04/2022	12:34	Snipe	1	cutover bog; flushed (suitable nesting habitat; possible breeder)	ZE
SN012	18/05/2022	06:26	Snipe	1	cutover bog; sing, heard only; flooded bog (singing male; possible breeder)	ZE
SN013	18/05/2022	06:34	Snipe	1	cutover bog; fly, sing (singing male; possible breeder)	ZE
SN014	15/06/2022	06:12	Snipe	1	bogs; sing, heard only (singing male; possible breeder)	ZE

Breeding Walkover Surveys						
Ref.	Date	Time	Species	Number	Habitat and activity	Surveyor
SN015	15/06/2022	06:32	Snipe	1	bogs; fly, sing (singing male; possible breeder)	ZE
SN016	15/06/2022	07:41	Snipe	1	bogs; fly, drumming (singing male; possible breeder)	ZE
SN017	15/06/2022	10:54	Snipe	1	bogs and highly modified/non-native woodland; flushed (suitable nesting habitat; possible breeder)	ZE
SN018	16/06/2022	08:55	Snipe	1	cutover bog; sing, fly, drumming (singing male; possible breeder)	ZE
SN019	08/07/2022	06:53	Snipe	1	bogs; sing, heard only (singing male; possible breeder)	ZE
SN020	08/07/2022	10:00	Snipe	1	bogs; fly, sing (singing male; possible breeder)	ZE
SN021	11/07/2022	10:05	Snipe	1	cutover bog; sing (singing male; possible breeder)	ZE

Table 7-4-19-3 Snipe Winter Walkover Survey Data

Winter Walkover Surveys						
Ref.	Date	Time	Species	Number	Habitat and activity	Surveyor
SN001	30/10/2020	10:17	Snipe	1	cutover bog; flushed (wintering)	TR
SN002	30/10/2020	10:22	Snipe	1	cutover bog; flushed (wintering)	TR
SN003	30/10/2020	10:32	Snipe	1	cutover bog; flushed (wintering)	TR
SN004	30/10/2020	10:51	Snipe	5	cutover bog; flight (wintering)	TR

Winter Walkover Surveys						
Ref.	Date	Time	Species	Number	Habitat and activity	Surveyor
SN005	30/10/2020	10:58	Snipe	1	cutover bog; flushed (wintering)	TR
SN006	30/10/2020	11:22	Snipe	1	cutover bog; flushed (wintering)	TR
SN007	30/10/2020	14:10	Snipe	2	cutover bog; flushed (wintering)	TR
SN008	31/01/2021	12:14	Snipe	3	semi-natural grassland; flushed (wintering)	AR
SN009	16/02/2021	09:32	Snipe	1	wet grassland, hedgerows, and bogs; flying, flushed off ground (wintering)	AR
SN010	23/11/2021	10:17	Snipe	4	bogs; flushed ()	AR
SN011	23/11/2021	11:22	Snipe	1	bogs; flushed ()	AR
SN012	23/11/2021	13:26	Snipe	2	bogs; flushed ()	AR
SN013	23/11/2021	14:04	Snipe	1	bogs; flushed ()	AR
SN014	03/02/2022	13:23	Snipe	1	bogs; flushed (wintering)	PDC
SN015	11/11/2022	13:41	Snipe	5	bogs; flying (wintering)	CF
SN016	11/11/2022	13:42	Snipe	2	bogs; flying (wintering)	CF
SN017	18/01/2023	16:12	Snipe	3	bogs; flushed (wintering)	CF
SN018	18/01/2023	16:13	Snipe	1	bogs; flushed (wintering)	CF

Winter Walkover Surveys						
Ref.	Date	Time	Species	Number	Habitat and activity	Surveyor
SN019	09/02/2023	14:15	Snipe	1	bogs; flushed (wintering)	CF
SN020	09/02/2023	14:15	Snipe	5	bogs; flushed (wintering)	CF

Table 7-4-19-4 Snipe Waterbird Distribution Survey Data

Waterbird Distribution Surveys							
Ref.	Location	Date	Time	Species	Number	Habitat and activity	Surveyor
SN001		14/01/2021	14:10	Snipe	1	watercourses and improved agricultural grassland; feeding/roosting, feeding	AR
SN002		21/05/2021	11:20	Snipe	1	wet grassland and watercourses; displaying	AR
SN003	Redwood Bog	13/10/2021	09:15	Snipe	9	bogs; travelling, in flight over bog	PDC
SN004		24/11/2021	09:15	Snipe	2	wet grassland; flying	AR
SN005		24/11/2021	11:42	Snipe	1	wet grassland and watercourses; flying	AR
SN006		05/12/2021	07:22	Snipe	1	bogs; flying	AR
SN007		05/12/2021	12:42	Snipe	3	wet grassland; flushed	AR
SN008		06/12/2021	07:35	Snipe	1	improved grassland and bogs; flying	AR
SN009		20/12/2021	07:53	Snipe	1	improved grassland and hedgerows; flying	AR

Waterbird Distribution Surveys							
Ref.	Location	Date	Time	Species	Number	Habitat and activity	Surveyor
SN010		21/12/2021	07:30	Snipe	12	bogs and watercourses; calling	AR
SN011		07/01/2022	07:30	Snipe	4	watercourses; feeding	AR
SN012		09/01/2022	07:30	Snipe	2	watercourses and bogs; flying	AR
SN013		30/01/2022	09:10	Snipe	6	watercourses; feeding	AR
SN014		05/02/2022	08:46	Snipe	1	watercourses and bogs; flushed	AR
SN015	Little Brosna Callows	18/02/2022	11:30	Snipe	3	wet grassland and watercourses; flying	AR
SN016	Little Brosna Callows	15/12/2022	14:49	Snipe	80	lakes and ponds; feeding, insane numbers out in the open with the heavy freeze	CF
SN017	Little Brosna Callows	18/01/2023	12:42	Snipe	4	improved grassland; in flight	CF

Table 7-4-19-5 Snipe Incidental Data

Incidental Observations							
Ref.	Location	Date	Time	Species	Number	Habitat and activity	Surveyor
SN001	Breeding Raptor Survey; BRVP2	10/05/2021	08:36	Snipe	2	bogs and conifer plantation; displaying, two birds displaying over bog	AR
SN002	Vantage Point Survey; VP3	22/10/2021	08:22	Snipe	1	bogs, improved grassland, and highly modified/non-native woodland; travelling, briefly seen whilst following GI	PDC
SN003	Hen Harrier Roost Survey; HHVP3	28/10/2021	07:15	Snipe	2	improved agricultural grassland and bogs; travelling, heard calling as they flew past VP, unable to see them	PDC

Incidental Observations							
Ref.	Location	Date	Time	Species	Number	Habitat and activity	Surveyor
SN004	Hen Harrier Roost Survey; HHVP4	11/11/2021	16:32	Snipe	1	bogs; flying, leaving bog	AR
SN005	Hen Harrier Roost Survey; HHVP2	29/11/2021	16:03	Snipe	1	bogs and conifer plantation; flying	AR
SN006	Hen Harrier Roost Survey; HHVP2	05/12/2021	16:58	Snipe	2	bogs; flying	AR
SN007	Hen Harrier Roost Survey; HHVP2	05/12/2021	17:03	Snipe	2	bogs; flying	AR
SN008	Hen Harrier Roost Survey; HHVP1	06/12/2021	15:16	Snipe	1	bogs; flying	AR
SN009	Hen Harrier Roost Survey; Sharragh	28/01/2022	07:40	Snipe	2	bogs; calling, leaving bog	AR
SN010	Hen Harrier Roost Survey; HHVP2	10/03/2022	18:21	Snipe	1	bogs; flying	AR
SN011	Breeding Raptor Survey; Derry Breen	20/04/2022	09:42	Snipe	1	scrub/transitional woodland; flushed, x2	NL
SN012	Breeding Raptor Survey; BRVP2	27/04/2022	12:59	Snipe	1	cutover bog; fly	ZE
SN013	Breeding Woodcock Survey; T4	30/05/2022	21:00	Snipe	1	bogs; sing, only heard	ZE
SN014	Breeding Woodcock Survey; T4	30/05/2022	21:52	Snipe	1	bogs and highly modified/non-native woodland; flushed	ZE
SN015	Breeding Walkover Survey; T4	30/05/2022	22:14	Snipe	1	bogs; sing, heard only	ZE
SN016	Breeding Woodcock Survey; T4/vP3	30/05/2022	22:22	Snipe	3	bogs; sing, drumming, fly	ZE
SN017	Breeding Woodcock Survey; T4	30/05/2022	22:37	Snipe	1	bogs; fly, drumming	ZE

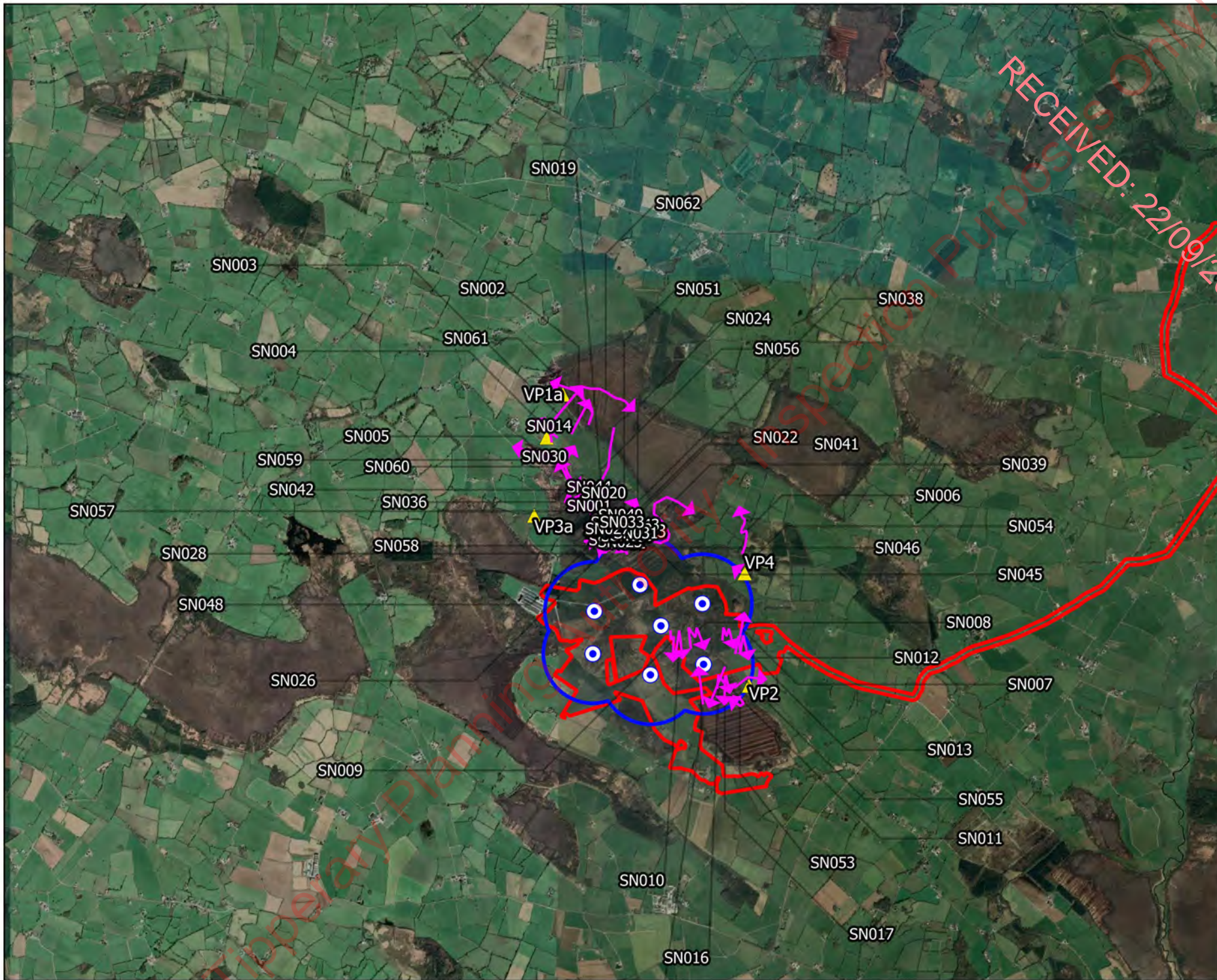
Incidental Observations							
Ref.	Location	Date	Time	Species	Number	Habitat and activity	Surveyor
SN018	Breeding Raptor Survey; Sharragh VP3	20/06/2022	07:15	Snipe	1	cutover bog; sing, heard only	ZE
SN019	Breeding Raptor Survey; BRVP2	21/06/2022	07:32	Snipe	3	cutover bog; fly, drumming, sing	ZE
SN020	Breeding Raptor Survey; BRVP2	21/06/2022	10:41	Snipe	1	cutover bog; fly, sing	ZE
SN021	Breeding Woodcock Survey; Woodcock T4	23/06/2022	22:40	Snipe	1	bogs; fly, drumming	ZE
SN022	Breeding Woodcock Survey; Woodcock T4	23/06/2022	22:55	Snipe	2	bogs; sing, heard only	ZE
SN023	Breeding Raptor Survey; BRVP2	07/07/2022	07:38	Snipe	1	cutover bog; sing, heard only	ZE
SN024	Breeding Raptor Survey; BRVP2/VP2	07/07/2022	11:54	Snipe	1	cutover bog; sing, heard only	ZE
SN025	Hen Harrier Roost Survey; HHVP2	25/10/2022	16:45	Snipe	1	cutover bog; flushed	PM
SN026	Hen Harrier Roost Survey; HHVP2	25/10/2022	18:34	Snipe	1	cutover bog; leaving bog	PM
SN027	Hen Harrier Roost Survey; HHVP2	25/10/2022	18:46	Snipe	1	cutover bog; leaving bog	PM
SN028	Hen Harrier Roost Survey; HHVP4a	26/10/2022	18:45	Snipe	1	cutover bog; leaving bog	PM
SN029	Hen Harrier Roost Survey; HHVPa	26/10/2022	18:47	Snipe	1	cutover bog; leaving bog	PM
SN030	Hen Harrier Roost Survey; HHVP4a	26/10/2022	18:51	Snipe	1	cutover bog; leaving bog	PM
SN031	Hen Harrier Roost Survey; HHVP4a	26/10/2022	18:51	Snipe	1	cutover bog; leaving bog	PM

Incidental Observations							
Ref.	Location	Date	Time	Species	Number	Habitat and activity	Surveyor
SN032	Hen Harrier Roost Survey; HHVP4a	26/10/2022	18:53	Snipe	1	cutover bog; leaving bog	PM
SN033	Hen Harrier Roost Survey; HHVP4a	26/10/2022	18:55	Snipe	1	cutover bog; leaving bog	PM
SN034	Hen Harrier Roost Survey; HHVP1	27/10/2022	18:43	Snipe	5	raised bog; leaving bog	PM
SN035	Hen Harrier Roost Survey; HHVP1	27/10/2022	18:44	Snipe	1	raised bog; leaving bog	PM
SN036	Hen Harrier Roost Survey; HHVP1	27/10/2022	18:45	Snipe	2	raised bog; leaving bog	PM
SN037	Hen Harrier Roost Survey; HHVP1	27/10/2022	18:46	Snipe	3	raised bog; leaving bog	PM
SN038	Hen Harrier Roost Survey; HHVP1	27/10/2022	18:48	Snipe	2	raised bog; leaving bog	PM
SN039	Hen Harrier Roost Survey; HHVP1	27/10/2022	18:50	Snipe	4	raised bog; leaving bog	PM
SN040	Hen Harrier Roost Survey; HHVP4a	28/10/2022	18:51	Snipe	1	cutover bog; leaving bog	PM
SN041	Hen Harrier Roost Survey; HHVP1	24/11/2022	17:04	Snipe	1	cutover bog; leaving bog	PM
SN042	Hen Harrier Roost Survey; HHVP1	24/11/2022	17:06	Snipe	4	cutover bog; leaving bog	PM
SN043	Hen Harrier Roost Survey; HHVP1	24/11/2022	17:08	Snipe	15	cutover bog; leaving bog	PM
SN044	Hen Harrier Roost Survey; HHVP1	24/11/2022	17:13	Snipe	8	cutover bog; leaving bog	PM
SN045	Hen Harrier Roost Survey; HHVP2	29/11/2022	15:00	Snipe	6	cutover bog and mixed broadleaved/conifer woodland; travelling	PM



Incidental Observations							
Ref.	Location	Date	Time	Species	Number	Habitat and activity	Surveyor
SN046	Hen Harrier Roost Survey; HHVP2	29/11/2022	16:58	Snipe	3	upland blanket bog; leaving bog	PM
SN047	Hen Harrier Roost Survey; HHVP2	29/11/2022	17:03	Snipe	2	upland blanket bog; leaving bog	PM
SN048	Hen Harrier Roost Survey; HHVP2	29/11/2022	17:08	Snipe	1	upland blanket bog; leaving bog	PM
SN049	Hen Harrier Roost Survey; HHVP2	29/11/2022	17:12	Snipe	1	upland blanket bog; leaving bog	PM

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- ### Map Legend
- EIAR Site Boundary
  - Turbine Layout
  - 500m Radius of Turbines
  - Flight Observation
  - Non-flight Observation



Drawing Title: <b>Snipe Observations Vantage Point Surveys</b>	
Project Title: <b>Carrig Renewables Wind Farm</b>	
Drawn By: <b>S. Duff</b>	Checked By: <b>D. Woods</b>
Project No.: <b>211016</b>	Drawing No.: <b>7.4.19.1</b>
Scale: <b>1:50000</b>	Date: <b>28.07.2023</b>
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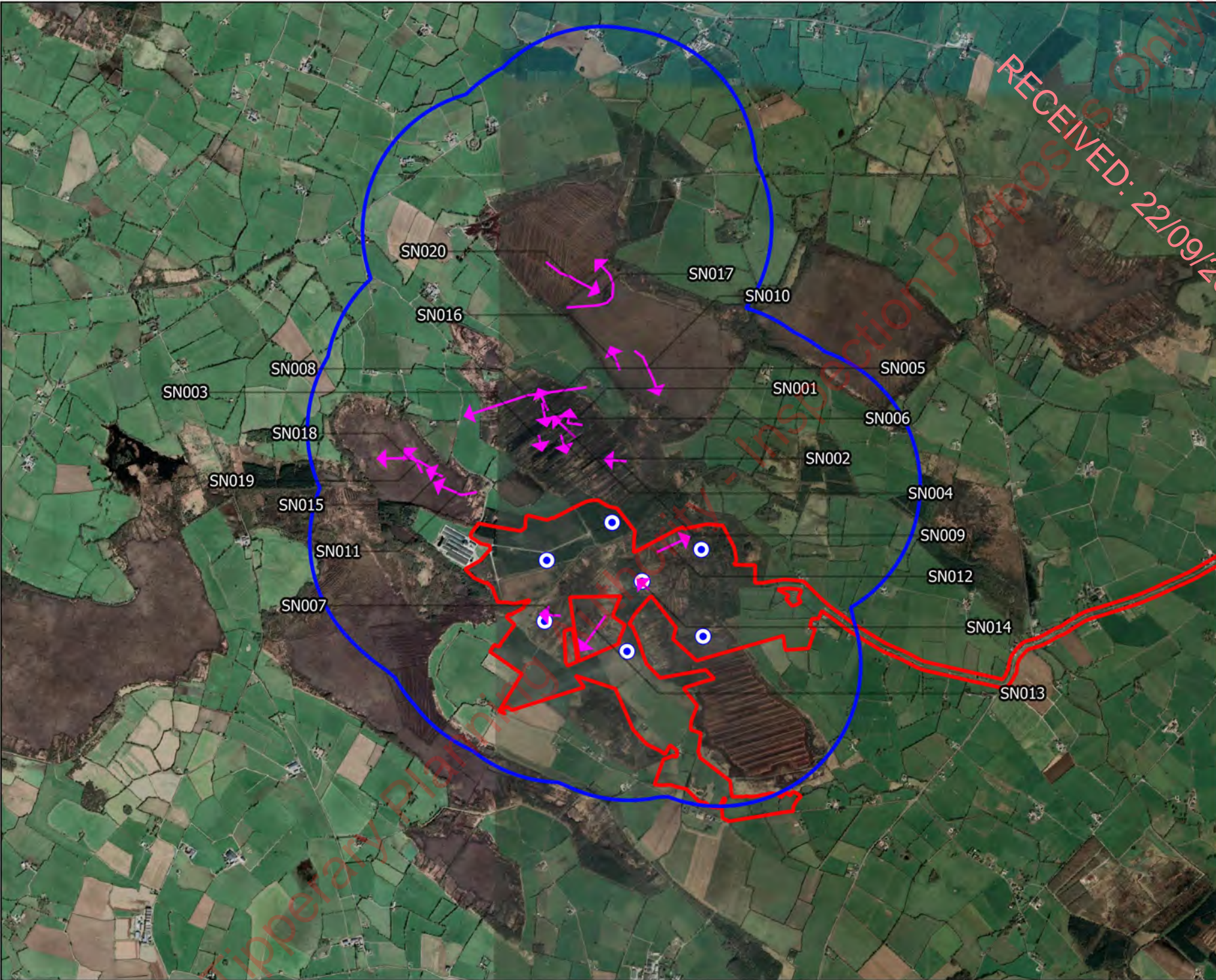
**Map Legend**

- EIA Site Boundary
- Turbine Layout
- 500m Survey Area
- Flight Observation



Drawing Title: <b>Snipe Observations Breeding Walkover Surveys</b>	
Project Title: <b>Carrig Renewables Wind Farm</b>	
Drawn By: <b>S. Duff</b>	Checked By: <b>D. Woods</b>
Project No: <b>211016</b>	Drawing No.: <b>7.4.19.2</b>
Scale: <b>1:35000</b>	Date: <b>28.07.2023</b>
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**Map Legend**

- EIA Site Boundary
- Turbine Layout
- 500m Survey Area
- Flight Observation



Drawing Title: <b>Snipe Observations Winter Walkover Surveys</b>	
Project Title: <b>Carrig Renewables Wind Farm</b>	
Drawn By: <b>S. Duff</b>	Checked By: <b>D. Woods</b>
Project No: <b>211016</b>	Drawing No.: <b>7.4.19.3</b>
Scale: <b>1:35000</b>	Date: <b>28.07.2023</b>
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**Map Legend**

- EIA Site Boundary
- Turbine Layout
- 8km Survey Area
- ◆ Observation



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Drawing Title:  
**Snipe Observations  
Waterbird Distribution Surveys**

Project Title:  
**Carrig Renewables Wind Farm**

<b>Drawn By</b> S. Duff	<b>Checked By</b> D. Woods
<b>Project No.</b> 211016	<b>Drawing No.</b> 7.4.19.4
<b>Scale</b> 1:110000	<b>Date</b> 28.07.2023

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## 7-4-20 WOODCOCK

**Note:** Sensitive data relating to breeding sites has been omitted from this appendix and is provided in Confidential Appendix 7-7.

Table 7-4-20-1 Woodcock Vantage Point Survey Data

Vantage Point Surveys												
Ref.	VP	Date	Time	Species	Number	Duration of flight (s)	Band 1 (0-15m)	Band 2 (15-25m)	Band 3 (25-200m)	Band 4 (>200m)	Habitat and activity	Surveyor
WK001	VP4	23/03/2021	06:38	Woodcock	1	20	0	20	0	0	mixed broadleaved/conifer woodland; travelling	AR

Table 7-4-20-2 Woodcock Breeding Walkover Survey Data

Breeding Walkover Surveys						
Ref.	Date	Time	Species	Number	Habitat and activity	Surveyor
WK001	25/07/2021	08:33	Woodcock	1	highly modified/non-native woodland; flushed, flushed off path ()	AR

Table 7-4-20-3 Woodcock Waterbird Distribution Survey Data

Waterbird Distribution Surveys							
Ref.	Location	Date	Time	Species	Number	Habitat and activity	Surveyor
WK001		06/12/2021	07:35	Woodcock	1	improved grassland and highly modified/non-native woodland; flying	AR

Table 7-4-20-4 Woodcock Incidental Data

Incidental Observations							
Ref.	Location	Date	Time	Species	Number	Habitat and activity	Surveyor
WK001	Hen Harrier Roost Survey; HHVP2	05/12/2021	16:52	Woodcock	1	bogs; flying	AR
WK002	Hen Harrier Roost Survey; Sharragh	28/01/2022	07:46	Woodcock	1	bogs; flying, going to roost	AK
WK003	Hen Harrier Roost Survey; HHVP2	29/11/2022	15:00	Woodcock	1	cutover bog; travelling	PM
WK004	Hen Harrier Roost Survey; HHVP3	06/12/2022	15:21	Woodcock	2	bogs; flushed	CF
WK005	Hen Harrier Roost Survey; HHVP2	07/12/2022	15:20	Woodcock	2	bogs; flying	CF



- ### Map Legend
- EIA Site Boundary
  - Turbine Layout
  - 500m Radius of Turbines
  - Flight Observation

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<p><b>Woodcock Observations</b> <b>Vantage Point Surveys</b></p>	
<p>Carrig Renewables Wind Farm</p>	
<p>Drawn By <b>S. Duff</b></p>	<p>Checked By <b>D. Woods</b></p>
<p>Project No. <b>211016</b></p>	<p>Drawing No. <b>7.4.20.1</b></p>
<p>Scale <b>1:50000</b></p>	<p>Date <b>28.07.2023</b></p>
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**Map Legend**

- EIA Site Boundary
- Turbine Layout
- 500m Survey Area
- Flight Observation

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WK001



Drawing Title:

Woodcock Observations  
Breeding Walkover Surveys

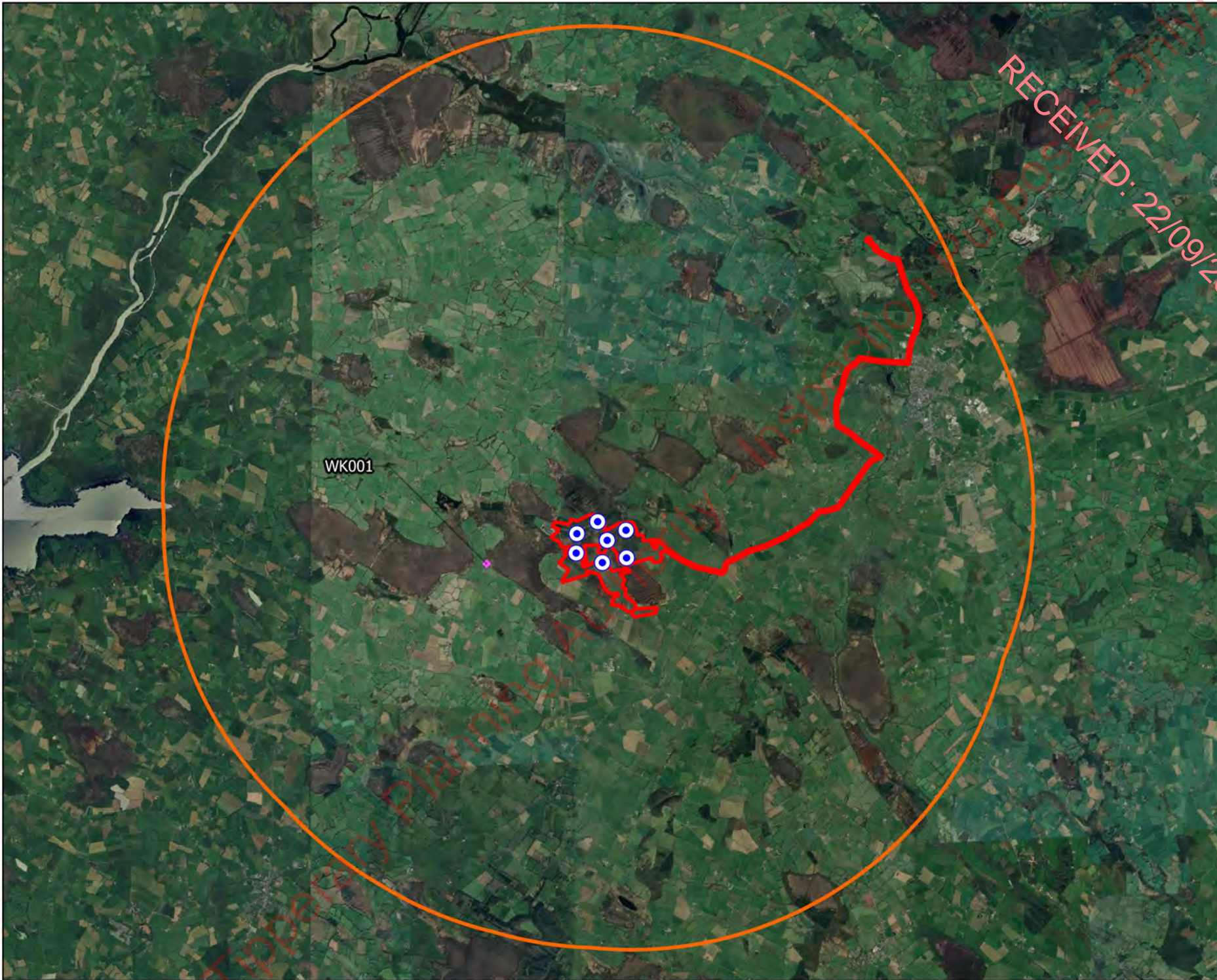
Project Title:

Carrig Renewables Wind Farm

<b>Drawn By</b>	<b>Checked By</b>
<b>S. Duff</b>	<b>D. Woods</b>
<b>Project No.</b>	<b>Drawing No.</b>
211016	7.4.20.2
<b>Scale</b>	<b>Date</b>
1:35000	28.07.2023

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Map Legend

-  EIA Site Boundary
-  Turbine Layout
-  8km Survey Area
-  Observation

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WK001



Drawing Title

Woodcock Observations  
Waterbird Distribution Surveys

Project Title

Carrig Renewables Wind Farm

Drawn By

S. Duff

Checked By

D. Woods

Project No.

211016

Drawing No.

7.4.20.3

Scale

1:110000

Date

28.07.2023



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**Map Legend**

- EIA Site Boundary
- ⊙ Turbine Layout
- Observation



Drawing Title: <b>Woodcock Observations Incidental Records</b>	
Project Title: Carrig Renewables Wind Farm	
Drawn By: <b>S. Duff</b>	Checked By: <b>D. Woods</b>
Project No. <b>211016</b>	Drawing No. <b>7.4.20.4</b>
Scale <b>1:50000</b>	Date <b>28.07.2023</b>
<b>MKO</b> Planning and Environmental Consultants Tuam Road, Galway Ireland, H91 VV84 +353 (0) 91 235611 email: info@mkofireland.ie Website: www.mkofireland.ie	

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## 7-4-21 BUZZARD

**Note:** Sensitive data relating to breeding sites has been omitted from this appendix and is provided in Confidential Appendix 7-7.

Table 7-4-21-1 Buzzard Vantage Point Survey Data

Vantage Point Surveys												
Ref.	VP	Date	Time	Species	Number	Duration of flight (s)	Band 1 (0-15m)	Band 2 (15-25m)	Band 3 (25-200m)	Band 4 (>200m)	Habitat and activity	Surveyor
BZ001	VP1	14/10/2020	13:37	Buzzard	5	560	0	0	560	0	improved agricultural grassland and cutover bog; circling high, flight	TR
BZ002	VP1	14/10/2020	13:38	Buzzard	1	30	30	0	0	0	improved agricultural grassland; flight perching, on tree	TR
BZ003	VP1	14/10/2020	13:51	Buzzard	2	300	0	60	240	0	improved agricultural grassland; circling, flight	TR
BZ004	VP1	14/10/2020	14:04	Buzzard	1	190	0	0	190	0	improved agricultural grassland; flight, circling	TR
BZ005	VP1	14/10/2020	14:36	Buzzard	2	240	0	0	150	90	highly modified/non-native woodland and improved agricultural grassland; high circling flight	TR
BZ006	VP1	14/10/2020	15:18	Buzzard	1	120	0	0	120	0	bogs and improved agricultural grassland; high circling	TR
BZ007	VP2	15/10/2020	14:20	Buzzard	1	200	0	50	150	0	highly modified/non-native woodland; circling, mobbed by hc	TR
BZ008	VP2	15/10/2020	14:34	Buzzard	1	310	10	30	270	0	cutover bog; flight, circling high	TR
BZ009	VP2	15/10/2020	15:46	Buzzard	1	5	5	0	0	0	cutover bog; landing	TR
BZ010	VP2	15/10/2020	16:00	Buzzard	2	420	420	0	0	0	cutover bog; travelling	TR

Vantage Point Surveys												
Ref.	VP	Date	Time	Species	Number	Duration of flight (s)	Band 1 (0-15m)	Band 2 (15-25m)	Band 3 (25-200m)	Band 4 (>200m)	Habitat and activity	Surveyor
BZ011	VP2	15/10/2020	17:58	Buzzard	1	15	15	0	0	0	highly modified/non-native woodland; flight	TR
BZ012	VP1	12/11/2020	10:01	Buzzard	1	0	0	0	0	0	improved agricultural grassland; calling, could not see bird, female	AR
BZ013	VP1	12/11/2020	10:08	Buzzard	1	30	30	0	0	0	improved agricultural grassland and hedgerows; travelling	AR
BZ014	VP2	28/11/2020	10:02	Buzzard	1	30	30	0	0	0	cutover bog; travelling	AR
BZ015	VP2	28/11/2020	12:33	Buzzard	1	20	20	0	0	0	cutover bog; travelling	AR
BZ016	VP4	29/11/2020	10:05	Buzzard	1	8	0	8	0	0	improved agricultural grassland; travelling	AR
BZ017	VP2	12/12/2020	16:12	Buzzard	1	15	15	0	0	0	improved agricultural grassland and hedgerows; travelling	AR
BZ018	VP1	14/12/2020	11:10	Buzzard	1	3	3	0	0	0	improved agricultural grassland and hedgerows; travelling	AR
BZ019	VP1	14/12/2020	11:49	Buzzard	1	3	3	0	0	0	improved agricultural grassland and hedgerows; travelling	AR
BZ020	VP1	14/12/2020	13:13	Buzzard	1	15	15	0	0	0	improved agricultural grassland and hedgerows; soaring, then moved off	AR
BZ021	VP1	14/12/2020	14:17	Buzzard	1	30	30	0	0	0	improved agricultural grassland and highly modified/non-native woodland; travelling	AR
BZ022	VP4	28/12/2020	13:20	Buzzard	1	20	0	20	0	0	highly modified/non-native woodland, improved agricultural grassland and bogs; travelling	AR
BZ023	VP2	30/12/2020	16:22	Buzzard	1	5	5	0	0	0	highly modified/non-native woodland; travelling	AR
BZ024	VP1	13/01/2021	11:58	Buzzard	1	10	10	0	0	0	improved agricultural grassland and hedgerows; hunting	AR

Vantage Point Surveys												
Ref.	VP	Date	Time	Species	Number	Duration of flight (s)	Band 1 (0-15m)	Band 2 (15-25m)	Band 3 (25-200m)	Band 4 (>200m)	Habitat and activity	Surveyor
BZ025	VP1	13/01/2021	13:05	Buzzard	1	10	10	0	0	0	improved agricultural grassland and hedgerows; travelling	AR
BZ026	VP3	15/01/2021	10:46	Buzzard	1	15	0	15	0	0	highly modified/non-native woodland and bogs; travelling	AR
BZ027	VP2	16/01/2021	12:28	Buzzard	1	5	5	0	0	0	improved agricultural grassland; soaring	AR
BZ028	VP2	16/01/2021	12:36	Buzzard	1	20	0	20	0	0	bogs and highly modified/non-native woodland; travelling	AR
BZ029	VP2	16/01/2021	12:38	Buzzard	1	30	30	0	0	0	bogs and highly modified/non-native woodland; travelling	AR
BZ030	VP4	28/01/2021	10:41	Buzzard	1	10	10	0	0	0	highly modified/non-native woodland; travelling	AR
BZ031	VP4	17/02/2021	15:16	Buzzard	1	60	0	0	60	0	highly modified/non-native woodland; hunting, hovering	AR
BZ032	VP3	25/02/2021	12:37	Buzzard	1	60	0	30	30	0	highly modified/non-native woodland and bogs; travelling	AR
BZ033	VP3	25/02/2021	13:13	Buzzard	1	30	0	0	30	0	highly modified/non-native woodland; soaring	AR
BZ034	VP3	25/02/2021	14:04	Buzzard	1	90	30	60	0	0	highly modified/non-native woodland and improved agricultural grassland; travelling	AR
BZ035	VP3	25/02/2021	14:24	Buzzard	2	120	0	30	90	0	highly modified/non-native woodland and improved agricultural grassland; soaring	AR
BZ036	VP3	25/02/2021	14:27	Buzzard	1	30	30	0	0	0	bogs and hedgerows; hunting	AR
BZ037	VP3	25/02/2021	14:36	Buzzard	1	20	0	20	0	0	highly modified/non-native woodland and improved agricultural grassland; travelling	AR

Vantage Point Surveys												
Ref.	VP	Date	Time	Species	Number	Duration of flight (s)	Band 1 (0-15m)	Band 2 (15-25m)	Band 3 (25-200m)	Band 4 (>200m)	Habitat and activity	Surveyor
BZ038	VP3	25/02/2021	14:53	Buzzard	2	120	10	40	70	0	bogs and highly modified/non-native woodland; soaring	AR
BZ039	VP3	25/02/2021	15:07	Buzzard	1	40	10	30	0	0	improved agricultural grassland and hedgerows; hunting	AR
BZ040	VP3	25/02/2021	15:37	Buzzard	1	30	0	0	30	0	highly modified/non-native woodland; hunting, hovering	AR
BZ041	VP3	25/02/2021	15:40	Buzzard	1	30	30	0	0	0	hedgerows, improved agricultural grassland and bogs; travelling	AR
BZ042	VP3	25/02/2021	15:56	Buzzard	2	30	0	0	30	0	highly modified/non-native woodland; soaring	AR
BZ043	VP3	25/02/2021	16:33	Buzzard	1	10	0	10	0	0	highly modified/non-native woodland; hunting	AR
BZ044	VP3	25/02/2021	16:40	Buzzard	1	30	10	20	0	0	bogs; hunting	AR
BZ045	VP3	25/02/2021	16:59	Buzzard	1	10	0	10	0	0	highly modified/non-native woodland; travelling	AR
BZ046	VP3	25/02/2021	17:48	Buzzard	1	60	40	20	0	0	highly modified/non-native woodland, improved agricultural grassland and bogs; travelling	AR
BZ047	VP3	25/02/2021	17:59	Buzzard	1	30	0	30	0	0	highly modified/non-native woodland and improved agricultural grassland; travelling	AR
BZ048	VP3	25/02/2021	18:02	Buzzard	1	30	0	30	0	0	highly modified/non-native woodland; hunting	AR
BZ049	VP3	25/02/2021	18:10	Buzzard	1	20	0	0	20	0	highly modified/non-native woodland and improved agricultural grassland; travelling	AR
BZ050	VP2	27/02/2021	12:37	Buzzard	1	10	0	10	0	0	highly modified/non-native woodland; soaring	AR

Vantage Point Surveys												
Ref.	VP	Date	Time	Species	Number	Duration of flight (s)	Band 1 (0-15m)	Band 2 (15-25m)	Band 3 (25-200m)	Band 4 (>200m)	Habitat and activity	Surveyor
BZ051	VP2	27/02/2021	13:01	Buzzard	1	20	0	20	0	0	highly modified/non-native woodland; travelling	AR
BZ052	VP2	27/02/2021	15:07	Buzzard	1	10	10	0	0	0	improved agricultural grassland and hedgerows;	AR
BZ053	VP2	27/02/2021	17:42	Buzzard	1	20	20	0	0	0	highly modified/non-native woodland; travelling	AR
BZ054	VP3	17/03/2021	10:42	Buzzard	1	5	5	0	0	0	bogs; low over bog	AR
BZ055	VP3	17/03/2021	10:47	Buzzard	5	180	60	60	60	0	highly modified/non-native woodland;	AR
BZ056	VP3	17/03/2021	10:52	Buzzard	3	360	0	60	200	100	highly modified/non-native woodland; 3 birds of the 5 drifted back again 2 gaining height	AR
BZ057	VP3	17/03/2021	11:48	Buzzard	2	60	0	0	60	0	highly modified/non-native woodland; soaring	AR
BZ058	VP3	17/03/2021	11:52	Buzzard	1	30	0	0	30	0	highly modified/non-native woodland; soaring	AR
BZ059	VP3	17/03/2021	12:16	Buzzard	1	60	0	60	0	0	highly modified/non-native woodland and bogs; soaring	AR
BZ060	VP2	18/03/2021	12:04	Buzzard	3	120	0	0	120	0	mixed broadleaved/conifer woodland; soaring	AR
BZ061	VP2	18/03/2021	12:13	Buzzard	1	20	20	0	0	0	mixed broadleaved/conifer woodland; travelling	AR
BZ062	VP2	18/03/2021	12:17	Buzzard	2	30	20	10	0	0	improved agricultural grassland and hedgerows; travelling, behind vp	AR
BZ063	VP2	18/03/2021	12:45	Buzzard	1	40	40	0	0	0	improved agricultural grassland and bogs; travelling	AR
BZ064	VP4	23/03/2021	10:02	Buzzard	1	30	30	0	0	0	highly modified/non-native woodland; travelling	AR



Vantage Point Surveys												
Ref.	VP	Date	Time	Species	Number	Duration of flight (s)	Band 1 (0-15m)	Band 2 (15-25m)	Band 3 (25-200m)	Band 4 (>200m)	Habitat and activity	Surveyor
BZ065	VP4	23/03/2021	10:34	Buzzard	1	20	20	0	0	0	highly modified/non-native woodland; hunting	AR
BZ066	VP4	23/03/2021	10:46	Buzzard	1	20	20	0	0	0	highly modified/non-native woodland; travelling	AR
BZ067	VP4	23/03/2021	11:02	Buzzard	1	10	10	0	0	0	highly modified/non-native woodland, improved agricultural grassland and hedgerows; travelling	AR
BZ068	VP4	23/03/2021	11:20	Buzzard	1	30	0	30	0	0	bogs and highly modified/non-native woodland; hunting	AR
BZ069	VP4	23/03/2021	12:06	Buzzard	4	60	0	60	0	0	highly modified/non-native woodland and bogs; hunting	AR
BZ070	VP4	23/03/2021	12:21	Buzzard	1	10	10	0	0	0	mixed broadleaved/conifer woodland; travelling	AR
BZ072	VP1	07/04/2021	18:31	Buzzard	1	50	50	0	0	0	improved grassland and hedgerows; travelling	AR
BZ073	VP1	07/04/2021	18:35	Buzzard	1	10	10	0	0	0	improved grassland and hedgerows; , mobbed by hooded crow	AR
BZ074	VP1	07/04/2021	19:05	Buzzard	1	10	10	0	0	0	improved grassland and hedgerows;	AR
BZ075	VP3	08/04/2021	14:37	Buzzard	1	30	0	30	0	0	bogs, hedgerows and highly modified/non-native woodland; hunting	AR
BZ076	VP3	08/04/2021	16:12	Buzzard	1	5	0	5	0	0	highly modified/non-native woodland and bogs; soaring, soaring then into wood	AR
BZ077	VP3	08/04/2021	16:41	Buzzard	1	15	15	0	0	0	highly modified/non-native woodland; travelling	AR
BZ078	VP3	08/04/2021	17:12	Buzzard	2	120	0	0	120	0	highly modified/non-native woodland and bogs; hunting, lost to view	AR

Vantage Point Surveys												
Ref.	VP	Date	Time	Species	Number	Duration of flight (s)	Band 1 (0-15m)	Band 2 (15-25m)	Band 3 (25-200m)	Band 4 (>200m)	Habitat and activity	Surveyor
BZ079	VP3	08/04/2021	18:01	Buzzard	2	30	0	30	0	0	highly modified/non-native woodland and bogs; soaring	AR
BZ080	VP3	08/04/2021	19:07	Buzzard	1	10	10	0	0	0	highly modified/non-native woodland; travelling	AR
BZ081	VP2	15/04/2021	15:17	Buzzard	2	120	0	0	120	0	conifer plantation; soaring	AR
BZ082	VP2	15/04/2021	17:21	Buzzard	1	120	0	0	120	0	bogs and conifer plantation; soaring	AR
BZ083	VP2	15/04/2021	20:37	Buzzard	1	10	0	10	0	0	conifer plantation and bogs; hunting	AR
BZ084	VP4	16/04/2021	16:11	Buzzard	2	90	0	0	0	90	conifer plantation and bogs; soaring	AR
BZ085	VP4	16/04/2021	19:01	Buzzard	1	60	0	0	60	0	conifer plantation and bogs; soaring	AR
BZ086	VP4	08/05/2021	07:26	Buzzard	1	120	0	120	0	0	bogs and improved grassland; hunting	AR
BZ087	VP4	08/05/2021	08:01	Buzzard	1	30	0	0	30	0	bogs and improved grassland; soaring	AR
BZ088	VP4	08/05/2021	10:02	Buzzard	1	20	20	0	0	0	bogs, improved grassland and hedgerows; hunting	AR
BZ089	VP4	08/05/2021	10:26	Buzzard	2	180	0	0	180	0	conifer plantation and bogs; soaring	AR
BZ090	VP4	08/05/2021	10:51	Buzzard	1	30	0	0	30	0	conifer plantation and improved grassland; travelling	AR
BZ091	VP4	08/05/2021	11:36	Buzzard	1	30	0	0	30	0	bogs; soaring	AR
BZ092	VP1	09/05/2021	08:54	Buzzard	1	20	0	20	0	0	bogs, improved grassland and hedgerows; hunting	AR

Vantage Point Surveys												
Ref.	VP	Date	Time	Species	Number	Duration of flight (s)	Band 1 (0-15m)	Band 2 (15-25m)	Band 3 (25-200m)	Band 4 (>200m)	Habitat and activity	Surveyor
BZ093	VP3	11/05/2021	10:24	Buzzard	1	30	30	0	0	0	improved grassland and hedgerows; travelling	AR
BZ094	VP2	12/05/2021	06:16	Buzzard	1	30	30	0	0	0	improved grassland and hedgerows; travelling	AR
BZ095	VP2	12/05/2021	08:39	Buzzard	1	90	0	30	60	0	improved grassland and conifer plantation; soaring	AR
BZ096	VP2	12/05/2021	09:10	Buzzard	1	120	0	0	120	0	bogs and conifer plantation; travelling	AR
BZ097	VP2	12/05/2021	10:07	Buzzard	2	60	0	0	60	0	bogs; soaring	AR
BZ098	VP2	04/06/2021	08:37	Buzzard	1	10	0	0	10	0	conifer plantation and bogs; travelling	AR
BZ099	VP2	04/06/2021	09:10	Buzzard	1	120	0	0	120	0	bogs; soaring	AR
BZ100	VP2	04/06/2021	12:06	Buzzard	1	30	0	0	30	0	bogs; soaring	AR
BZ102	VP1	06/06/2021	11:31	Buzzard	1	60	0	0	60	0	improved grassland; soaring	AR
BZ103	VP1	06/06/2021	11:47	Buzzard	2	90	90	0	0	0	improved grassland, hedgerows and bogs; hunting	AR
BZ104	VP1	06/06/2021	11:51	Buzzard	1	120	0	0	120	0	improved grassland, hedgerows and bogs; soaring, soaring with 300 rooks in thermal	AR
BZ105	VP1	06/06/2021	12:37	Buzzard	1	30	0	0	30	0	bogs; hunting	AR
BZ106	VP1	06/06/2021	12:48	Buzzard	1	80	0	0	80	0	improved grassland, hedgerows and bogs; hunting, female hunting	AR
BZ107	VP3	07/06/2021	08:25	Buzzard	2	180	0	0	180	0	bogs, improved grassland and hedgerows; soaring, two birds together then parted	AR

Vantage Point Surveys												
Ref.	VP	Date	Time	Species	Number	Duration of flight (s)	Band 1 (0-15m)	Band 2 (15-25m)	Band 3 (25-200m)	Band 4 (>200m)	Habitat and activity	Surveyor
BZ108	VP3	07/06/2021	08:39	Buzzard	1	60	0	60	0	0	conifer plantation; soaring	AR
BZ109	VP3	07/06/2021	09:11	Buzzard	1	60	0	60	0	0	conifer plantation; hunting	AR
BZ110	VP3	07/06/2021	09:40	Buzzard	1	10	0	10	0	0	bogs; hunting	AR
BZ111	VP3	07/06/2021	10:51	Buzzard	1	20	0	20	0	0	improved grassland and hedgerows; hunting, adult	AR
BZ112	VP3	07/06/2021	10:59	Buzzard	1	30	0	30	0	0	bogs; hunting	AR
BZ113	VP3	07/06/2021	11:33	Buzzard	1	20	0	20	0	0	bogs; hunting	AR
BZ114	VP4	09/06/2021	10:01	Buzzard	1	30	0	30	0	0	conifer plantation and highly modified/non-native woodland; hunting	AR
BZ115	VP4	09/06/2021	10:02	Buzzard	1	55	0	0	55	0	improved grassland and conifer plantation; travelling	AR
BZ116	VP4	09/06/2021	10:56	Buzzard	1	30	0	0	30	0	bogs and highly modified/non-native woodland; soaring	AR
BZ117	VP4	09/06/2021	11:07	Buzzard	1	10	0	10	0	0	conifer plantation; hunting	AR
BZ118	VP4	09/06/2021	11:14	Buzzard	1	90	0	90	0	0	conifer plantation and improved grassland; travelling	AR
BZ119	VP4	09/06/2021	12:34	Buzzard	1	10	0	0	10	0	bogs; soaring	AR
BZ120	VP4	09/06/2021	12:50	Buzzard	1	20	0	20	0	0	bogs; hunting	AR
BZ121	VP4	09/06/2021	13:07	Buzzard	1	30	0	0	30	0	bogs; hunting	AR

Vantage Point Surveys												
Ref.	VP	Date	Time	Species	Number	Duration of flight (s)	Band 1 (0-15m)	Band 2 (15-25m)	Band 3 (25-200m)	Band 4 (>200m)	Habitat and activity	Surveyor
BZ122	VP4	09/07/2021	09:56	Buzzard	1	20	10	0	0	0	improved grassland and highly modified/non-native woodland; travelling	AR
BZ123	VP4	09/07/2021	11:53	Buzzard	1	40	0	0	40	0	bogs and highly modified/non-native woodland; soaring	AR
BZ124	VP4	09/07/2021	12:11	Buzzard	1	10	0	10	0	0	conifer plantation; hunting	AR
BZ125	VP4	09/07/2021	13:09	Buzzard	1	10	0	10	0	0	conifer plantation; travelling	AR
BZ126	VP3	10/07/2021	12:44	Buzzard	1	20	20	0	0	0	improved grassland and hedgerows; hunting	AR
BZ127	VP2	17/07/2021	10:15	Buzzard	1	30	0	30	0	0	conifer plantation and bogs; soaring	AR
BZ128	VP2	17/07/2021	10:53	Buzzard	1	240	0	100	40	100	conifer plantation, bogs and improved grassland; soaring	AR
BZ129	VP2	17/07/2021	11:40	Buzzard	1	90	0	0	90	0	conifer plantation; soaring	AR
BZ130	VP2	17/07/2021	12:03	Buzzard	1	60	0	0	60	0	bogs; soaring	AR
BZ131	VP2	17/07/2021	12:37	Buzzard	1	30	0	30	0	0	bogs; hunting	AR
BZ132	VP2	17/07/2021	13:17	Buzzard	2	120	0	0	0	120	bogs; soaring	AR
BZ133	VP4	20/08/2021	09:17	Buzzard	1	60	0	0	60	0	bogs and mixed broadleaved woodland; travelling	AR
BZ134	VP4	20/08/2021	09:46	Buzzard	2	120	0	0	120	0	improved grassland and hedgerows; soaring	AR
BZ135	VP4	20/08/2021	12:25	Buzzard	1	30	0	0	30	0	conifer plantation; travelling	AR

Vantage Point Surveys												
Ref.	VP	Date	Time	Species	Number	Duration of flight (s)	Band 1 (0-15m)	Band 2 (15-25m)	Band 3 (25-200m)	Band 4 (>200m)	Habitat and activity	Surveyor
BZ136	VP4	13/09/2021	14:20	Buzzard	1	10	0	10	0	0	improved grassland and hedgerows; travelling	AR
BZ137	VP4	13/09/2021	15:33	Buzzard	1	30	0	0	30	0	conifer plantation and bogs; hunting	AR
BZ138	VP4	13/09/2021	16:44	Buzzard	1	90	0	0	90	0	improved grassland and highly modified/non-native woodland; hunting	AR
BZ139	VP4	13/09/2021	17:24	Buzzard	1	20	0	20	0	0	improved grassland; travelling	AR
BZ140	VP1	25/09/2021	13:46	Buzzard	1	30	0	30	0	0	improved grassland; travelling	AR
BZ141	VP1	25/09/2021	18:06	Buzzard	2	120	0	0	120	0	bogs; soaring, two birds together	AR
BZ142	VP2	29/09/2021	13:41	Buzzard	2	60	0	60	0	0	conifer plantation and bogs; hunting	AR
BZ143	VP2	29/09/2021	15:12	Buzzard	1	60	0	60	0	0	conifer plantation and bogs; hunting	AR
BZ144	VP2	29/09/2021	15:54	Buzzard	2	300	0	0	300	0	conifer plantation and bogs; soaring	AR
BZ145	VP2	29/09/2021	16:10	Buzzard	1	120	0	0	120	0	improved grassland and hedgerows; soaring	AR
BZ146	VP3	30/09/2021	17:43	Buzzard	1	20	0	20	0	0	conifer plantation; hunting	AR
BZ147	VP4	15/10/2021	08:20	Buzzard	1	0	0	0	0	0	improved agricultural grassland and hedgerows; calling, heard but not seen	PDC
BZ148	VP4	15/10/2021	10:33	Buzzard	2	94	0	0	94	0	improved agricultural grassland, highly modified/non-native woodland and hedgerows; travelling, relatively low direct flight across viewshed, just above vp	PDC

Vantage Point Surveys												
Ref.	VP	Date	Time	Species	Number	Duration of flight (s)	Band 1 (0-15m)	Band 2 (15-25m)	Band 3 (25-200m)	Band 4 (>200m)	Habitat and activity	Surveyor
BZ149	VP2	19/10/2021	09:00	Buzzard	1	28	0	0	28	0	highly modified/non-native woodland; travelling	PDC
BZ150	VP2	19/10/2021	12:18	Buzzard	1	26	0	26	0	0	improved agricultural grassland, cutover bog and highly modified/non-native woodland; travelling, came from behind vp then dropped into forestry	PDC
BZ151	VP1	21/10/2021	07:51	Buzzard	1	13	13	0	0	0	improved agricultural grassland; travelling, flew across track	PDC
BZ152	VP1	21/10/2021	07:53	Buzzard	2	16	16	0	0	0	improved agricultural grassland; travelling, flew across fields, lost against dark background	PDC
BZ153	VP1	21/10/2021	08:09	Buzzard	1	37	37	0	0	0	improved agricultural grassland; travelling, low flight across field, lost against background	PDC
BZ154	VP1	21/10/2021	08:55	Buzzard	1	20	0	20	0	0	improved agricultural grassland; travelling, flew up with 2 other bz	PDC
BZ155	VP1	21/10/2021	08:57	Buzzard	2	20	0	20	0	0	improved agricultural grassland; travelling, flew up with other bz then flushed 4th bz	PDC
BZ156	VP1	21/10/2021	08:58	Buzzard	1	10	10	0	0	0	improved agricultural grassland; travelling, flushed from field or hedge by pair.	PDC
BZ157	VP1	21/10/2021	09:22	Buzzard	1	13	13	0	0	0	improved agricultural grassland; travelling, appeared to drop into field behind hedge	PDC
BZ158	VP1	21/10/2021	11:17	Buzzard	1	8	8	0	0	0	improved agricultural grassland; travelling, briefly seen flying along top of hedgerow before dropping over it	PDC
BZ159	VP1	21/10/2021	13:36	Buzzard	2	55	0	55	0	0	improved agricultural grassland; travelling, circling over viewshed	PDC

Vantage Point Surveys												
Ref.	VP	Date	Time	Species	Number	Duration of flight (s)	Band 1 (0-15m)	Band 2 (15-25m)	Band 3 (25-200m)	Band 4 (>200m)	Habitat and activity	Surveyor
											just as i was leaving, so mapped when i got home	
BZ160	VP3	22/10/2021	07:35	Buzzard	1	45	0	45	0	0	improved grassland and highly modified/non-native woodland; travelling	PDC
BZ161	VP3	22/10/2021	10:09	Buzzard	1	7	7	0	0	0	improved grassland; travelling, appeared to be flushed from ground or hedge by mistle thrush	PDC
BZ162	VP3	22/10/2021	12:00	Buzzard	2	178	0	0	178	0	improved agricultural grassland and bogs; travelling, mobbed by corvids	PDC
BZ163	VP1	09/11/2021	12:11	Buzzard	1	60	60	0	0	0	improved grassland and hedgerows; hunting	AR
BZ164	VP1	09/11/2021	16:18	Buzzard	2	60	60	0	0	0	improved grassland and hedgerows; travelling, going to roost	AR
BZ165	VP2	10/11/2021	13:29	Buzzard	2	120	0	120	0	0	bogs and conifer plantation; travelling	AR
BZ166	VP4	22/11/2021	15:06	Buzzard	2	120	0	0	120	0	conifer plantation; soaring	AR
BZ167	VP3	30/11/2021	11:10	Buzzard	1	15	15	0	0	0	improved grassland and hedgerows; travelling	AR
BZ168	VP3	30/11/2021	11:51	Buzzard	1	10	10	0	0	0	improved grassland and highly modified/non-native woodland; hunting, low	AR
BZ169	VP3	30/11/2021	13:07	Buzzard	1	60	0	60	0	0	conifer plantation and bogs; hunting	AR
BZ170	VP3	30/11/2021	14:08	Buzzard	1	0	0	0	0	0	improved grassland and hedgerows; feeding, on ground eating earthworms	AR
BZ171	VP3	30/11/2021	15:47	Buzzard	1	5	5	0	0	0	improved grassland and hedgerows; travelling	AR



Vantage Point Surveys												
Ref.	VP	Date	Time	Species	Number	Duration of flight (s)	Band 1 (0-15m)	Band 2 (15-25m)	Band 3 (25-200m)	Band 4 (>200m)	Habitat and activity	Surveyor
BZ172	VP4	01/12/2021	08:11	Buzzard	2	0	0	0	0	0	highly modified/non-native woodland; calling, sounded like 2 birds calling in plantation but unable to see either	PDC
BZ173	VP1	13/12/2021	08:11	Buzzard	1	46	46	0	0	0	improved agricultural grassland and linear woodland/scrub; travelling, low flight, lost behind vp against dark background	PDC
BZ174	VP1	13/12/2021	10:04	Buzzard	1	0	0	0	0	0	improved agricultural grassland; calling, heard but not seen	PDC
BZ175	VP3	14/12/2021	10:15	Buzzard	1	56	50	6	0	0	conifer plantation and bogs; travelling	PDC
BZ176	VP2	19/12/2021	12:36	Buzzard	2	20	0	20	0	0	conifer plantation; travelling	AR
BZ177	VP2	19/12/2021	13:07	Buzzard	1	20	0	20	0	0	bogs and conifer plantation; travelling	AR
BZ178	VP1	06/01/2022	17:00	Buzzard	1	10	10	0	0	0	improved grassland and hedgerows; flying, going to roost	AR
BZ179	VP3	08/01/2022	14:07	Buzzard	1	120	0	0	120	0	improved grassland, hedgerows and bogs; soaring	AR
BZ180	VP3	08/01/2022	16:01	Buzzard	1	10	0	10	0	0	bogs and highly modified/non-native woodland; flying	AR
BZ181	VP2	27/01/2022	13:24	Buzzard	1	70	0	70	0	0	cutover bog, improved grassland and conifer plantation; travelling	AR
BZ182	VP4	28/01/2022	12:41	Buzzard	1	30	0	30	0	0	conifer plantation; flying	AR
BZ183	VP4	28/01/2022	15:06	Buzzard	1	20	0	20	0	0	bogs and conifer plantation; flying	AR
BZ184	VP4	08/02/2022	10:14	Buzzard	1	20	0	20	0	0	conifer plantation and bogs; flying	AR

Vantage Point Surveys												
Ref.	VP	Date	Time	Species	Number	Duration of flight (s)	Band 1 (0-15m)	Band 2 (15-25m)	Band 3 (25-200m)	Band 4 (>200m)	Habitat and activity	Surveyor
BZ185	VP2	16/02/2022	09:16	Buzzard	1	30	0	0	30	0	conifer plantation and bogs; flying	AR
BZ186	VP2	16/02/2022	09:22	Buzzard	1	20	0	20	0	0	improved grassland and hedgerows; flying	AR
BZ187	VP2	16/02/2022	12:26	Buzzard	2	60	0	0	60	0	bogs; soaring	AR
BZ188	VP3	17/02/2022	11:21	Buzzard	1	120	0	0	120	0	bogs and conifer plantation; soaring	AR
BZ189	VP3	17/02/2022	11:38	Buzzard	2	60	0	0	60	0	bogs and conifer plantation; soaring	AR
BZ190	VP3	17/02/2022	12:43	Buzzard	1	10	10	0	0	0	bogs; flying, over bog	AR
BZ191	VP4	03/03/2022	13:43	Buzzard	1	20	0	20	0	0	conifer plantation and bogs; flying	AR
BZ192	VP4	03/03/2022	14:26	Buzzard	1	60	0	0	60	0	conifer plantation and improved grassland; flying	AR
BZ193	VP4	03/03/2022	17:38	Buzzard	2	40	0	0	40	0	conifer plantation; soaring	AR
BZ194	VP2	29/03/2022	14:40	Buzzard	2	120	0	0	120	0	cutover bog and conifer plantation; soaring	AR
BZ195	VP2	29/03/2022	15:38	Buzzard	4	180	0	60	120	0	cutover bog, conifer plantation and improved grassland; soaring	AR
BZ196	VP2	29/03/2022	15:53	Buzzard	1	15	15	0	0	0	conifer plantation; flying, into plantation	AR
BZ197	VP2	29/03/2022	16:11	Buzzard	2	30	30	0	0	0	conifer plantation and cutover bog; soaring, both birds into plantation	AR
BZ198	VP2	29/03/2022	16:39	Buzzard	1	120	0	0	120	0	cutover bog; soaring	AR

Vantage Point Surveys												
Ref.	VP	Date	Time	Species	Number	Duration of flight (s)	Band 1 (0-15m)	Band 2 (15-25m)	Band 3 (25-200m)	Band 4 (>200m)	Habitat and activity	Surveyor
BZ199	VP2	29/03/2022	17:23	Buzzard	2	60	0	0	60	0	conifer plantation and bogs; soaring	AR
BZ200	VP2	29/03/2022	17:24	Buzzard	1	230	0	230	0	0	improved grassland and hedgerows; soaring	AR
BZ201	VP2	29/03/2022	18:08	Buzzard	2	300	0	0	300	0	improved grassland and hedgerows; soaring	AR
BZ202	VP2	29/03/2022	19:22	Buzzard	1	40	0	40	0	0	highly modified/non-native woodland, improved grassland and hedgerows; going to roost	AR
BZ203	VP3	19/04/2022	10:46	Buzzard	1	19	19	0	0	0	conifer plantation and bogs; fly w, circle	ZE
BZ204	VP3	19/04/2022	10:59	Buzzard	1	92	0	92	0	0	cutover bog, improved agricultural grassland and highly modified/non-native woodland; fly ne, circle	ZE
BZ205	VP1	20/04/2022	10:26	Buzzard	1	0	0	0	0	0	improved agricultural grassland and linear woodland/scrub; perch	ZE
BZ206	VP1	20/04/2022	11:06	Buzzard	1	14	0	0	0	14	cutover bog and highly modified/non-native woodland; soaring	ZE
BZ207	VP1	20/04/2022	11:24	Buzzard	2	38	0	0	38	0	cutover bog and highly modified/non-native woodland; circling, fly n	ZE
BZ208	VP1	20/04/2022	11:40	Buzzard	2	480	30	30	120	300	cutover bog and highly modified/non-native woodland; soar, circle display	ZE
BZ209	VP1	20/04/2022	11:45	Buzzard	1	180	0	0	180	0	cutover bog and highly modified/non-native woodland; circling, third buzzard	ZE
BZ210	VP4	21/04/2022	05:57	Buzzard	1	16	16	0	0	0	highly modified/non-native woodland and improved agricultural grassland; fly n, call	ZE

Vantage Point Surveys												
Ref.	VP	Date	Time	Species	Number	Duration of flight (s)	Band 1 (0-15m)	Band 2 (15-25m)	Band 3 (25-200m)	Band 4 (>200m)	Habitat and activity	Surveyor
BZ211	VP4	21/04/2022	06:07	Buzzard	1	0	0	0	0	0	conifer plantation and improved agricultural grassland; calling, only heard	ZE
BZ212	VP4	21/04/2022	06:57	Buzzard	1	5	5	0	0	0	highly modified/non-native woodland and improved agricultural grassland; fly sw, call	ZE
BZ213	VP4	21/04/2022	09:21	Buzzard	1	87	87	0	0	0	highly modified/non-native woodland and improved agricultural grassland; fly, hunt	ZE
BZ214	VP4	21/04/2022	11:18	Buzzard	1	23	23	0	0	0	highly modified/non-native woodland and improved agricultural grassland; fly, hunt	ZE
BZ215	VP4	21/04/2022	11:38	Buzzard	1	80	0	0	0	80	highly modified/non-native woodland and cutover bog; soar, fly n	ZE
BZ216	VP2	22/04/2022	06:49	Buzzard	1	11	11	0	0	0	cutover bog; flyse	ZE
BZ217	VP2	22/04/2022	07:32	Buzzard	1	75	75	0	0	0	cutover bog and highly modified/non-native woodland; flyw	ZE
BZ218	VP2	22/04/2022	08:55	Buzzard	2	25	25	0	0	0	improved grassland; ffly s	ZE
BZ219	VP2	22/04/2022	09:18	Buzzard	1	300	0	300	0	0	cutover bog and conifer plantation; fly n, circle	ZE
BZ220	VP2	22/04/2022	10:24	Buzzard	1	420	120	300	0	0	cutover bog, highly modified/non-native woodland and improved agricultural grassland; fly se	ZE
BZ221	VP4	09/05/2022	19:48	Buzzard	1	63	63	0	0	0	improved agricultural grassland and linear woodland/scrub; fly e, circle, adult	ZE
BZ222	VP4	09/05/2022	19:49	Buzzard	1	17	17	0	0	0	improved agricultural grassland and linear woodland/scrub; fly, call, possibly the same individual	ZE

Vantage Point Surveys												
Ref.	VP	Date	Time	Species	Number	Duration of flight (s)	Band 1 (0-15m)	Band 2 (15-25m)	Band 3 (25-200m)	Band 4 (>200m)	Habitat and activity	Surveyor
BZ223	VP4	09/05/2022	19:52	Buzzard	1	0	0	0	0	0	linear woodland/scrub and improved agricultural grassland, perch on top of tree, calling, there until 21:12	ZE
BZ224	VP3	12/05/2022	20:42	Buzzard	1	25	0	25	0	0	conifer plantation; fly ne, hunt	ZE
BZ225	VP1	07/06/2022	09:16	Buzzard	1	3	3	0	0	0	linear woodland/scrub and improved agricultural grassland; fly, perch, alongside the edge of the treeline	ZE
BZ226	VP1	07/06/2022	10:49	Buzzard	1	30	30	0	0	0	highly modified/non-native woodland and bogs; circle	ZE
BZ227	VP1	07/06/2022	12:38	Buzzard	1	150	0	0	0	150	cutover bog; soar, lost the view when too high	ZE
BZ228	VP1	07/06/2022	13:24	Buzzard	1	16	16	0	0	0	cutover bog and highly modified/non-native woodland; fly e, mobbed by corvid	ZE
BZ229	VP1	07/06/2022	14:50	Buzzard	1	381	0	90	291	0	improved agricultural grassland, bogs and linear woodland/scrub; fly s, circling, juvenile	ZE
BZ230	VP3	08/06/2022	10:08	Buzzard	1	13	13	0	0	0	conifer plantation; fly	ZE
BZ231	VP3	08/06/2022	10:13	Buzzard	1	72	12	60	0	0	highly modified/non-native woodland and cutover bog; fly, hunt	ZE
BZ232	VP3	08/06/2022	14:15	Buzzard	1	44	4	40	0	0	conifer plantation and improved agricultural grassland; fly, hunt	ZE
BZ233	VP3	08/06/2022	14:32	Buzzard	1	66	3	63	0	0	highly modified/non-native woodland and improved agricultural grassland; fly nw, circle, hunt	ZE
BZ234	VP4	09/06/2022	09:43	Buzzard	1	173	173	0	0	0	improved agricultural grassland and highly modified/non-native	ZE

Vantage Point Surveys												
Ref.	VP	Date	Time	Species	Number	Duration of flight (s)	Band 1 (0-15m)	Band 2 (15-25m)	Band 3 (25-200m)	Band 4 (>200m)	Habitat and activity	Surveyor
											woodland; fly, circle, call, perch on tree top	
BZ235	VP4	09/06/2022	09:50	Buzzard	1	65	65	0	0	0	improved agricultural grassland and highly modified/non-native woodland; fly, call, same bird	ZE
BZ236	VP4	09/06/2022	10:04	Buzzard	1	423	23	400	0	0	improved agricultural grassland and highly modified/non-native woodland; fly, circle, call, same bird	ZE
BZ237	VP4	09/06/2022	10:30	Buzzard	1	485	485	0	0	0	improved agricultural grassland and highly modified/non-native woodland; fly, circle, call, same bird	ZE
BZ238	VP4	09/06/2022	12:17	Buzzard	1	19	19	0	0	0	highly modified/non-native woodland and improved agricultural grassland; fly to treeline	ZE
BZ239	VP4	09/06/2022	12:22	Buzzard	1	68	68	0	0	0	improved agricultural grassland and linear woodland/scrub; fly sw	ZE
BZ240	VP4	09/06/2022	13:23	Buzzard	1	123	123	0	0	0	improved agricultural grassland and linear woodland/scrub; fly ne	ZE
BZ241	VP4	09/06/2022	13:47	Buzzard	1	640	0	240	400	0	improved agricultural grassland and highly modified/non-native woodland; fly n, display, call	ZE
BZ242	VP4	09/06/2022	14:19	Buzzard	1	38	38	0	0	0	highly modified/non-native woodland and improved agricultural grassland; fly among treetops	ZE
BZ243	VP2	10/06/2022	12:07	Buzzard	1	14	14	0	0	0	conifer plantation; circle	ZE
BZ245	VP2	10/06/2022	14:06	Buzzard	1	42	42	0	0	0	highly modified/non-native woodland and bogs; circling	ZE
BZ246	VP2	10/06/2022	14:32	Buzzard	1	13	13	0	0	0	highly modified/non-native woodland and cutover bog; fly into trees	ZE

Vantage Point Surveys												
Ref.	VP	Date	Time	Species	Number	Duration of flight (s)	Band 1 (0-15m)	Band 2 (15-25m)	Band 3 (25-200m)	Band 4 (>200m)	Habitat and activity	Surveyor
BZ248	VP2	10/06/2022	15:17	Buzzard	1	487	2	365	120	0	highly modified/non-native woodland; circle, hover	ZE
BZ249	VP1	01/07/2022	10:00	Buzzard	1	42	42	0	0	0	improved agricultural grassland and bogs; circling, fly ne	ZE
BZ250	VP1	01/07/2022	10:11	Buzzard	2	95	0	0	0	95	bogs, highly modified/non-native woodland and improved agricultural grassland; soar	ZE
BZ251	VP3	04/07/2022	12:06	Buzzard	1	127	127	0	0	0	bogs and conifer plantation; fly se	ZE
BZ252	VP3	04/07/2022	12:35	Buzzard	1	108	0	68	60	0	conifer plantation; fly sw, circling - mobbed by a corvid, mobbed for most of the flight	ZE
BZ253	VP3	04/07/2022	14:29	Buzzard	1	23	23	0	0	0	highly modified/non-native woodland and improved agricultural grassland; fly sw, flew behind the building	ZE
BZ254	VP3	04/07/2022	14:50	Buzzard	2	180	0	0	0	180	highly modified/non-native woodland and bogs; soar	ZE
BZ255	VP3	04/07/2022	14:53	Buzzard	2	120	120	0	0	0	bogs and highly modified/non-native woodland; fly ene, circle	ZE
BZ256	VP3	04/07/2022	14:55	Buzzard	1	60	60	0	0	0	improved agricultural grassland, bogs and scrub/transitional woodland; fly	ZE
BZ257	VP4	05/07/2022	09:28	Buzzard	1	830	180	530	120	0	improved agricultural grassland and highly modified/non-native woodland; fly, call, perched on tree after	ZE
BZ258	VP4	05/07/2022	09:50	Buzzard	1	40	40	0	0	0	improved agricultural grassland and highly modified/non-native woodland; hunt	ZE
BZ259	VP4	05/07/2022	09:55	Buzzard	1	1515	600	600	315	0	improved agricultural grassland and highly modified/non-native woodland; fly, call, out of sight n of	ZE

Vantage Point Surveys												
Ref.	VP	Date	Time	Species	Number	Duration of flight (s)	Band 1 (0-15m)	Band 2 (15-25m)	Band 3 (25-200m)	Band 4 (>200m)	Habitat and activity	Surveyor
											vp, calling heard until the next appearance	
BZ260	VP4	05/07/2022	10:13	Buzzard	1	410	100	210	100	0	improved agricultural grassland and highly modified/non-native woodland; fly, call, out of sight n of vp, still calling	ZE
BZ261	VP4	05/07/2022	10:32	Buzzard	2	570	120	270	180	0	improved agricultural grassland and highly modified/non-native woodland; fly, circle, display; one calling, the calling bird out of sight after 7min 20s but still calling	ZE
BZ262	VP4	05/07/2022	11:36	Buzzard	1	230	60	60	110	0	improved agricultural grassland and highly modified/non-native woodland; fly n, circle, call	ZE
BZ263	VP2	05/07/2022	13:01	Buzzard	1	126	26	100	0	0	cutover bog, highly modified/non-native woodland and improved agricultural grassland; fly se	ZE
BZ264	VP1	21/07/2022	08:15	Buzzard	1	3	3	0	0	0	improved agricultural grassland and linear woodland/scrub; fkew up on a tree from the field, perched on the tree	ZE
BZ265	VP1	21/07/2022	08:31	Buzzard	1	32	32	0	0	0	bogs and linear woodland/scrub; fly e into bog, calling, same bird	ZE
BZ266	VP1	21/07/2022	08:57	Buzzard	1	0	0	0	0	0	linear woodland/scrub and improved agricultural grassland; calling, perched; calling	ZE
BZ267	VP1	21/07/2022	09:33	Buzzard	1	0	0	0	0	0	bogs; calling, a second bird calling	ZE
BZ268	VP1	21/07/2022	10:21	Buzzard	1	32	32	0	0	0	linear woodland/scrub, bogs and improved agricultural grassland; fly from and back to bog just above the treeline; perched on on tree for 5seconds; calling	ZE



Vantage Point Surveys												
Ref.	VP	Date	Time	Species	Number	Duration of flight (s)	Band 1 (0-15m)	Band 2 (15-25m)	Band 3 (25-200m)	Band 4 (>200m)	Habitat and activity	Surveyor
BZ269	VP1	21/07/2022	10:44	Buzzard	1	6	6	0	0	0	linear woodland/scrub; fly low, above the ground among the trees, calling	ZE
BZ270	VP1	21/07/2022	10:48	Buzzard	1	13	13	0	0	0	linear woodland/scrub and improved agricultural grassland; fly few meters above the field into the trees, perched, calling	ZE
BZ271	VP1	21/07/2022	10:49	Buzzard	1	0	0	0	0	0	bogs; calling, second bird heard calling when the first in the treeline	ZE
BZ272	VP1	21/07/2022	11:06	Buzzard	1	6	6	0	0	0	linear woodland/scrub and improved agricultural grassland; fly approx. 1.5m above the field into trees, calling, calling continued until the end of the first 3hrs of survey	ZE
BZ273	VP1	21/07/2022	12:08	Buzzard	1	7	7	0	0	0	improved agricultural grassland and linear woodland/scrub; hunt, calling	ZE
BZ274	VP1	21/07/2022	12:10	Buzzard	1	0	0	0	0	0	bogs; calling, second bird	ZE
BZ276	VP1	21/07/2022	12:26	Buzzard	5	240	0	0	0	240	bogs; soar, excluding the first bird recorded	ZE
BZ277	VP1	21/07/2022	12:49	Buzzard	1	0	0	0	0	0	bogs; calling, heard only	ZE
BZ278	VP1	21/07/2022	14:01	Buzzard	1	277	157	120	0	0	cutover bog, linear woodland/scrub and improved agricultural grassland; fly, circle, perch, calling, first bird, was still perched on tree top after the survey finished at 14:45	ZE
BZ279	VP1	21/07/2022	14:03	Buzzard	1	0	0	0	0	0	bogs; calling, second bird, call7ng; heard only	ZE

Vantage Point Surveys												
Ref.	VP	Date	Time	Species	Number	Duration of flight (s)	Band 1 (0-15m)	Band 2 (15-25m)	Band 3 (25-200m)	Band 4 (>200m)	Habitat and activity	Surveyor
BZ280	VP1	21/07/2022	14:12	Buzzard	3	93	60	33	0	0	bogs and semi-natural woodland; circling, calling, one bird was displaying for a little while	ZE
BZ281	VP3	22/07/2022	10:25	Buzzard	1	450	0	0	140	310	improved agricultural grassland and bogs; fly, circle, soar	ZE
BZ282	VP3	22/07/2022	12:36	Buzzard	2	161	0	0	161	0	highly modified/non-native woodland and bogs; circling, calling	ZE
BZ283	VP3	22/07/2022	12:39	Buzzard	1	294	0	0	120	174	highly modified/non-native woodland and bogs; fly w, circling, display for a short period	ZE
BZ284	VP3	22/07/2022	13:17	Buzzard	1	160	0	160	0	0	conifer plantation and semi-natural woodland; circling above woods, first bird	ZE
BZ285	VP3	22/07/2022	13:19	Buzzard	1	410	0	30	60	320	conifer plantation, semi-natural woodland and bogs; circling, second bird	ZE
BZ286	VP4	26/07/2022	08:35	Buzzard	1	0	0	0	0	0	linear woodland/scrub and improved agricultural grassland; perched, calling, until approx 10:30	ZE
BZ287	VP4	26/07/2022	11:10	Buzzard	1	200	0	20	180	0	semi-natural woodland and highly modified/non-native woodland; fly	ZE
BZ288	VP4	26/07/2022	11:12	Buzzard	1	0	0	0	0	0	semi-natural woodland and improved agricultural grassland; perched, calling	ZE
BZ289	VP4	26/07/2022	12:17	Buzzard	1	0	0	0	0	0	semi-natural woodland and improved agricultural grassland; perched, calling	ZE
BZ290	VP4	26/07/2022	13:04	Buzzard	1	0	0	0	0	0	semi-natural woodland and improved agricultural grassland; calling, heard only, fading away, possibly flying n	ZE

Vantage Point Surveys												
Ref.	VP	Date	Time	Species	Number	Duration of flight (s)	Band 1 (0-15m)	Band 2 (15-25m)	Band 3 (25-200m)	Band 4 (>200m)	Habitat and activity	Surveyor
BZ291	VP4	26/07/2022	13:13	Buzzard	1	3	3	0	0	0	semi-natural woodland and improved agricultural grassland; fly into trees, calling, likely perched	ZE
BZ292	VP4	26/07/2022	14:13	Buzzard	1	29	29	0	0	0	highly modified/non-native woodland and semi-natural woodland; glide into trees	ZE
BZ293	VP4	26/07/2022	14:46	Buzzard	1	3	3	0	0	0	semi-natural woodland and improved agricultural grassland; fly from n, perched, calling	ZE
BZ294	VP2	28/07/2022	08:27	Buzzard	1	45	45	0	0	0	improved agricultural grassland, cutover bog and semi-natural woodland; fly sw	ZE
BZ295	VP2	28/07/2022	11:56	Buzzard	1	4	4	0	0	0	conifer plantation and semi-natural woodland; glide over the trees	ZE
BZ296	VP2	28/07/2022	12:06	Buzzard	1	70	70	0	0	0	cutover bog, semi-natural woodland and improved agricultural grassland; fly w, call	ZE
BZ297	VP2	28/07/2022	12:56	Buzzard	1	110	110	0	0	0	conifer plantation and bogs; fly, circle	ZE
BZ298	VP1	04/08/2022	14:39	Buzzard	3	104	104	0	0	0	bogs; fly w, circling	ZE
BZ299	VP3	05/08/2022	11:38	Buzzard	1	138	138	0	0	0	conifer plantation, semi-natural woodland and bogs; fly sw, calling	ZE
BZ300	VP3	05/08/2022	13:49	Buzzard	2	198	68	130	0	0	improved agricultural grassland; fly, circling, call	ZE
BZ301	VP3	05/08/2022	13:58	Buzzard	4	34	34	0	0	0	improved agricultural grassland; circling, calling	ZE
BZ302	VP3	05/08/2022	14:39	Buzzard	2	404	284	120	0	0	improved agricultural grassland, bogs and linear woodland/scrub; fly, circling, callibg, adult and juvenile	ZE
BZ303	VP3	05/08/2022	14:56	Buzzard	2	52	52	0	0	0	conifer plantation; fly, circling	ZE

Vantage Point Surveys												
Ref.	VP	Date	Time	Species	Number	Duration of flight (s)	Band 1 (0-15m)	Band 2 (15-25m)	Band 3 (25-200m)	Band 4 (>200m)	Habitat and activity	Surveyor
BZ304	VP3	05/08/2022	15:03	Buzzard	3	284	0	284	0	0	conifer plantation and bogs; fly circle, call	ZE
BZ305	VP3	05/08/2022	15:04	Buzzard	2	284	0	0	284	0	bogs; soar, other two birds	ZE
BZ306	VP3	05/08/2022	15:15	Buzzard	1	140	0	140	0	0	bogs and semi-natural woodland; circling	ZE
BZ307	VP4	23/08/2022	10:45	Buzzard	2	184	0	0	184	0	improved agricultural grassland and semi-natural woodland; circling, calling, display, one bird calling and displaying, the second only circling above the displaying bird	ZE
BZ308	VP4	23/08/2022	11:19	Buzzard	1	70	70	0	0	0	semi-natural woodland; circling, hover	ZE
BZ309	VP4	23/08/2022	14:21	Buzzard	1	435	0	35	400	0	semi-natural woodland and improved agricultural grassland; fly nw, soar	ZE
BZ310	VP4	23/08/2022	14:47	Buzzard	1	147	147	0	0	0	improved agricultural grassland and semi-natural woodland; circling, fly e, calling, calling heard for a while after the bird was out of sight	ZE
BZ311	VP4	23/08/2022	15:11	Buzzard	1	606	0	300	306	0	improved agricultural grassland and semi-natural woodland; fly nw, circling, soar	ZE
BZ312	VP4	23/08/2022	15:20	Buzzard	2	140	10	130	0	0	conifer plantation; circling	ZE
BZ313	VP2	24/08/2022	10:03	Buzzard	1	322	185	137	0	0	bogs, conifer plantation and improved agricultural grassland; fly w, hover, soar, flew into forestry, mobbed by corvid for short period	ZE
BZ314	VP2	24/08/2022	11:12	Buzzard	1	217	0	0	217	0	improved agricultural grassland; fly nmw, circling, call	ZE

Vantage Point Surveys												
Ref.	VP	Date	Time	Species	Number	Duration of flight (s)	Band 1 (0-15m)	Band 2 (15-25m)	Band 3 (25-200m)	Band 4 (>200m)	Habitat and activity	Surveyor
BZ315	VP2	24/08/2022	14:09	Buzzard	1	72	0	0	72	0	bogs and semi-natural woodland; circle, fly w	ZE
BZ316	VP3	01/09/2022	16:21	Buzzard	2	613	0	0	613	0	conifer plantation and bogs; circling, fly n	ZE
BZ317	VP3	01/09/2022	16:52	Buzzard	1	10	10	0	0	0	improved agricultural grassland and linear woodland/scrub; fly, fly from and back into trees	ZE
BZ318	VP3	01/09/2022	17:13	Buzzard	1	289	10	279	0	0	improved agricultural grassland, conifer plantation and linear woodland/scrub; fly s, circling, flew into the forestry	ZE
BZ319	VP1	02/09/2022	18:46	Buzzard	1	15	15	0	0	0	bogs; fly, first bird	ZE
BZ320	VP1	02/09/2022	18:47	Buzzard	1	180	180	0	0	0	improved agricultural grassland, linear woodland/scrub and semi-natural woodland; fly s, perched, second bird	ZE
BZ321	VP1	02/09/2022	18:54	Buzzard	1	4	4	0	0	0	semi-natural woodland, improved agricultural grassland and linear woodland/scrub; fly s, the second bird	ZE
BZ322	VP1	02/09/2022	20:37	Buzzard	1	10	10	0	0	0	bogs and linear woodland/scrub; fly	ZE
BZ323	VP4	06/09/2022	16:25	Buzzard	1	23	23	0	0	0	improved agricultural grassland and semi-natural woodland; fly, hunt	ZE
BZ324	VP2	07/09/2022	14:41	Buzzard	1	30	30	0	0	0	bogs, improved agricultural grassland and semi-natural woodland; fly w	ZE
BZ325	VP4	19/10/2022	10:31	Buzzard	1	0	0	0	0	0	semi-natural woodland; calling	CF
BZ326	VP4	19/10/2022	10:51	Buzzard	1	30	0	0	30	0	improved grassland; flying	CF

Vantage Point Surveys												
Ref.	VP	Date	Time	Species	Number	Duration of flight (s)	Band 1 (0-15m)	Band 2 (15-25m)	Band 3 (25-200m)	Band 4 (>200m)	Habitat and activity	Surveyor
BZ327	VP2	21/10/2022	09:53	Buzzard	2	60	0	0	60	0	semi-natural woodland; flying	CF
BZ328	VP1	25/10/2022	08:05	Buzzard	1	40	0	40	0	0	improved grassland; flying	CF
BZ329	VP4	15/11/2022	16:23	Buzzard	1	20	0	0	20	0	improved grassland; flying	CF
BZ330	VP1	17/11/2022	16:00	Buzzard	1	20	20	0	0	0	improved grassland; flying	CF
BZ331	VP4	07/12/2022	15:01	Buzzard	2	0	0	0	0	0	semi-natural woodland; calling	CF
BZ332	VP2	06/01/2023	15:40	Buzzard	2	120	0	0	120	0	bogs; soaring	CF
BZ333	VP2	06/01/2023	15:41	Buzzard	2	120	0	0	120	0	bogs; soaring, distinct pair from the other 2, 4 bz in total	CF
BZ334	VP3a	09/01/2023	15:51	Buzzard	1	20	0	20	0	0	improved grassland; flying	CF
BZ335	VP4	03/02/2023	13:41	Buzzard	2	20	0	20	0	0	improved grassland; flying	CF
BZ336	VP3a	13/02/2023	18:05	Buzzard	1	120	0	60	60	0	improved grassland; flying	CF
BZ337	VP1a	22/02/2023	07:39	Buzzard	1	117	0	17	100	0	cutover bog, highly modified/non-native woodland and improved grassland; flying	ZE
BZ338	VP1a	22/02/2023	10:27	Buzzard	1	71	0	11	60	0	bogs and semi-natural woodland; flying, circling, disappeared in trees	ZE
BZ339	VP1a	22/02/2023	11:11	Buzzard	1	80	0	30	50	0	cutover bog and semi-natural woodland; flying, soaring, first bird	ZE
BZ340	VP1a	22/02/2023	11:14	Buzzard	2	190	0	0	190	0	cutover bog; flying, soaring, second bird joined	ZE

Vantage Point Surveys												
Ref.	VP	Date	Time	Species	Number	Duration of flight (s)	Band 1 (0-15m)	Band 2 (15-25m)	Band 3 (25-200m)	Band 4 (>200m)	Habitat and activity	Surveyor
BZ341	VP1a	22/02/2023	11:36	Buzzard	3	77	0	0	40	37	improved agricultural grassland, soaring	ZE
BZ342	VP1a	22/02/2023	11:50	Buzzard	5	65	0	0	65	0	improved agricultural grassland, cutover bog and linear woodland/scrub; displaying, calling, all birds flying s	ZE
BZ343	VP1a	22/02/2023	12:16	Buzzard	3	120	0	0	60	60	bogs, improved grassland and semi-natural woodland; soaring, displaying	ZE
BZ344	VP1a	22/02/2023	12:20	Buzzard	1	19	19	0	0	0	improved agricultural grassland and linear woodland/scrub; flying	ZE
BZ345	VP1a	22/02/2023	12:30	Buzzard	3	90	0	0	90	0	bogs, highly modified/non-native woodland and improved grassland; flying, soaring, flying away in different direction - one n, second s, third w	ZE
BZ346	VP1a	22/02/2023	12:47	Buzzard	3	73	20	53	0	0	bogs, semi-natural woodland and improved grassland; flying	ZE
BZ347	VP2	24/02/2023	13:54	Buzzard	2	240	20	20	200	0	bogs; soaring	CF
BZ348	VP2	24/02/2023	13:56	Buzzard	2	120	0	0	100	0	improved grassland; soaring	CF
BZ349	VP2	24/02/2023	13:57	Buzzard	1	60	0	0	60	0	bogs; soaring	CF
BZ350	VP1a	28/02/2023	13:46	Buzzard	2	120	0	20	100	0	bogs; soaring	CF
BZ351	VP1a	28/02/2023	13:48	Buzzard	1	60	0	30	30	0	bogs; flying	CF
BZ352	VP1a	08/03/2023	13:32	Buzzard	2	120	0	0	120	0	bogs; soaring	CF

Vantage Point Surveys												
Ref.	VP	Date	Time	Species	Number	Duration of flight (s)	Band 1 (0-15m)	Band 2 (15-25m)	Band 3 (25-200m)	Band 4 (>200m)	Habitat and activity	Surveyor
BZ353	VP1a	08/03/2023	13:34	Buzzard	2	60	0	10	50	0	bogs; flying	CF
BZ354	VP2	14/03/2023	13:16	Buzzard	2	600	0	60	500	40	bogs; soaring	CF

Table 7-4-21-2 Buzzard Breeding Walkover Survey Data

Breeding Walkover Surveys						
Ref.	Date	Time	Species	Number	Habitat and activity	Surveyor
BZ001	10/04/2021	09:37	Buzzard	1	highly modified/non-native woodland and bogs; flying, adult heading over bog (flyover; non-breeding)	AR
BZ002	10/04/2021	10:40	Buzzard	1	bogs; travelling, low over bog (flyover; non-breeding)	AR
BZ003	11/04/2021	10:20	Buzzard	1	improved grassland; soaring (flyover; non-breeding)	AR
BZ004	11/04/2021	12:02	Buzzard	1	highly modified/non-native woodland and improved grassland; soaring, mobbed by hc (flyover; non-breeding)	AR
BZ005	12/04/2021	09:05	Buzzard	1	conifer plantation and bogs; soaring, soaring over woodland and bog (flyover; non-breeding)	AR
BZ007	12/04/2021	11:31	Buzzard	1	highly modified/non-native woodland and bogs; soaring (flyover; non-breeding)	AR
BZ008	12/04/2021	11:46	Buzzard	2	highly modified/non-native woodland; soaring (flyover; non-breeding)	AR
BZ009	24/05/2021	06:32	Buzzard	1	improved grassland and hedgerows; perched/flying (suitable nesting habitat; possible breeder)	AR
BZ010	11/06/2021	12:25	Buzzard	1	conifer plantation and bogs; hunting (suitable nesting habitat; possible breeder)	AR



Breeding Walkover Surveys						
Ref.	Date	Time	Species	Number	Habitat and activity	Surveyor
BZ011	11/06/2021	12:28	Buzzard	1	improved grassland, bogs and hedgerows; hunting (suitable nesting habitat; possible breeder)	AR
BZ012	25/06/2021	10:02	Buzzard	1	conifer plantation; soaring (suitable nesting habitat; possible breeder)	AR
BZ013	25/06/2021	10:46	Buzzard	1	conifer plantation and bogs; soaring/calling (agitated behaviour; probable breeding)	AR
BZ014	28/06/2021	07:03	Buzzard	1	improved grassland; flying (suitable nesting habitat; possible breeder)	AR
BZ015	28/06/2021	07:39	Buzzard	1	improved grassland and hedgerows; travelling (flyover; non-breeding)	AR
BZ016	16/07/2021	09:08	Buzzard	1	improved grassland and hedgerows; flying, low over field (suitable nesting habitat; possible breeder)	AR
BZ017	16/07/2021	09:31	Buzzard	1	cutover bog and highly modified/non-native woodland; travelling (suitable nesting habitat; possible breeder)	AR
BZ018	16/07/2021	11:17	Buzzard	1	improved grassland, hedgerows and highly modified/non-native woodland; soaring (suitable nesting habitat; possible breeder)	AR
BZ020	18/07/2021	11:32	Buzzard	1	bogs; hunting (suitable nesting habitat; possible breeder)	AR
BZ021	18/07/2021	12:38	Buzzard	1	bogs; soaring (suitable nesting habitat; possible breeder)	AR
BZ022	18/07/2021	12:52	Buzzard	1	conifer plantation, highly modified/non-native woodland and bogs; travelling, adult (suitable nesting habitat; possible breeder)	AR
BZ023	25/07/2021	11:08	Buzzard	1	conifer plantation; soaring (suitable nesting habitat; possible breeder)	AR
BZ024	13/04/2022	08:08	Buzzard	1	improved agricultural grassland and linear woodland/scrub; fly, perch (suitable nesting habitat; possible breeder)	ZE
BZ025	13/04/2022	08:32	Buzzard	1	improved agricultural grassland and linear woodland/scrub; fly (suitable nesting habitat; possible breeder)	ZE

Breeding Walkover Surveys						
Ref.	Date	Time	Species	Number	Habitat and activity	Surveyor
BZ027	13/04/2022	10:46	Buzzard	2	improved agricultural grassland, highly modified/non-native woodland and cutover bog; soar, display (pair; probable breeding)	ZE
BZ028	13/04/2022	11:12	Buzzard	4	cutover bog, improved agricultural grassland and highly modified/non-native woodland; fly, soar, display, call, two pairs, two out of four display (pair; probable breeding)	ZE
BZ029	13/04/2022	12:09	Buzzard	1	cutover bog, improved agricultural grassland and highly modified/non-native woodland; fly, circle (suitable nesting habitat; possible breeder)	ZE
BZ030	13/04/2022	13:04	Buzzard	1	cutover bog and conifer plantation; fly, circle, call, still flying above the bog at the end of the survey (suitable nesting habitat; possible breeder)	ZE
BZ031	13/04/2022	13:13	Buzzard	1	improved agricultural grassland, cutover bog and highly modified/non-native woodland; fly ne, circle (suitable nesting habitat; possible breeder)	ZE
BZ032	14/04/2022	11:51	Buzzard	1	cutover bog and conifer plantation; call, fly e (suitable nesting habitat; possible breeder)	ZE
BZ033	18/05/2022	08:26	Buzzard	1	highly modified/non-native woodland and cutover bog; fly e into trees (suitable nesting habitat; possible breeder)	ZE
BZ034	18/05/2022	09:39	Buzzard	1	improved agricultural grassland and cutover bog; fly w, circle, hunt (suitable nesting habitat; possible breeder)	ZE
BZ035	18/05/2022	09:49	Buzzard	1	improved agricultural grassland and cutover bog; soar (suitable nesting habitat; possible breeder)	ZE
BZ036	19/05/2022	05:59	Buzzard	1	cutover bog and conifer plantation; hunt (suitable nesting habitat; possible breeder)	ZE
BZ037	19/05/2022	06:15	Buzzard	1	cutover bog and conifer plantation; perch, hunt, same individual (suitable nesting habitat; possible breeder)	ZE
BZ038	19/05/2022	07:33	Buzzard	2	cutover bog and improved agricultural grassland; fly se, hunt (pair; probable breeding)	ZE
BZ039	19/05/2022	10:26	Buzzard	1	conifer plantation; circlig (suitable nesting habitat; possible breeder)	ZE
BZ040	19/05/2022	10:27	Buzzard	1	conifer plantation and cutover bog; soar (suitable nesting habitat; possible breeder)	ZE

Breeding Walkover Surveys						
Ref.	Date	Time	Species	Number	Habitat and activity	Surveyor
BZ041	19/05/2022	10:40	Buzzard	2	conifer plantation, improved agricultural grassland and cutover bog; display (courtship and display; probable breeding)	ZE
BZ042	19/05/2022	11:18	Buzzard	1	highly modified/non-native woodland; circling (suitable nesting habitat; possible breeder)	ZE
BZ043	15/06/2022	10:37	Buzzard	1	highly modified/non-native woodland; soar (suitable nesting habitat; possible breeder)	ZE
BZ044	08/07/2022	09:13	Buzzard	1	highly modified/non-native woodland; calling, heard only (suitable nesting habitat; possible breeder)	ZE
BZ045	08/07/2022	11:04	Buzzard	1	conifer plantation; flew of the ground onto a tree at the edge of forest and then flew ne and calling, was possibly feeding before (suitable nesting habitat; possible breeder)	ZE
BZ046	08/07/2022	11:14	Buzzard	1	bogs and highly modified/non-native woodland; fly sw, circling, calling, very likely the same bird (suitable nesting habitat; possible breeder)	ZE
BZ047	11/07/2022	06:04	Buzzard	1	highly modified/non-native woodland; calling, heard only (suitable nesting habitat; possible breeder)	ZE
BZ048	11/07/2022	07:31	Buzzard	1	improved agricultural grassland, semi-natural woodland and cutover bog; calling, heard only; outside of 500m (suitable nesting habitat; possible breeder)	ZE

Table 7-4-21-3 Buzzard Breeding Raptor Survey Data

Breeding Raptor Surveys								
Ref.	BR	Date	Time	Species	Number	Habitat and activity	Breeding status	Surveyor
BZ001	BRVP2	20/04/2021	07:42	Buzzard	1	conifer plantation and bogs, travelling, bird out of plantation and moved off	flyover; non-breeding	AR
BZ002	BRVP2	20/04/2021	10:14	Buzzard	1	mixed broadleaved/conifer woodland and bogs, soaring, buzzard soaring over woodland	flyover; non-breeding	AR
BZ004	BRVP1	21/04/2021	11:26	Buzzard	1	bogs and mixed broadleaved/conifer woodland, soaring, same area as bird in map ref 3	suitable nesting habitat; possible breeder	AR
BZ006	Breeding Raptor Transect	22/04/2021	07:30	Buzzard	1	mixed broadleaved/conifer woodland, soaring, soaring over wood	suitable nesting habitat; possible breeder	AR
BZ007	Breeding Raptor Transect	22/04/2021	09:32	Buzzard	1	bogs, travelling, bird moved over bog area	suitable nesting habitat; possible breeder	AR
BZ008	Breeding Raptor Transect	22/04/2021	09:47	Buzzard	1	conifer plantation, travelling, bird over treetops lost to view	suitable nesting habitat; possible breeder	AR
BZ010	Breeding Raptor Transect	22/04/2021	11:46	Buzzard	1	bogs and mixed broadleaved/conifer woodland, travelling, bird over bog and trees lost to view	suitable nesting habitat; possible breeder	AR
BZ011	Breeding Raptor Transect	10/05/2021	10:41	Buzzard	2	conifer plantation and bogs, hunting	pair; probable breeding	AR
BZ012	Breeding Raptor Transect	10/05/2021	10:59	Buzzard	1	conifer plantation and bogs, hunting, treeline hunting adult	suitable nesting habitat; possible breeder	AR
BZ013	Breeding Raptor Transect	14/05/2021	09:13	Buzzard	1	highly modified/non-native woodland and bogs, travelling, bird moving over treeline	suitable nesting habitat; possible breeder	AR
BZ014	Breeding Raptor Transect	14/05/2021	10:41	Buzzard	1	conifer plantation and bogs, perched	suitable nesting habitat; possible breeder	AR
BZ015	Breeding Raptor Transect	14/05/2021	11:56	Buzzard	2	highly modified/non-native woodland, improved grassland and bogs, soaring	pair; probable breeding	AR

Breeding Raptor Surveys								
Ref.	BR	Date	Time	Species	Number	Habitat and activity	Breeding status	Surveyor
BZ016	Breeding Raptor Transect	14/05/2021	13:01	Buzzard	1	highly modified/non-native woodland and bogs, soaring/calling	suitable nesting habitat; possible breeder	AR
BZ018	Breeding Raptor Transect	05/06/2021	09:51	Buzzard	1	conifer plantation and bogs, soaring/hunting, 3cy bird	suitable nesting habitat; possible breeder	AR
BZ020	Breeding Raptor Transect	08/06/2021	11:32	Buzzard	1	bogs and highly modified/non-native woodland, hunting	suitable nesting habitat; possible breeder	AR
BZ021	Breeding Raptor Transect	08/06/2021	11:49	Buzzard	1	bogs and highly modified/non-native woodland, hunting	suitable nesting habitat; possible breeder	AR
BZ022	Breeding Raptor Transect	08/06/2021	12:09	Buzzard	2	bogs and highly modified/non-native woodland, soaring, two adults soaring over woodland	pair; probable breeding	AR
BZ023	Breeding Raptor Transect	08/06/2021	12:10	Buzzard	1	bogs and highly modified/non-native woodland, soaring, distant bird soaring	suitable nesting habitat; possible breeder	AR
BZ024	Breeding Raptor Transect	08/06/2021	12:11	Buzzard	1	bogs and highly modified/non-native woodland, hunting, hunting	suitable nesting habitat; possible breeder	AR
BZ026	Breeding Raptor Transect	08/06/2021	12:59	Buzzard	1	bogs and highly modified/non-native woodland, hunting	suitable nesting habitat; possible breeder	AR
BZ027	Breeding Raptor Transect	08/06/2021	14:48	Buzzard	1	bogs, highly modified/non-native woodland and improved grassland, hunting, moulting adult	suitable nesting habitat; possible breeder	AR
BZ028	Breeding Raptor Transect	29/06/2021	09:01	Buzzard	1	highly modified/non-native woodland and bogs, soaring	suitable nesting habitat; possible breeder	AR
BZ029	Breeding Raptor Transect	29/06/2021	09:39	Buzzard	1	improved grassland and hedgerows, travelling	suitable nesting habitat; possible breeder	AR

Breeding Raptor Surveys								
Ref.	BR	Date	Time	Species	Number	Habitat and activity	Breeding status	Surveyor
BZ031	Breeding Raptor Transect	29/06/2021	12:06	Buzzard	1	bogs, travelling, low over bog	suitable nesting habitat; possible breeder	AR
BZ032	Breeding Raptor Transect	29/06/2021	13:06	Buzzard	1	conifer plantation, soaring, over plantation	suitable nesting habitat; possible breeder	AR
BZ034	Breeding Raptor Transect	07/07/2021	13:07	Buzzard	1	improved grassland, bogs and conifer plantation, hunting, bird hunting/calling	agitated behaviour; probable breeding	AR
BZ035	Breeding Raptor Transect	07/07/2021	17:17	Buzzard	1	bogs, soaring	suitable nesting habitat; possible breeder	AR
BZ036	Breeding Raptor Transect	23/07/2021	11:06	Buzzard	1	improved grassland, hedgerows and bogs, hunting, adult	suitable nesting habitat; possible breeder	AR
BZ037	Breeding Raptor Transect	24/07/2021	10:44	Buzzard	2	conifer plantation, soaring	suitable nesting habitat; possible breeder	AR
BZ038	Breeding Raptor Transect	24/07/2021	10:51	Buzzard	1	conifer plantation, hunting	suitable nesting habitat; possible breeder	AR
BZ039	Breeding Raptor Transect	24/07/2021	12:03	Buzzard	1	bogs, improved grassland and hedgerows, travelling	suitable nesting habitat; possible breeder	AR
BZ040	BRVP4	20/04/2022	12:32	Buzzard	1	bogs, soaring and flew into trees on bog	flyover; non-breeding	NL
BZ041	BRVP4	20/04/2022	12:42	Buzzard	3	bogs, soaring together	flyover; non-breeding	NL
BZ042	BRVP1	26/04/2022	12:26	Buzzard	1	highly modified/non-native woodland and improved agricultural grassland, circling, transect	suitable nesting habitat; possible breeder	ZE
BZ043	BRVP2	27/04/2022	13:28	Buzzard	1	cutover bog and conifer plantation, flyw, took off from the side of the road	suitable nesting habitat; possible breeder	ZE

Breeding Raptor Surveys								
Ref.	BR	Date	Time	Species	Number	Habitat and activity	Breeding status	Surveyor
BZ044	BRVP1	24/05/2022	08:22	Buzzard	1	cutover bog, improved agricultural grassland and linear woodland/scrub, fly nw	suitable nesting habitat; possible breeder	ZE
BZ045	BRVP1	24/05/2022	10:42	Buzzard	1	highly modified/non-native woodland and bogs, fly ne	suitable nesting habitat; possible breeder	ZE
BZ046	BRVP1	24/05/2022	11:37	Buzzard	1	bogs and highly modified/non-native woodland, circle, fly se	suitable nesting habitat; possible breeder	ZE
BZ047	BRVP2	25/05/2022	11:42	Buzzard	1	cutover bog and improved agricultural grassland, fly, mobbed by two crows	suitable nesting habitat; possible breeder	ZE
BZ048	BRVP2	25/05/2022	12:48	Buzzard	1	conifer plantation and cutover bog, fly	suitable nesting habitat; possible breeder	ZE
BZ049	BRVP3	26/05/2022	12:13	Buzzard	1	conifer plantation, highly modified/non-native woodland and bogs, fly, circle, hover, perched on a tree top after flight	suitable nesting habitat; possible breeder	ZE
BZ050	BRVP3	26/05/2022	12:40	Buzzard	1	conifer plantation, highly modified/non-native woodland and bogs, fly, circle, hover, same individual; perched on the same tree top	suitable nesting habitat; possible breeder	ZE
BZ051	BRVP3	26/05/2022	12:54	Buzzard	1	conifer plantation, highly modified/non-native woodland and bogs, fly ne, circle, same individual	suitable nesting habitat; possible breeder	ZE
BZ052	BRVP3	26/05/2022	13:44	Buzzard	1	highly modified/non-native woodland and conifer plantation, fly, circle	suitable nesting habitat; possible breeder	ZE
BZ053	BRVP1	20/06/2022	10:44	Buzzard	1	improved agricultural grassland, circling	suitable nesting habitat; possible breeder	ZE
BZ054	BRVP2	21/06/2022	07:13	Buzzard	1	conifer plantation and cutover bog, fly	suitable nesting habitat; possible breeder	ZE
BZ055	BRVP2	21/06/2022	07:31	Buzzard	1	cutover bog and conifer plantation, fly ne	suitable nesting habitat; possible breeder	ZE
BZ056	BRVP2	21/06/2022	09:22	Buzzard	1	conifer plantation and bogs, soar	suitable nesting habitat; possible breeder	ZE
BZ057	BRVP2	21/06/2022	09:45	Buzzard	2	cutover bog and conifer plantation, soar	pair; probable breeding	ZE

Breeding Raptor Surveys								
Ref.	BR	Date	Time	Species	Number	Habitat and activity	Breeding status	Surveyor
BZ058	BRVP2	21/06/2022	09:57	Buzzard	1	conifer plantation, circling	suitable nesting habitat; possible breeder	ZE
BZ059	BRVP2	21/06/2022	10:09	Buzzard	1	cutover bog and improved agricultural grassland, circling, call	suitable nesting habitat; possible breeder	ZE
BZ060	BRVP2	21/06/2022	12:46	Buzzard	1	cutover bog and highly modified/non-native woodland, circling	suitable nesting habitat; possible breeder	ZE
BZ061	BRVP4	27/06/2022	07:30	Buzzard	1	conifer plantation, bogs and improved agricultural grassland, perched	suitable nesting habitat; possible breeder	ZE
BZ062	BRVP4	27/06/2022	07:36	Buzzard	1	conifer plantation, bogs and improved agricultural grassland, fly w, same bird	suitable nesting habitat; possible breeder	ZE
BZ063	BRVP4	27/06/2022	08:46	Buzzard	1	improved agricultural grassland, conifer plantation and linear woodland/scrub, fly, call	suitable nesting habitat; possible breeder	ZE
BZ064	BRVP3	27/06/2022	10:27	Buzzard	1	conifer plantation and improved agricultural grassland, circling, soar, fly ne, from 10:15	suitable nesting habitat; possible breeder	ZE
BZ065	BRVP3	27/06/2022	11:17	Buzzard	1	bogs and highly modified/non-native woodland, circling, hover	suitable nesting habitat; possible breeder	ZE
BZ066	BRVP3	27/06/2022	11:38	Buzzard	1	bogs and highly modified/non-native woodland, circling	suitable nesting habitat; possible breeder	ZE
BZ067	BRVP3	27/06/2022	11:43	Buzzard	1	bogs, highly modified/non-native woodland and improved agricultural grassland, fly, hunt	suitable nesting habitat; possible breeder	ZE
BZ068	BRVP1	06/07/2022	07:26	Buzzard	1	improved agricultural grassland, scrub/transitional woodland and bogs, fly nw over the trees from field to bog, perched on tree on the farmland before flew away	suitable nesting habitat; possible breeder	ZE
BZ069	BRVP1	06/07/2022	08:02	Buzzard	1	highly modified/non-native woodland and improved agricultural grassland, calling, heard only	suitable nesting habitat; possible breeder	ZE
BZ070	BRVP1	06/07/2022	10:42	Buzzard	2	highly modified/non-native woodland, cutover bog and improved agricultural grassland, circling	suitable nesting habitat; possible breeder	ZE
BZ071	BRVP1	06/07/2022	11:59	Buzzard	1	bogs, semi-natural woodland and improved agricultural grassland, circle, fly into bog	suitable nesting habitat; possible breeder	ZE



Breeding Raptor Surveys								
Ref.	BR	Date	Time	Species	Number	Habitat and activity	Breeding status	Surveyor
BZ072	BRVP1	06/07/2022	12:31	Buzzard	1	bogs and semi-natural woodland, flying over the bog, hunt, nw of pig farm	suitable nesting habitat; possible breeder	ZE
BZ073	BRVP2	07/07/2022	11:42	Buzzard	1	highly modified/non-native woodland and improved agricultural grassland, fly nw	suitable nesting habitat; possible breeder	ZE
BZ074	BRVP4	25/07/2022	11:35	Buzzard	1	improved agricultural grassland and conifer plantation, fly se, hunt	suitable nesting habitat; possible breeder	ZE
BZ075	BRVP4	25/07/2022	13:36	Buzzard	1	conifer plantation, fly w, disappeared in trees	suitable nesting habitat; possible breeder	ZE
BZ076	ML VP	29/07/2022	06:55	Buzzard	1	conifer plantation and cutover bog, fly n	suitable nesting habitat; possible breeder	ZE
BZ077	ML VP	29/07/2022	10:35	Buzzard	1	semi-natural woodland, bogs and improved agricultural grassland, fly s, calling	suitable nesting habitat; possible breeder	ZE
BZ078	ML VP	29/07/2022	10:40	Buzzard	1	conifer plantation and semi-natural woodland, fly w, call	suitable nesting habitat; possible breeder	ZE
BZ079	ML VP	29/07/2022	10:58	Buzzard	1	semi-natural woodland and conifer plantation, circling	suitable nesting habitat; possible breeder	ZE

Table 7-4-21-4 Buzzard Winter Walkover Survey Data

Winter Walkover Surveys								
Ref.	Date	Time	Species	Number	Habitat and activity	Surveyor		
BZ001	31/01/2021	13:26	Buzzard	1	bogs; hunting (wintering)	AR		
BZ002	16/02/2021	09:22	Buzzard	1	improved agricultural grassland and hedgerows; perched (wintering)	AR		
BZ003	16/02/2021	11:30	Buzzard	1	bogs and highly modified/non-native woodland; soaring, 12ms high (wintering)	AR		

Winter Walkover Surveys						
Ref.	Date	Time	Species	Number	Habitat and activity	Surveyor
BZ004	16/02/2021	12:10	Buzzard	1	bogs and highly modified/non-native woodland; perched (wintering)	AR
BZ005	16/02/2021	13:02	Buzzard	1	bogs and highly modified/non-native woodland; soaring/hunting, 15ms high (wintering)	AR
BZ006	16/02/2021	13:15	Buzzard	2	bogs, highly modified/non-native woodland, and improved agricultural grassland; soaring (wintering)	AR
BZ007	16/02/2021	13:26	Buzzard	1	bogs and highly modified/non-native woodland; hunting (wintering)	AR
BZ008	25/03/2021	07:49	Buzzard	1	improved agricultural grassland and highly modified/non-native woodland; hunting, height 25-40mts (wintering)	AR
BZ009	25/03/2021	08:06	Buzzard	1	bogs and highly modified/non-native woodland; soaring, height 30mts (wintering)	AR
BZ010	25/03/2021	09:10	Buzzard	2	mixed broadleaved/conifer woodland; hunting, height 25mts (wintering)	AR
BZ011	25/03/2021	09:31	Buzzard	1	bogs; hunting, height 15mts (wintering)	AR
BZ012	25/03/2021	10:33	Buzzard	1	bogs; hunting, height 20mts (wintering)	AR
BZ013	25/03/2021	11:22	Buzzard	2	improved agricultural grassland, hedgerows, and highly modified/non-native woodland; soaring, height 40-50mts (wintering)	AR
BZ014	25/03/2021	12:01	Buzzard	1	improved agricultural grassland and hedgerows; travelling, height 15mts (wintering)	AR
BZ015	25/03/2021	12:47	Buzzard	1	bogs and mixed broadleaved/conifer woodland; hunting, height 15-20mts (wintering)	AR
BZ016	25/03/2021	12:56	Buzzard	1	bogs and mixed broadleaved/conifer woodland; travelling, height 20m (wintering)	AR
BZ017	25/03/2021	13:07	Buzzard	1	bogs; travelling, height 5mts (wintering)	AR

Winter Walkover Surveys						
Ref.	Date	Time	Species	Number	Habitat and activity	Surveyor
BZ018	25/03/2021	13:14	Buzzard	2	conifer plantation and bogs; soaring, height 35-50mts (wintering)	AR
BZ019	11/10/2021	09:58	Buzzard	1	improved agricultural grassland; perched, perched on telegraph pole, then flew off over fields (wintering)	PDC
BZ020	11/10/2021	10:54	Buzzard	1	improved agricultural grassland and hedgerows; perched, perched on telegraph pole then chased off by corvids (wintering)	PDC
BZ021	23/11/2021	12:01	Buzzard	1	bogs, improved grassland, and hedgerows; travelling ()	AR
BZ022	23/11/2021	13:19	Buzzard	1	bogs; soaring ()	AR
BZ023	23/11/2021	14:21	Buzzard	1	bogs; soaring ()	AR
BZ024	03/02/2022	09:32	Buzzard	1	improved agricultural grassland and bogs; travelling (wintering)	PDC
BZ025	03/02/2022	10:36	Buzzard	1	improved agricultural grassland; travelling, grubbing in field then flew off as I approached (wintering)	PDC
BZ026	03/02/2022	11:15	Buzzard	1	improved agricultural grassland; perched on telegraph pole then flew off (wintering)	PDC
BZ027	03/02/2022	13:25	Buzzard	1	bogs and highly modified/non-native woodland; travelling, mobbed by kestrel (wintering)	PDC
BZ028	03/02/2022	13:27	Buzzard	1	highly modified/non-native woodland; travelling, second bird came up from forestry after first had headed off (wintering)	PDC
BZ029	15/03/2022	11:57	Buzzard	1	improved agricultural grassland; travelling (wintering)	PDC
BZ030	15/03/2022	12:23	Buzzard	1	highly modified/non-native woodland and improved agricultural grassland; travelling (wintering)	PDC
BZ031	15/03/2022	13:15	Buzzard	1	cultivated land; travelling (wintering)	PDC

Winter Walkover Surveys						
Ref.	Date	Time	Species	Number	Habitat and activity	Surveyor
BZ032	15/03/2022	13:17	Buzzard	2	conifer plantation and cultivated land; display (courtship and display; probable breeding)	PDC
BZ033	11/11/2022	10:03	Buzzard	1	improved grassland; flying (wintering)	CF
BZ034	11/11/2022	10:11	Buzzard	2	improved grassland; flying (wintering)	CF
BZ035	18/01/2023	16:14	Buzzard	1	improved grassland; flying (wintering)	CF
BZ036	09/02/2023	14:17	Buzzard	1	improved grassland; hunting (wintering)	CF
BZ037	16/03/2023	16:26	Buzzard	2	bogs; soaring (wintering)	CF
BZ038	16/03/2023	16:28	Buzzard	1	improved grassland; flying (wintering)	CF

Table 7-4-21-5 Buzzard Incidental Data

Incidental Observations							
Ref.	Location	Date	Time	Species	Number	Habitat and activity	Surveyor
BZ001	Waterfowl Distribution Survey; Sharragh	27/11/2020	12:15	Buzzard	1	semi-natural grassland and improved agricultural grassland; hunting	AR
BZ002	Waterfowl Distribution Survey; Sharragh	15/12/2020	11:27	Buzzard	1	watercourses and improved agricultural grassland; feeding/roosting	AR
BZ003	Waterfowl Distribution Survey; Sharragh	29/12/2020	13:55	Buzzard	1	improved agricultural grassland; hunting	AR
BZ004	Hen Harrier Roost Survey; HHVP3	30/12/2020	10:02	Buzzard	1	highly modified/non-native woodland, bogs, and hedgerows; travelling	AR

Incidental Observations							
Ref.	Location	Date	Time	Species	Number	Habitat and activity	Surveyor
BZ005	Waterfowl Distribution Survey; Sharragh	31/12/2020	13:30	Buzzard	1		AR
BZ006	Waterfowl Distribution Survey; Sharragh	31/12/2020	13:30	Buzzard	1	improved agricultural grassland; hunting	AR
BZ007	Waterfowl Distribution Survey; Site 5	14/01/2021		Buzzard	1		AR
BZ008	Hen Harrier Roost Survey; HHVP1	15/01/2021		Buzzard	2	bogs; travelling	AR
BZ009	Waterfowl Distribution Survey; Sharragh	15/02/2021	08:49	Buzzard	1	semi-natural grassland and hedgerows; flying	AR
BZ010	Waterfowl Distribution Survey; Sharragh	15/02/2021	11:29	Buzzard	1	highly modified/non-native woodland; hunting, female, height 10m	AR
BZ011	Hen Harrier Roost Survey; HHVP2	24/02/2021	17:12	Buzzard	1	bogs and highly modified/non-native woodland; hunting	AR
BZ012	Hen Harrier Roost Survey; HHVP1	25/02/2021	06:55	Buzzard	1	bogs; travelling, height 3 meters	AR
BZ013	Hen Harrier Roost Survey; HHVP1	25/02/2021	08:31	Buzzard	1	bogs; travelling, height 20 meters	AR
BZ014	Hen Harrier Roost Survey; HHVP1	25/02/2021	09:06	Buzzard	2	bogs; soaring, height 15-35 meters	AR
BZ015	Hen Harrier Roost Survey; HHVP4	27/02/2021	09:13	Buzzard	2	bogs and conifer plantation; travelling, height 25 meters	AR
BZ016	Hen Harrier Roost Survey; HHVP4	25/03/2021	16:30	Buzzard	1	bogs; travelling	AR
BZ017	Wildfowl Distribution Survey; Lorrha village	14/10/2021	09:36	Buzzard	1	highly modified/non-native woodland; calling, heard calling but unable to see it	PDC
BZ018	Vantage Point Survey; VP4	15/10/2021	12:38	Buzzard	1	improved agricultural grassland; travelling, soaring behind VP.	PDC

Incidental Observations							
Ref.	Location	Date	Time	Species	Number	Habitat and activity	Surveyor
BZ019	Hen Harrier Roost Survey; HHVP1	26/10/2021	08:59	Buzzard	2	improved grassland and bogs; travelling	PDC
BZ020	Hen Harrier Roost Survey; HHVP3	28/10/2021	08:20	Buzzard	1	improved agricultural grassland; travelling	PDC
BZ021	Hen Harrier Roost Survey; HHVP1	08/11/2021	16:36	Buzzard	2	bogs; flying, going to roost	AR
BZ022	Hen Harrier Roost Survey; HHVP4	11/11/2021	15:42	Buzzard	1	conifer plantation; soaring, adult over plantation	AR
BZ023	Hen Harrier Roost Survey; HHVP3	24/11/2021	15:10	Buzzard	1	bogs and conifer plantation; hunting	AR
BZ024	Hen Harrier Roost Survey; HHVP3	24/11/2021	16:17	Buzzard	1	bogs; travelling, going to roost	AR
BZ025	Hen Harrier Roost Survey; HHVP2	29/11/2021	16:21	Buzzard	1	bogs and conifer plantation; flying, going to roost	AR
BZ026	Hen Harrier Roost Survey; Sharragh	28/01/2022	09:20	Buzzard	2	conifer plantation; flying	AR
BZ027	Hen Harrier Roost Survey; Sharragh	28/01/2022	09:38	Buzzard	1	conifer plantation; flying	AR
BZ028	Hen Harrier Roost Survey; Sharragh	30/01/2022	15:17	Buzzard	1	bogs; soaring, 2cy	AR
BZ029	Hen Harrier Roost Survey; Sharragh	31/01/2022	15:38	Buzzard	1	bogs; flying, low over bog	AR
BZ030	Hen Harrier Roost Survey; Sharragh	06/02/2022	15:48	Buzzard	2	bogs and conifer plantation; flying	AR
BZ031	Hen Harrier Roost Survey; Sharragh	06/02/2022	16:10	Buzzard	1	bogs; flying	AR
BZ032	Hen Harrier Roost Survey; HHVP2	10/03/2022	18:18	Buzzard	1	bogs; flying, going to roost	AR

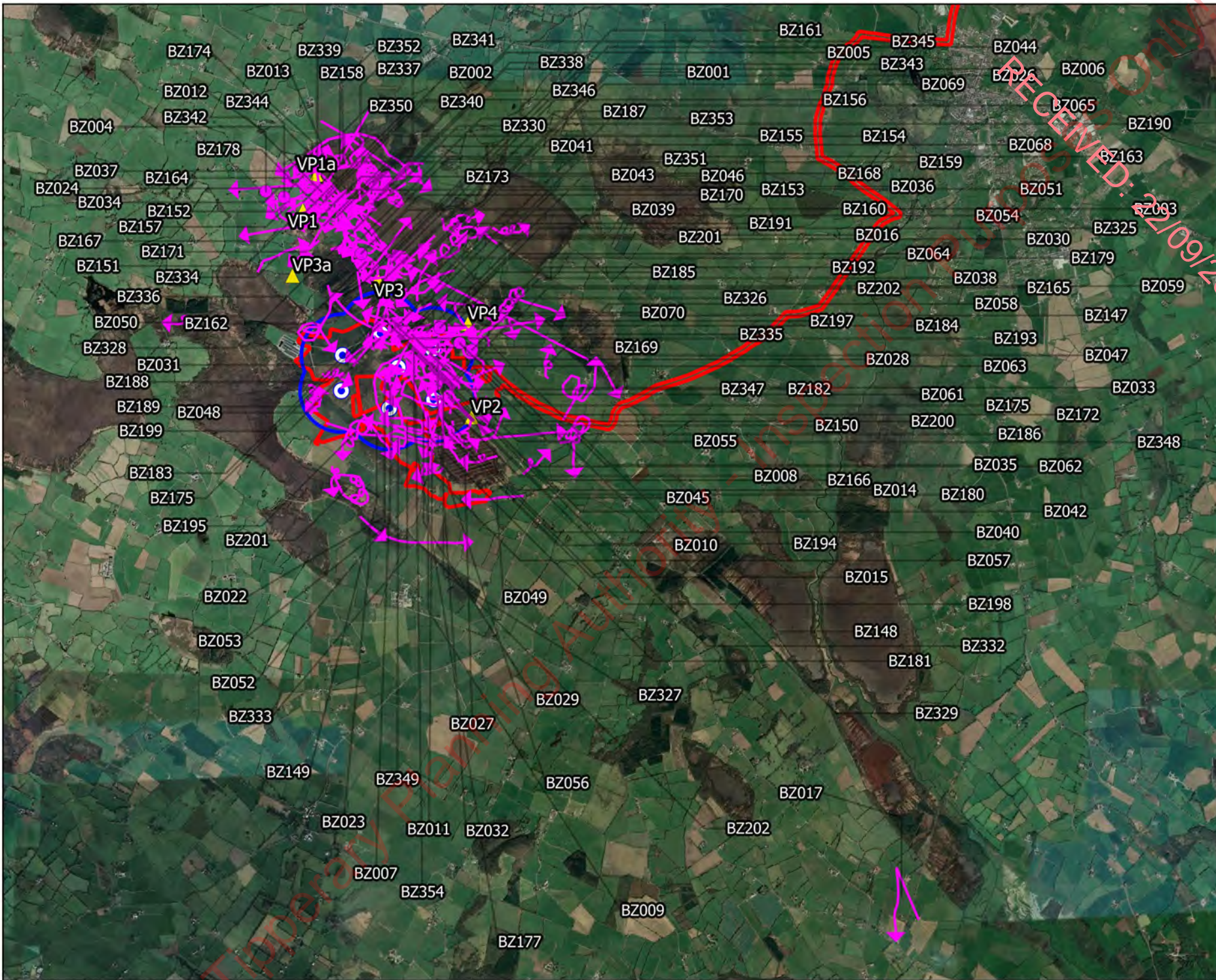
Incidental Observations							
Ref.	Location	Date	Time	Species	Number	Habitat and activity	Surveyor
BZ033	Hen Harrier Roost Survey; HHVP2	10/03/2022	19:03	Buzzard	1	bogs and conifer plantation; flying, going to roost	AR
BZ034	Hen Harrier Roost Survey; HHVP1	30/03/2022	18:18	Buzzard	1	bogs and hedgerows; flying	AR
BZ035	Hen Harrier Roost Survey; HHVP1	30/03/2022	18:21	Buzzard	1	bogs and hedgerows; flying	AR
BZ036	Wildfowl Distribution Survey; Ashton Callows	26/04/2022	10:50	Buzzard	2	marsh; courtship and display, soaring around area for 10-15 minutes	NL
BZ037	Wildfowl Distribution Survey; River Little Brosna Callows	26/04/2022	12:17	Buzzard	1	improved agricultural grassland; soaring	NL
BZ038	Wildfowl Distribution Survey; Ashton Callows	05/05/2022	09:20	Buzzard	1	highly modified/non-native woodland; flying	NL
BZ039	Wildfowl Distribution Survey; Ashton Callows	11/05/2022	09:20	Buzzard	1	bogs; perched in tree	NL
BZ040	Wildfowl Distribution Survey; Annaghanerrig	24/05/2022	08:51	Buzzard	1	highly modified/non-native woodland; flushed	NL
BZ041	Vantage Point Survey; VP2	05/07/2022	12:17	Buzzard	1	improved agricultural grassland and scrub/transitional woodland; fly over the hedge, before survey	ZE
BZ042	Breeding Walkover Survey; Sharragh lane	08/07/2022	11:43	Buzzard	1	improved agricultural grassland and scrub/transitional woodland; fly from pole to the field, outside the 500m, after survey	ZE
BZ043	Vantage Point Survey; Sharragh VP1	21/07/2022	11:21	Buzzard	1	linear woodland/scrub, improved agricultural grassland and bogs; fly NW above treeline, perched, calling, mobbed by two crows	ZE
BZ044	Vantage Point Survey; Sharragh farm	22/07/2022	15:06	Buzzard	1	improved agricultural grassland and semi-natural woodland; flushed, fly, call, on the way from VP after survey	ZE
BZ045	Vantage Point Survey; VP4	26/07/2022	08:15	Buzzard	1	improved agricultural grassland and linear woodland/scrub; fly NW, calling, perched on tree at VP4 calling, on the way to VP	ZE
BZ046	Vantage Point Survey; VP4	23/08/2022	13:21	Buzzard	1	improved agricultural grassland and semi-natural woodland; fly, call, display, flew from se above the VP turned to e and then to NW; during break	ZE

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Incidental Observations							
Ref.	Location	Date	Time	Species	Number	Habitat and activity	Surveyor
BZ047	Vantage Point Survey; VP4	06/09/2022	14:25	Buzzard	3	improved agricultural grassland and linear woodland/scrub; fly, circling, call, two out of three birds calling; before survey started on the way to VP	ZE
BZ048	Wildfowl Distribution Survey; Ashton Callows	18/10/2022	10:33	Buzzard	1	watercourses; perched in tree	NL
BZ049	Waterbird Distribution Survey; Ashton Callows	22/11/2022	10:47	Buzzard	1	marsh; perched	NL
BZ050	Waterbird Distribution Survey; Ashton Callows	22/11/2022	11:47	Buzzard	1	bogs; flying	NL
BZ051	Waterbird Distribution Survey; Cloghan Beg	22/11/2022	11:48	Buzzard	1	improved grassland; flying	NL
BZ052	Hen Harrier Roost Survey; HHVP1	24/11/2022	16:01	Buzzard	1	improved agricultural grassland; hunting	PM
BZ053	Hen Harrier Roost Survey; HHVP1	24/11/2022	16:48	Buzzard	1	cutover bog and mixed broadleaved/conifer woodland; flew to roost in trees	PM
BZ054	Hen Harrier Roost Survey; HHVP1	28/11/2022	11:32	Buzzard	1	bogs; flying	CF
BZ055	Waterbird Distribution Survey; Ashton Callows bird hide, car park	29/11/2022	09:47	Buzzard	1	hedgerows; perched on tree and then flushed	NL
BZ056	Hen Harrier Roost Survey; HHVP4	27/01/2023	16:11	Buzzard	1	bogs; flying	CF
BZ057	Hen Harrier Roost Survey; HHVP3	22/02/2023	14:10	Buzzard	2	bogs; flying	CF
BZ058	Hen Harrier Roost Survey; HHVP4	28/02/2023	14:11	Buzzard	1	bogs; flying	CF

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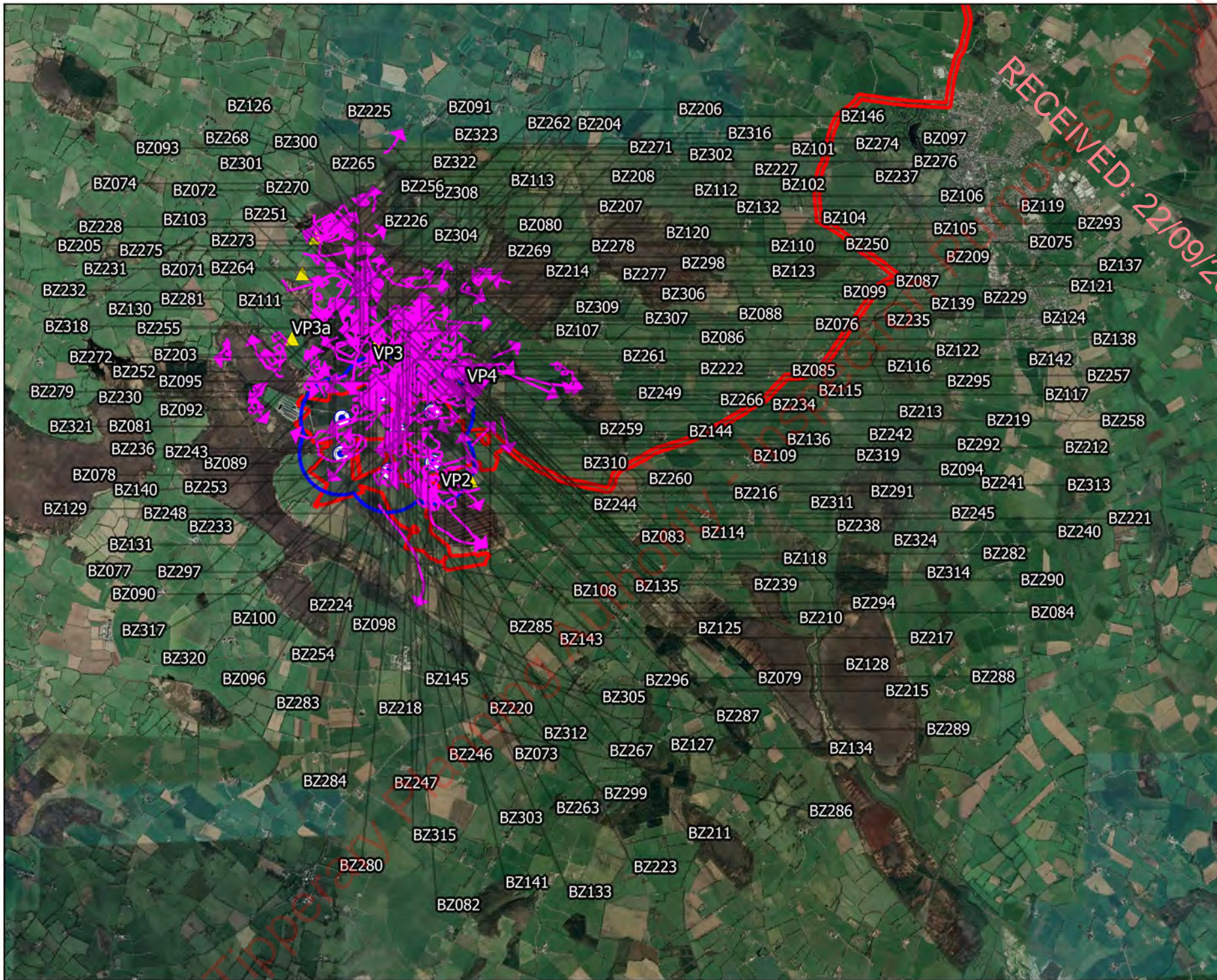
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- EIAR Site Boundary
- Turbine Layout
- 500m Radius of Turbines
- Flight Observation
- Non-flight Observation



<b>Buzzard Observations (Winter)</b> <b>Vantage Point Surveys</b>	
Project Title <b>Carrig Renewables Wind Farm</b>	
Drawn By <b>S. Duff</b>	Checked By <b>D. Woods</b>
Project No. <b>211016</b>	Drawing No. <b>7.4.21.1a</b>
Scale <b>1:60000</b>	Date <b>28.07.2023</b>
 <b>MKO</b> Planning and Environmental Consultants Tuam Road, Galway Ireland, H91 VV84 +353 (0) 91 735611 email: info@mkofireland.ie Website: www.mkofireland.ie	

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**Map Legend**

- EIAR Site Boundary
- Turbine Layout
- 500m Radius of Turbines
- Flight Observation
- Non-flight Observation

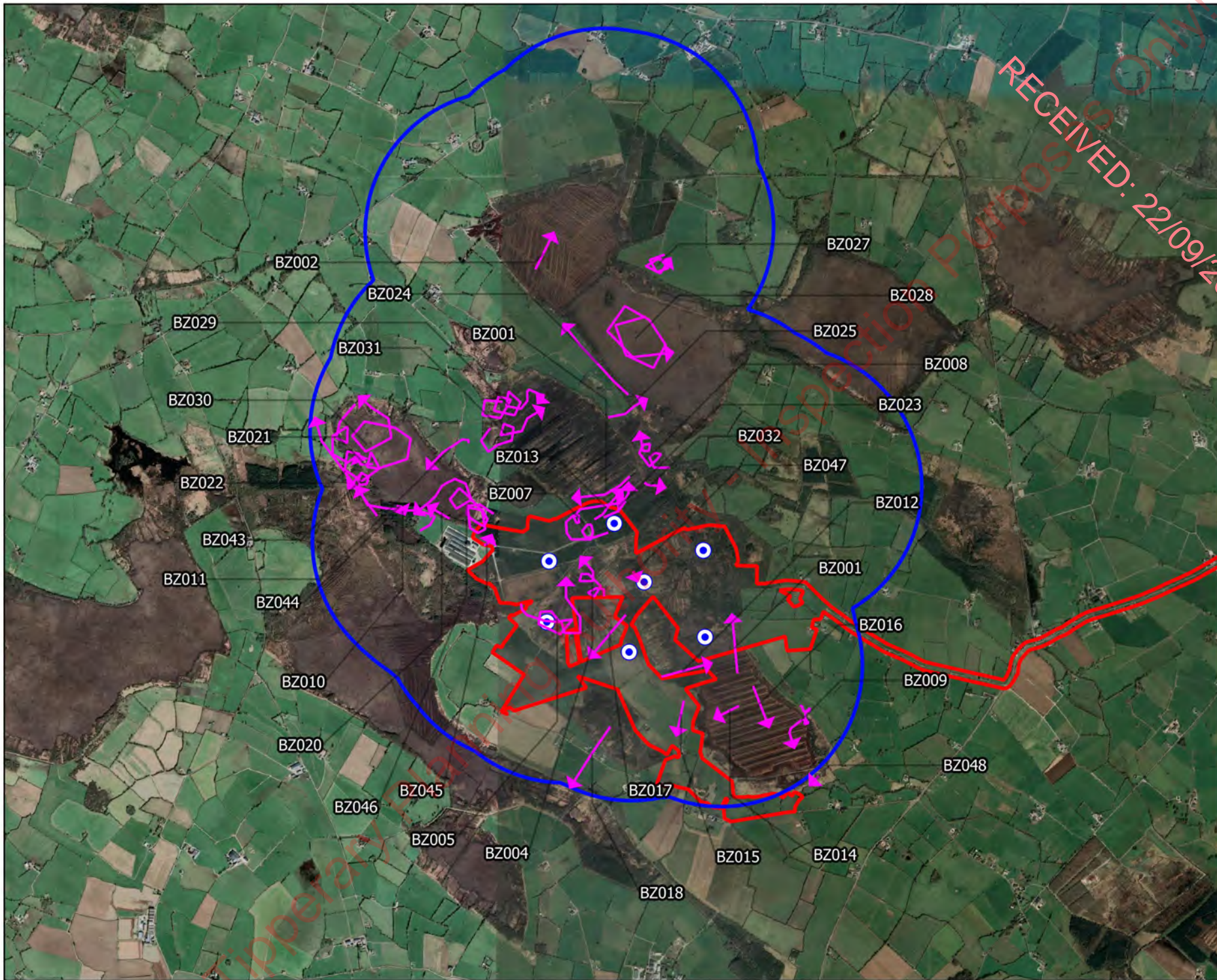


Drawing Title:  
**Buzzard Observations (Breeding)  
 Vantage Point Surveys**

Project Title:  
 Carrig Renewables Wind Farm

Drawn By: <b>S. Duff</b>	Checked By: <b>D. Woods</b>
Project No. <b>211016</b>	Drawing No. <b>7.4.21.1b</b>
Scale <b>1:60000</b>	Date <b>28.07.2023</b>

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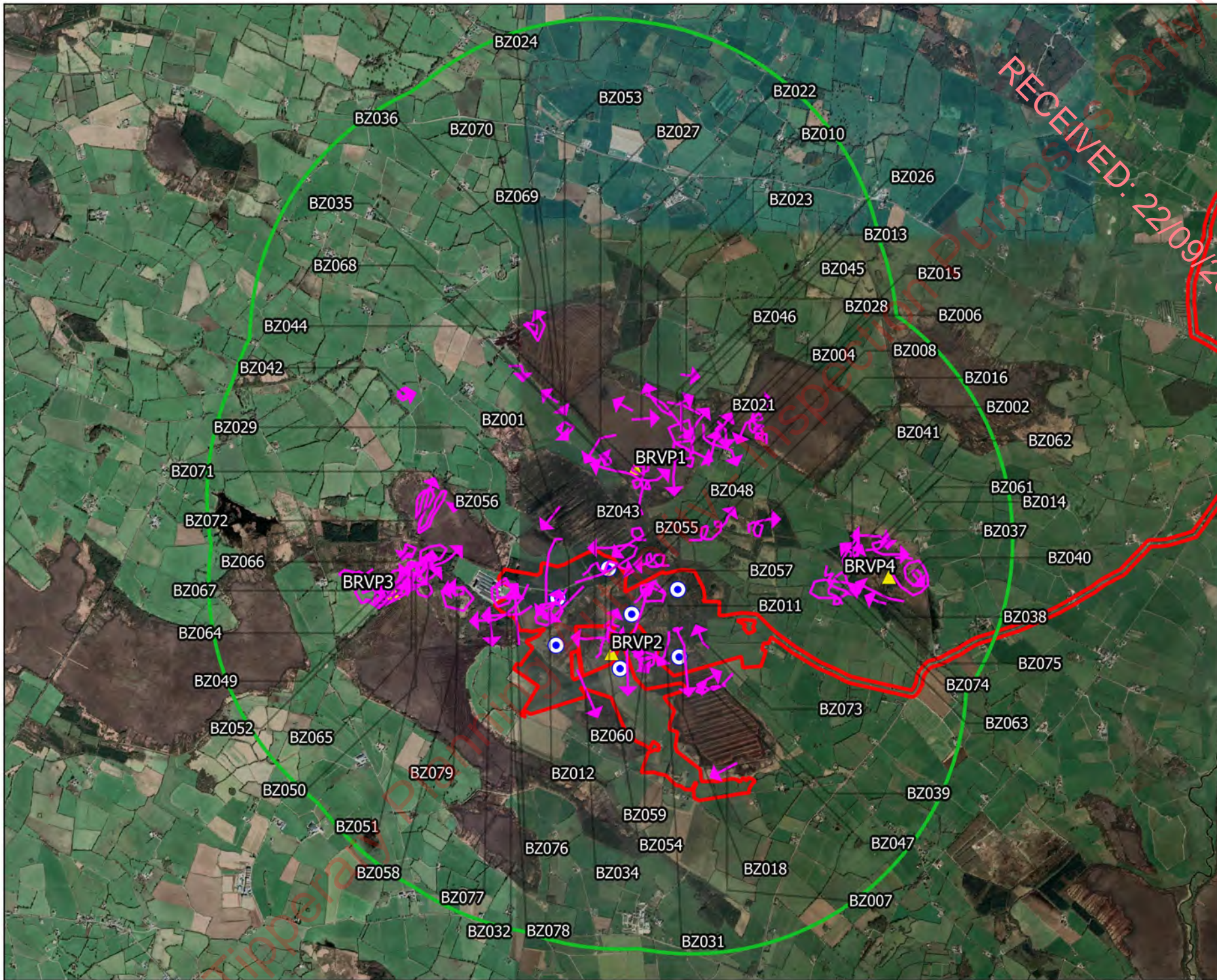
**Map Legend**

- EIAR Site Boundary
- Turbine Layout
- 500m Survey Area
- Flight Observation



Drawing Title: <b>Buzzard Observations Breeding Walkover Surveys</b>	
Project Title: <b>Carrig Renewables Wind Farm</b>	
Drawn By: <b>S. Duff</b>	Checked By: <b>D. Woods</b>
Project No. <b>211016</b>	Drawing No. <b>7.4.21.2</b>
Scale <b>1:35000</b>	Date <b>28.07.2023</b>
<b>MKO</b> Planning and Environmental Consultants Tuam Road, Galway Ireland, H91 VV84 +353 (0) 91 235611 email: info@mkofireland.ie Website: www.mkofireland.ie	

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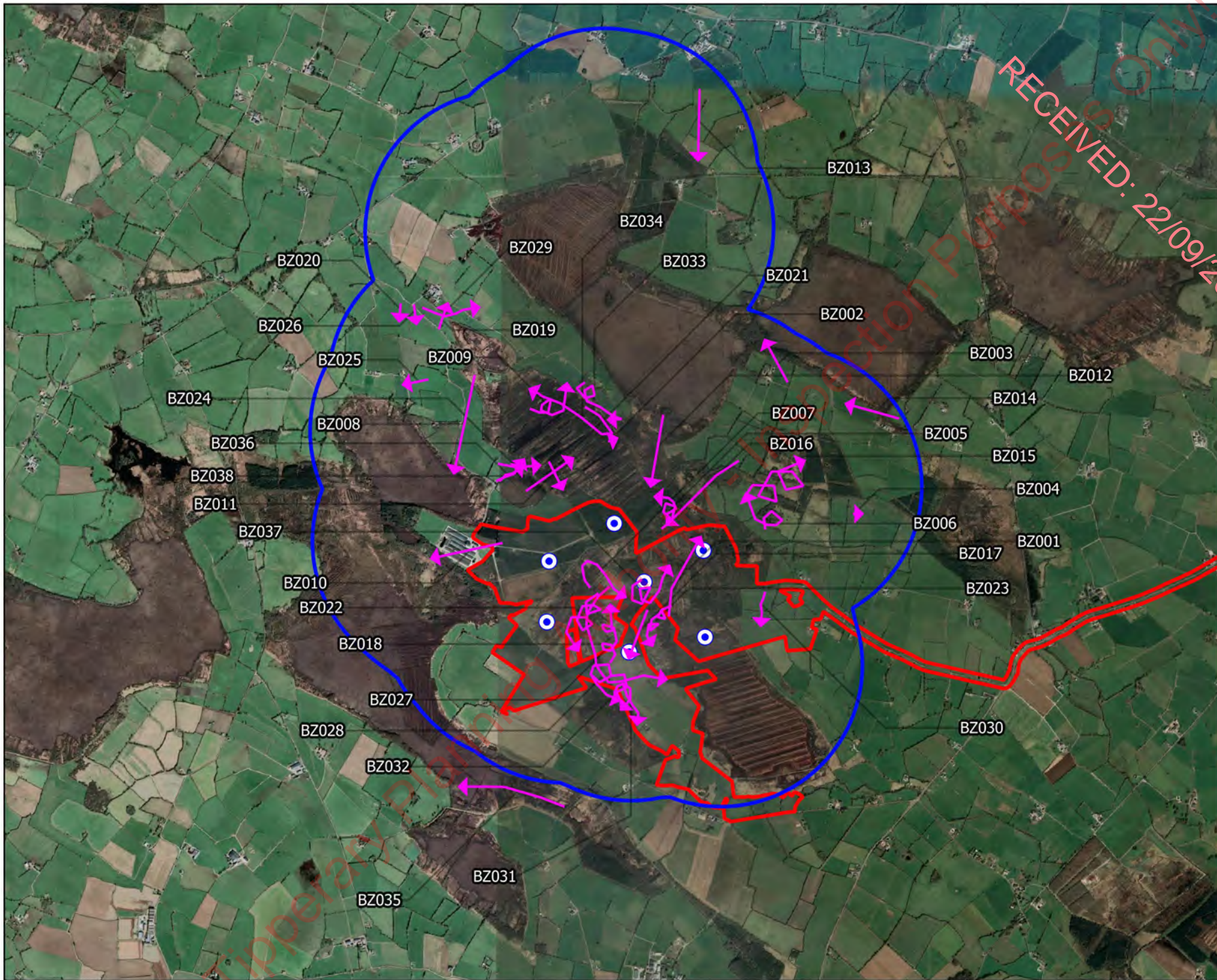


- ### Map Legend
- EIAR Site Boundary
  - Turbine Layout
  - 2km Survey Area
  - ▲ BRVP Locations
  - Flight Observation



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<b>Buzzard Observations Breeding Raptor Surveys</b>	
Carrig Renewables Wind Farm	
<small>Drawn By</small> <b>S. Duff</b>	<small>Checked By</small> <b>D. Woods</b>
<small>Project No.</small> <b>211016</b>	<small>Drawing No.</small> <b>7.4.21.3</b>
<small>Scale</small> <b>1:45000</b>	<small>Date</small> <b>28.07.2023</b>
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### Map Legend

- EIA Site Boundary
- Turbine Layout
- 500m Survey Area
- Flight Observation



Drawing Title:

**Buzzard Observations  
Winter Walkover Surveys**

Project Title:

**Carrig Renewables Wind Farm**

Drawn By:

**S. Duff**

Checked By:

**D. Woods**

Project No.:

**211016**

Drawing No.:

**7.4.21.4**

Scale:

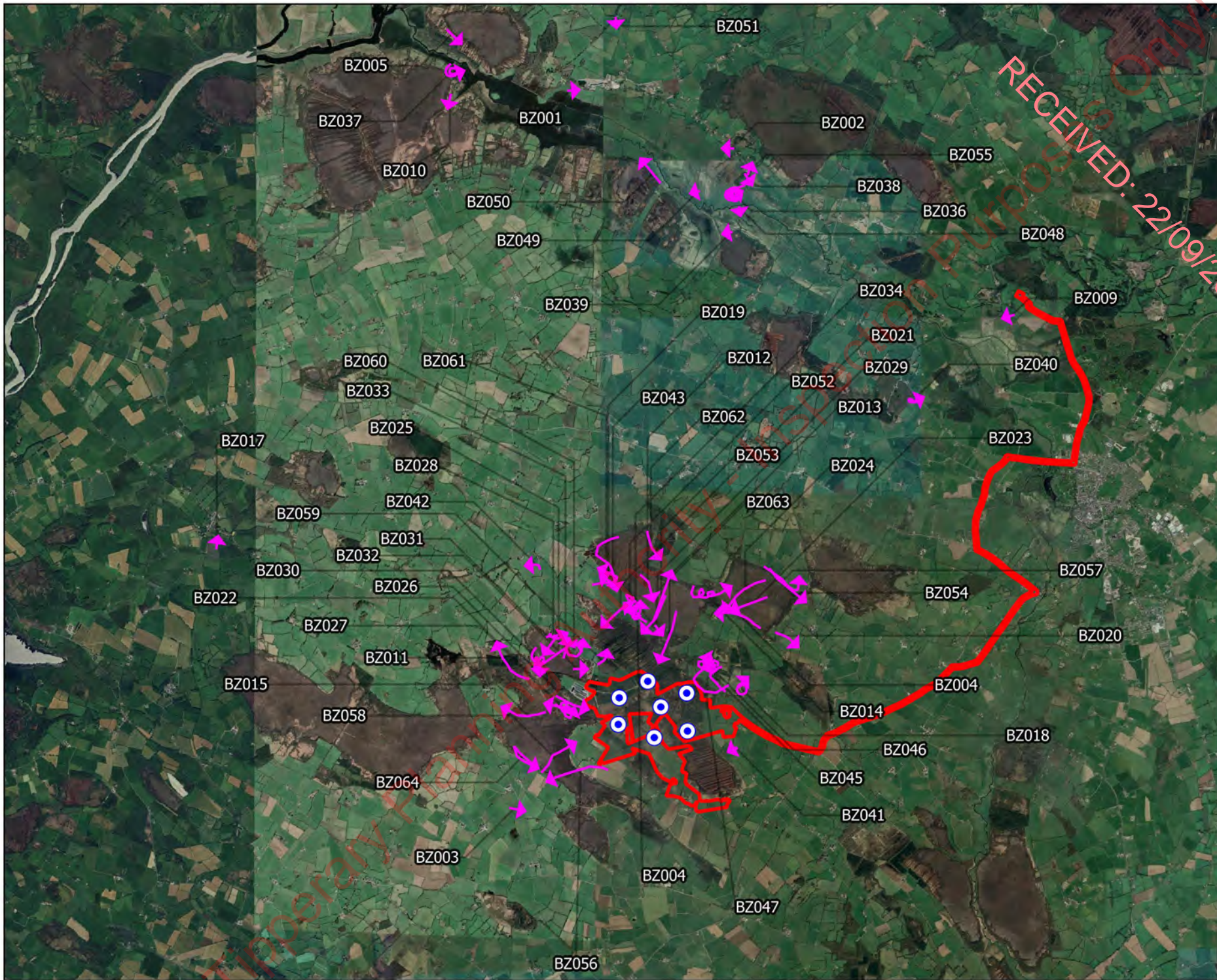
**1:35000**

Date:

**28.07.2023**



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**Map Legend**

- EIAR Site Boundary
- Turbine Layout
- Observation

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Drawing Title: <b>Buzzard Observations Incidental Records</b>	
Project Title: <b>Carrig Renewables Wind Farm</b>	
Drawn By: <b>S. Duff</b>	Checked By: <b>D. Woods</b>
Project No. <b>211016</b>	Drawing No. <b>7.4.21.5</b>
Scale <b>1:80000</b>	Date <b>28.07.2023</b>
<b>MKO</b> Planning and Environmental Consultants <small>           Tuam Road, Galway            Ireland, F91 VV84            +353 (0) 91 235611            email: info@mkofireland.ie            Website: www.mkofireland.ie         </small>	

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## 7-4-22 LONG-EARED OWL

Table 7-4-22-1 Long-eared Owl Incidental Data

Incidental Observations							
Ref.	Location	Date	Time	Species	Number	Habitat and activity	Surveyor
LE001	Hen Harrier Roost Survey; HHVP2	05/12/2021	16:51	Long-Eared Owl	1	bogs and conifer plantation; hunting	AK

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**Map Legend**

- EIA Site Boundary
- Turbine Layout
- ↗ Observation



Drawing Title:  
**Long-eared Owl Observations  
Incidental Records**

Project Title:  
**Carrig Renewables Wind Farm**

Drawn By <b>S. Duff</b>	Checked By <b>D. Woods</b>
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Project No. <b>211016</b>	Drawing No. <b>7.4.22.1</b>
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Scale <b>1:50000</b>	Date <b>28.07.2023</b>
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## 7-4-23 SPARROWHAWK

**Note:** Sensitive data relating to breeding sites has been omitted from this appendix and is provided in Confidential Appendix 7-7.

Table 7-4-23-1 Sparrowhawk Vantage Point Survey Data

Vantage Point Surveys												
Ref.	VP	Date	Time	Species	Number	Duration of flight (s)	Band 1 (0-15m)	Band 2 (15-25m)	Band 3 (25-200m)	Band 4 (>200m)	Habitat and activity	Surveyor
SH001	VP1	14/10/2020	14:59	Sparrowhawk	1	200	0	50	150	0	improved agricultural grassland; flight, high circling	TR
SH002	VP1	12/11/2020	12:16	Sparrowhawk	1	15	15	0	0	0	improved agricultural grassland and hedgerows; hunting, female	AR
SH003	VP2	28/11/2020	09:20	Sparrowhawk	1	10	10	0	0	0	improved agricultural grassland and hedgerows; hunting	AR
SH004	VP4	29/11/2020	11:17	Sparrowhawk	1	30	0	30	0	0	improved agricultural grassland and highly modified/non-native woodland; travelling, female	AR
SH005	VP3	13/12/2020	11:48	Sparrowhawk	2	60	0	20	40	0	watercourses and highly modified/non-native woodland; travelling, 1 female/ 1imm. male	AR
SH006	VP1	14/12/2020	14:37	Sparrowhawk	1	5	5	0	0	0	improved agricultural grassland; travelling	AR
SH007	VP3	16/12/2020	11:32	Sparrowhawk	1	30	30	0	0	0	improved agricultural grassland, bogs and hedgerows; travelling, male	AR
SH008	VP4	28/12/2020	11:04	Sparrowhawk	1	20	20	0	0	0	highly modified/non-native woodland and improved agricultural grassland; travelling, female	AR
SH009	VP4	28/12/2020	11:37	Sparrowhawk	1	30	30	0	0	0	highly modified/non-native woodland and improved agricultural grassland; travelling, female	AR

Vantage Point Surveys												
Ref.	VP	Date	Time	Species	Number	Duration of flight (s)	Band 1 (0-15m)	Band 2 (15-25m)	Band 3 (25-200m)	Band 4 (>200m)	Habitat and activity	Surveyor
SH010	VP4	28/12/2020	12:15	Sparrowhawk	1	60	0	20	40	0	highly modified/non-native woodland and improved agricultural grassland; travelling, male	AR
SH011	VP4	28/12/2020	14:01	Sparrowhawk	1	10	10	0	0	0	improved agricultural grassland; travelling, male	AR
SH012	VP4	28/12/2020	15:45	Sparrowhawk	1	30	0	30	0	0	highly modified/non-native woodland and improved agricultural grassland; travelling, female	AR
SH013	VP2	30/12/2020	12:36	Sparrowhawk	1	10	10	0	0	0	bogs; travelling	AR
SH014	VP3	15/01/2021	13:41	Sparrowhawk	1	5	5	0	0	0	highly modified/non-native woodland; hunting, male	AR
SH015	VP1	13/02/2021	15:33	Sparrowhawk	1	5	5	0	0	0	improved agricultural grassland and hedgerows; travelling, female moved across vp and out of view	AR
SH016	VP4	17/02/2021	14:10	Sparrowhawk	1	45	45	0	0	0	highly modified/non-native woodland and improved agricultural grassland; hunting, male	AR
SH017	VP2	27/02/2021	14:24	Sparrowhawk	2	60	0	0	60	0	highly modified/non-native woodland; soaring	AR
SH018	VP2	18/03/2021	12:52	Sparrowhawk	1	20	0	20	0	0	mixed broadleaved/conifer woodland; soaring, female	AR
SH019	VP1	19/03/2021	08:45	Sparrowhawk	1	10	10	0	0	0	highly modified/non-native woodland, improved agricultural grassland and bogs; travelling	AR
SH020	VP2	15/04/2021	19:56	Sparrowhawk	1	80	0	0	80	0	conifer plantation; soaring, male	AR
SH021	VP2	12/05/2021	09:23	Sparrowhawk	1	30	0	30	0	0	conifer plantation; soaring, female over plantation	AR

Vantage Point Surveys												
Ref.	VP	Date	Time	Species	Number	Duration of flight (s)	Band 1 (0-15m)	Band 2 (15-25m)	Band 3 (25-200m)	Band 4 (>200m)	Habitat and activity	Surveyor
SH022	VP2	12/05/2021	09:37	Sparrowhawk	1	10	0	10	0	0	conifer plantation; travelling, female over plantation	AR
SH023	VP2	24/08/2021	11:43	Sparrowhawk	1	60	0	0	60	0	cutover bog and bogs; soaring	AR
SH024	VP3	25/08/2021	12:06	Sparrowhawk	1	30	0	30	0	0	highly modified/non-native woodland; soaring, female	AR
SH025	VP2	10/11/2021	12:29	Sparrowhawk	1	30	0	30	0	0	conifer plantation; circling	AR
SH026	VP3	14/12/2021	07:45	Sparrowhawk	1	15	15	0	0	0	improved agricultural grassland and highly modified/non-native woodland; travelling, shot past as i was looking for whoopers	PDC
SH027	VP3	08/01/2022	14:06	Sparrowhawk	1	60	0	0	60	0	bogs; soaring	AR
SH028	VP4	08/02/2022	09:01	Sparrowhawk	1	10	10	0	0	0	conifer plantation; hunting, female	AR
SH029	VP4	08/02/2022	09:11	Sparrowhawk	1	20	0	20	0	0	conifer plantation; soaring, female	AR
SH030	VP2	29/03/2022	16:21	Sparrowhawk	1	30	0	0	30	0	bogs, highly modified/non-native woodland and improved grassland; soaring	AR
SH031	VP2	22/04/2022	06:42	Sparrowhawk	1	28	28	0	0	0	cutover bog, linear woodland/scrub and improved agricultural grassland; fly s	ZE
SH032	VP2	22/04/2022	06:48	Sparrowhawk	1	3	3	0	0	0	cutover bog and linear woodland/scrub; fly up on tree - perch	ZE
SH033	VP3	22/07/2022	12:48	Sparrowhawk	1	6	6	0	0	0	semi-natural woodland and improved agricultural grassland; hunt, male	ZE

Vantage Point Surveys												
Ref.	VP	Date	Time	Species	Number	Duration of flight (s)	Band 1 (0-15m)	Band 2 (15-25m)	Band 3 (25-200m)	Band 4 (>200m)	Habitat and activity	Surveyor
SH034	VP3	27/10/2022	12:00	Sparrowhawk	1	20	20	0	0	0	bogs; flying	CF
SH035	VP2	16/11/2022	16:15	Sparrowhawk	1	15	15	0	0	0	improved grassland; flying	CF
SH036	VP2	06/01/2023	15:42	Sparrowhawk	1	20	20	0	0	0	improved grassland; hunting, male	CF
SH037	VP2	06/01/2023	15:44	Sparrowhawk	2	40	40	0	0	0	bogs; pair mobbing hen harrier	CF
SH038	VP3a	09/01/2023	15:49	Sparrowhawk	1	120	0	100	20	20	bogs; displaying, display flight	CF
SH039	VP4	03/02/2023	13:43	Sparrowhawk	1	30	0	15	15	0	improved grassland; soaring female	CF
SH040	VP2	24/02/2023	14:00	Sparrowhawk	1	30	30	0	0	0	improved grassland; hunting	CF
SH041	VP4	03/03/2023	13:35	Sparrowhawk	1	30	0	0	30	0	improved grassland; flying	CF
SH042	VP1a	08/03/2023	13:29	Sparrowhawk	1	240	0	0	200	40	bogs; flying	CF

Table 7-4-23-2 Sparrowhawk Breeding Walkover Survey Data

Breeding Walkover Surveys						
Ref.	Date	Time	Species	Number	Habitat and activity	Surveyor
SH002	12/04/2021	09:48	Sparrowhawk	1	highly modified/non-native woodland; hunting (flyover; non-breeding)	AR
SH003	22/05/2021	07:02	Sparrowhawk	1	bogs and conifer plantation; calling, calling inside plantation (agitated behaviour; probable breeding)	AR

Breeding Walkover Surveys						
Ref.	Date	Time	Species	Number	Habitat and activity	Surveyor
SH005	24/05/2021	10:41	Sparrowhawk	1	conifer plantation and bogs; flying, female (flyover; non-breeding)	AR
SH006	11/06/2021	11:23	Sparrowhawk	1	bogs; hunting, female low over bog (suitable nesting habitat; possible breeder)	AR
SH008	14/04/2022	07:41	Sparrowhawk	1	conifer plantation and cutover bog; fly sw into forest (suitable nesting habitat; possible breeder)	ZF
SH009	19/05/2022	09:12	Sparrowhawk	1	cutover bog and conifer plantation; fly e (suitable nesting habitat; possible breeder)	ZE
SH010	19/05/2022	10:02	Sparrowhawk	1	highly modified/non-native woodland and cutover bog; fly (suitable nesting habitat; possible breeder)	ZE
SH011	19/05/2022	10:32	Sparrowhawk	1	cutover bog and conifer plantation; hunt (suitable nesting habitat; possible breeder)	ZE
SH012	16/06/2022	09:02	Sparrowhawk	1	cutover bog and highly modified/non-native woodland; fly n, just above the ground, male (suitable nesting habitat; possible breeder)	ZE
SH013	16/06/2022	09:08	Sparrowhawk	1	linear woodland/scrub and scrub/transitional woodland; fly s, male, same bird; flew back where it came from (suitable nesting habitat; possible breeder)	ZE
SH014	11/07/2022	05:57	Sparrowhawk	1	bogs and semi-natural woodland; fly se - from bog to woods (suitable nesting habitat; possible breeder)	ZE
SH015	11/07/2022	06:35	Sparrowhawk	1	cutover bog and semi-natural woodland; fly nw - from bog to woods, male (suitable nesting habitat; possible breeder)	ZE
SH016	11/07/2022	08:15	Sparrowhawk	1	highly modified/non-native woodland and arable crops; fly into woods nw, male (suitable nesting habitat; possible breeder)	ZE
SH017	11/07/2022	11:36	Sparrowhawk	1	cutover bog and highly modified/non-native woodland; fly into bog from the edge of wood, male (suitable nesting habitat; possible breeder)	ZE

Table 7-4-23-3 Sparrowhawk Breeding Raptor Survey Data

Breeding Raptor Surveys								
Ref.	BR	Date	Time	Species	Number	Habitat and activity	Breeding status	Surveyor
SH001	BRVP2	20/04/2021	09:16	Sparrowhawk	1	mixed broadleaved/conifer woodland and bogs, circling, female circling around woodland lost to view	suitable nesting habitat; possible breeder	AR
SH002	BRVP2	20/04/2021	11:20	Sparrowhawk	1	conifer plantation and bogs, hunting/soaring, female first hunting over bog then gained height to 70mts over woodland	suitable nesting habitat; possible breeder	AR
SH003	BRVP1	21/04/2021	08:13	Sparrowhawk	1	bogs, hunting/perched, male hunting low over bog perched on dead tree then away low over bog towards woodland	suitable nesting habitat; possible breeder	AR
SH004	Breeding Raptor Transect	22/04/2021	08:14	Sparrowhawk	1	conifer plantation, travelling, male	suitable nesting habitat; possible breeder	AR
SH005	Breeding Raptor Transect	22/04/2021	10:37	Sparrowhawk	1	conifer plantation, soaring, female over plantation	suitable nesting habitat; possible breeder	AR
SH008	Breeding Raptor Transect	29/06/2021	12:27	Sparrowhawk	1	conifer plantation, soaring, female over plantation	suitable nesting habitat; possible breeder	AR
SH009	Breeding Raptor Transect	29/06/2021	12:49	Sparrowhawk	1	conifer plantation, travelling, female	suitable nesting habitat; possible breeder	AR
SH010	Breeding Raptor Transect	07/07/2021	16:17	Sparrowhawk	1	bogs and conifer plantation, soaring, female	suitable nesting habitat; possible breeder	AR
SH011	Breeding Raptor Transect	24/07/2021	12:57	Sparrowhawk	1	conifer plantation, travelling, female	suitable nesting habitat; possible breeder	AR
SH012	Breeding Raptor Transect	24/07/2021	13:00	Sparrowhawk	1	conifer plantation, travelling/soaring, female/imm	suitable nesting habitat; possible breeder	AR
SH013	BRVP2	27/04/2022	08:00	Sparrowhawk	1	conifer plantation and cutover bog, fly	suitable nesting habitat; possible breeder	ZE
SH014	BRVP2	27/04/2022	10:39	Sparrowhawk	1	cutover bog and conifer plantation, fly e, hunt, transect	suitable nesting habitat; possible breeder	ZE

Breeding Raptor Surveys								
Ref.	BR	Date	Time	Species	Number	Habitat and activity	Breeding status	Surveyor
SH015	BRVP2	25/05/2022	08:35	Sparrowhawk	1	conifer plantation and cutover bog, fly sw, hunt	suitable nesting habitat; possible breeder	ZE
SH016	BRVP2	25/05/2022	11:34	Sparrowhawk	1	cutover bog, improved agricultural grassland and highly modified/non-native woodland, fly, hunt	suitable nesting habitat; possible breeder	ZE
SH017	BRVP2	21/06/2022	10:34	Sparrowhawk	1	cutover bog and conifer plantation, hunt	suitable nesting habitat; possible breeder	ZE
SH018	ML VP	29/07/2022	08:46	Sparrowhawk	1	conifer plantation and cutover bog, fly into clearfell, male	suitable nesting habitat; possible breeder	ZE
SH019	ML VP	29/07/2022	09:07	Sparrowhawk	1	cutover bog and conifer plantation, fly from bog to forestry w, male; tractor went into bog at 09:05am	suitable nesting habitat; possible breeder	ZE

Table 7-4-23-4 Sparrowhawk Winter Walkover Survey Data

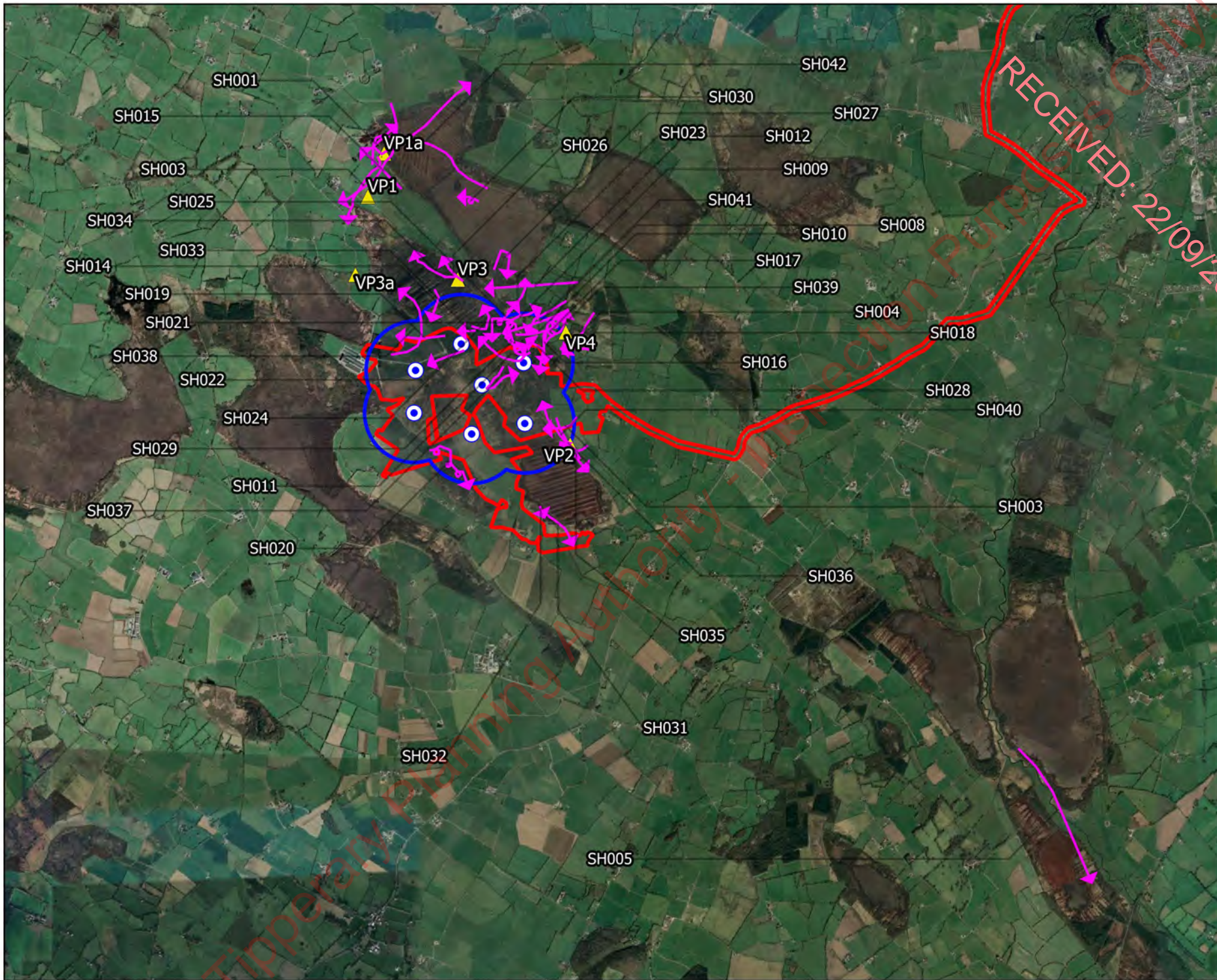
Winter Walkover Surveys						
Ref.	Date	Time	Species	Number	Habitat and activity	Surveyor
SH001	25/03/2021	10:10	Sparrowhawk	2	highly modified/non-native woodland; soaring, height 25-35mts (wintering)	AR
SH002	25/03/2021	12:59	Sparrowhawk	1	mixed broadleaved/conifer woodland; soaring, height 40m (wintering)	AR

Table 7-4-23-5 Sparrowhawk Incidental Data

Incidental Observations							
Ref.	Location	Date	Time	Species	Number	Habitat and activity	Surveyor
SH001	Hen Harrier Roost Survey; HHVP2	16/12/2020	08:30	Sparrowhawk	1	bogs and highly modified/non-native woodland; travelling, adult female	AR

SH002	Hen Harrier Roost Survey; HHVP4	29/12/2020	15:41	Sparrowhawk	1	bogs; hunting, female	AR
SH003	Hen Harrier Roost Survey; HHVP3	30/12/2020	09:20	Sparrowhawk	1	highly modified/non-native woodland, bogs, and hedgerows; hunting, male	AR
SH004	Hen Harrier Roost Survey; HHVP4	29/01/2021		Sparrowhawk	1	bogs and conifer plantation; hunting, female	AR
SH005	Hen Harrier Roost Survey; HHVP4	29/01/2021		Sparrowhawk	1	bogs and conifer plantation; hunting, female	AR
SH006	Hen Harrier Roost Survey; HHVP3	26/02/2021	17:11	Sparrowhawk	1	bogs and highly modified/non-native woodland; travelling, height 3 meters	AR
SH007	Hen Harrier Roost Survey; HHVP4	11/11/2021	14:36	Sparrowhawk	1	bogs and highly modified/non-native woodland; hunting, low over bog	AR
SH008	Vantage Point Survey; Sharragh bog	14/12/2021	13:24	Sparrowhawk	1	improved agricultural grassland, bogs, and linear woodland/scrub; travelling, flew across from fields whilst I was walking back to car. female.	PDC
SH009	Hen Harrier Roost Survey; Sharragh	06/02/2022	16:29	Sparrowhawk	1	bogs; hunting, low over bog female	AR
SH010	Wildfowl Distribution Survey; Between Stream and Ashton Callows bird hide	26/04/2022	13:23	Sparrowhawk	1	improved agricultural grassland; perched on branch over road, adult male	NL
SH011	Breeding Woodcock Survey; Sharragh T1	07/06/2022	21:08	Sparrowhawk	1	conifer plantation; feather only	KG
SH012	Hen Harrier Roost Survey; HHVP2	24/01/2023	16:04	Sparrowhawk	1	bogs; displaying, display flight early morning, directly overhead	CF
SH013	Hen Harrier Roost Survey; HHVP2	24/01/2023	16:05	Sparrowhawk	1	bogs; displaying, counter-displaying to bird that arrived from the west early-morning	CF
SH014	Hen Harrier Roost Survey; HHVP2	06/03/2023	14:08	Sparrowhawk	1	bogs; display flight	CF





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- ### Map Legend
- EIAR Site Boundary
  - Turbine Layout
  - 500m Radius of Turbines
  - Flight Observation



Drawing Title: Sparrowhawk Observations Vantage Point Surveys

Project Title: Carrig Renewables Wind Farm

Drawn By: S. Duff	Checked By: D. Woods
Project No.: 211016	Drawing No.: 7.4.23.1
Scale: 1:50000	Date: 28.07.2023

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**Map Legend**

- EIA Site Boundary
- Turbine Layout
- 500m Survey Area
- Flight Observation

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SH014  
SH013  
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SH017  
SH005  
SH008  
SH016  
SH006  
SH002  
SH015



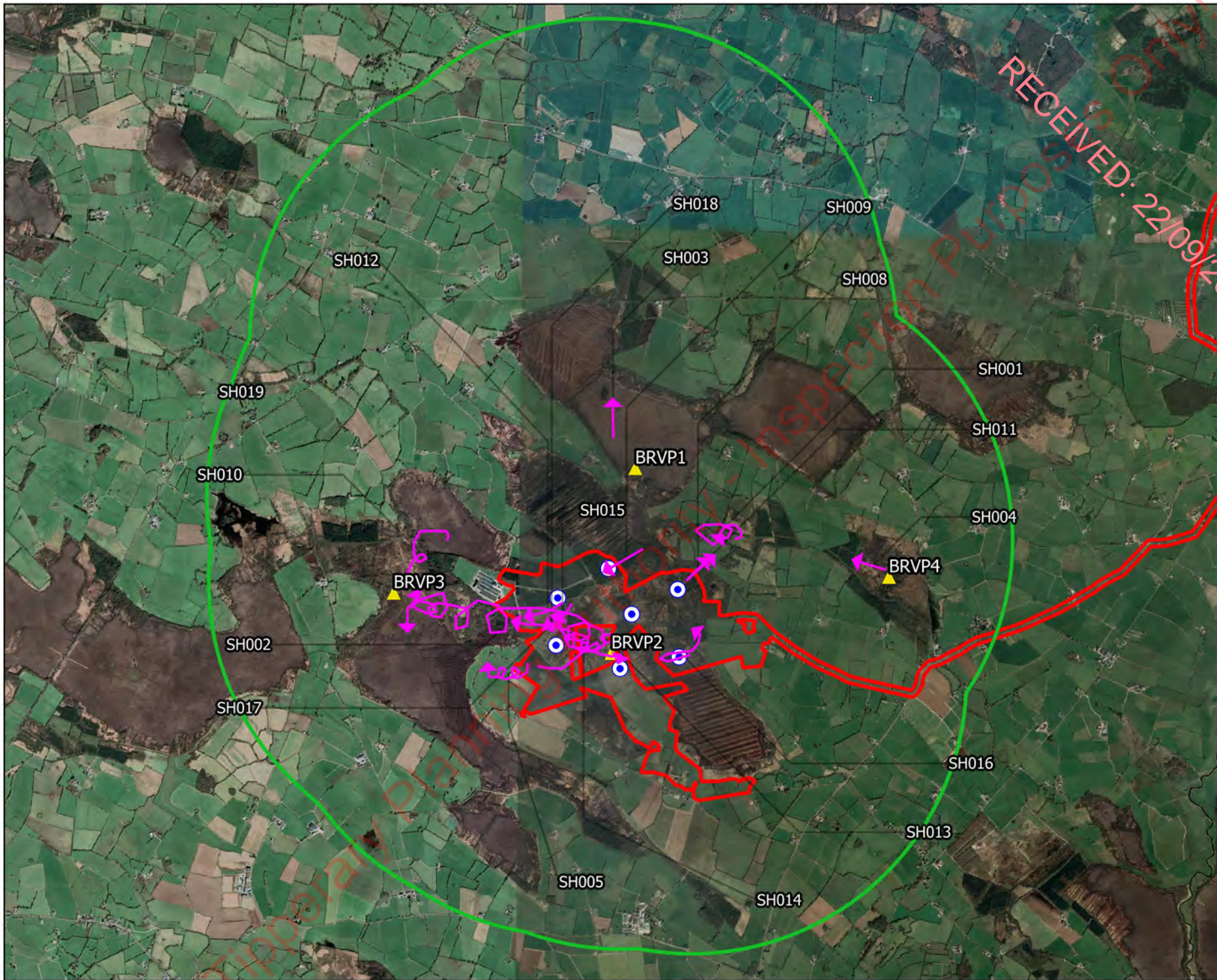
Drawing Title:  
**Sparrowhawk Observations  
Breeding Walkover Surveys**

Project Title:  
**Carrig Renewables Wind Farm**

Drawn By: <b>S. Duff</b>	Checked By: <b>D. Woods</b>
Project No. <b>211016</b>	Drawing No. <b>7.4.22.2</b>
Scale <b>1:35000</b>	Date <b>28.07.2023</b>

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### Map Legend

- EIAR Site Boundary
- Turbine Layout
- 2km Survey Area
- ▲ BRVP Locations
- ➔ Flight Observation



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Drawing Title: <b>Sparrowhawk Observations Breeding Raptor Surveys</b>	
Project Title: <b>Carrig Renewables Wind Farm</b>	
Drawn By: <b>S. Duff</b>	Checked By: <b>D. Woods</b>
Project No: <b>211016</b>	Drawing No.: <b>7.4.23.3</b>
Scale: <b>1:45000</b>	Date: <b>28.07.2023</b>
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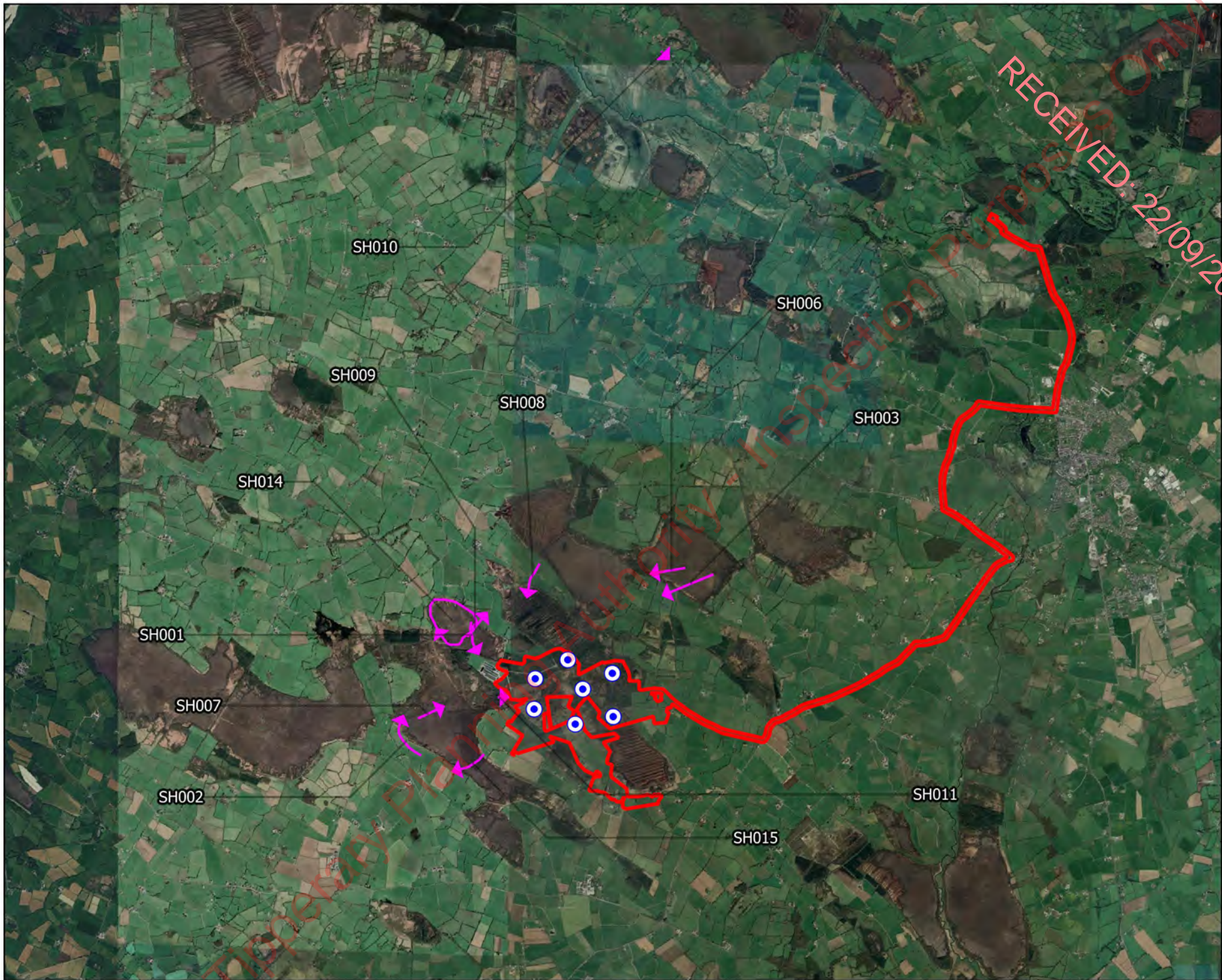
**Map Legend**

- EIA Site Boundary
- Turbine Layout
- 500m Survey Area
- Flight Observation



Drawing Title: <b>Sparrowhawk Observations Winter Walkover Surveys</b>	
Project Title: <b>Carrig Renewables Wind Farm</b>	
Drawn By: <b>S. Duff</b>	Checked By: <b>D. Woods</b>
Project No. <b>211016</b>	Drawing No. <b>7.4.23.4</b>
Scale <b>1:35000</b>	Date <b>28.07.2023</b>
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### Map Legend

- EIAR Site Boundary
- Turbine Layout
- Observation



Drawing Title:  
**Sparrowhawk Observations  
Incidental Records**

Project Title:  
**Carrig Renewables Wind Farm**

Drawn By	Checked By
<b>S. Duff</b>	<b>D. Woods</b>
Project No.	Drawing No.
<b>211016</b>	<b>7.4.23.5</b>
Scale	Date
<b>1:70000</b>	<b>28.07.2023</b>

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