



APPENDIX 8-7

CONFIDENTIAL SURVEY DATA

Appendix 8-7 – Confidential Survey Data

Proposed Cahermurphy Two Windfarm





DOCUMENT DETAILS

Client: **Mid Clare Renewable Energy Wind Farm Ltd.**

Project Title: **Proposed Cahermurphy Two Windfarm**

Project Number: **170238**

Document Title: **Appendix 8-7 – Confidential Survey Data**

Document File Name: **170238 – EIAR – 2020.09.18– F**

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1.



APPENDIX 8-7 (CONFIDENTIAL CORE SURVEY DATA)

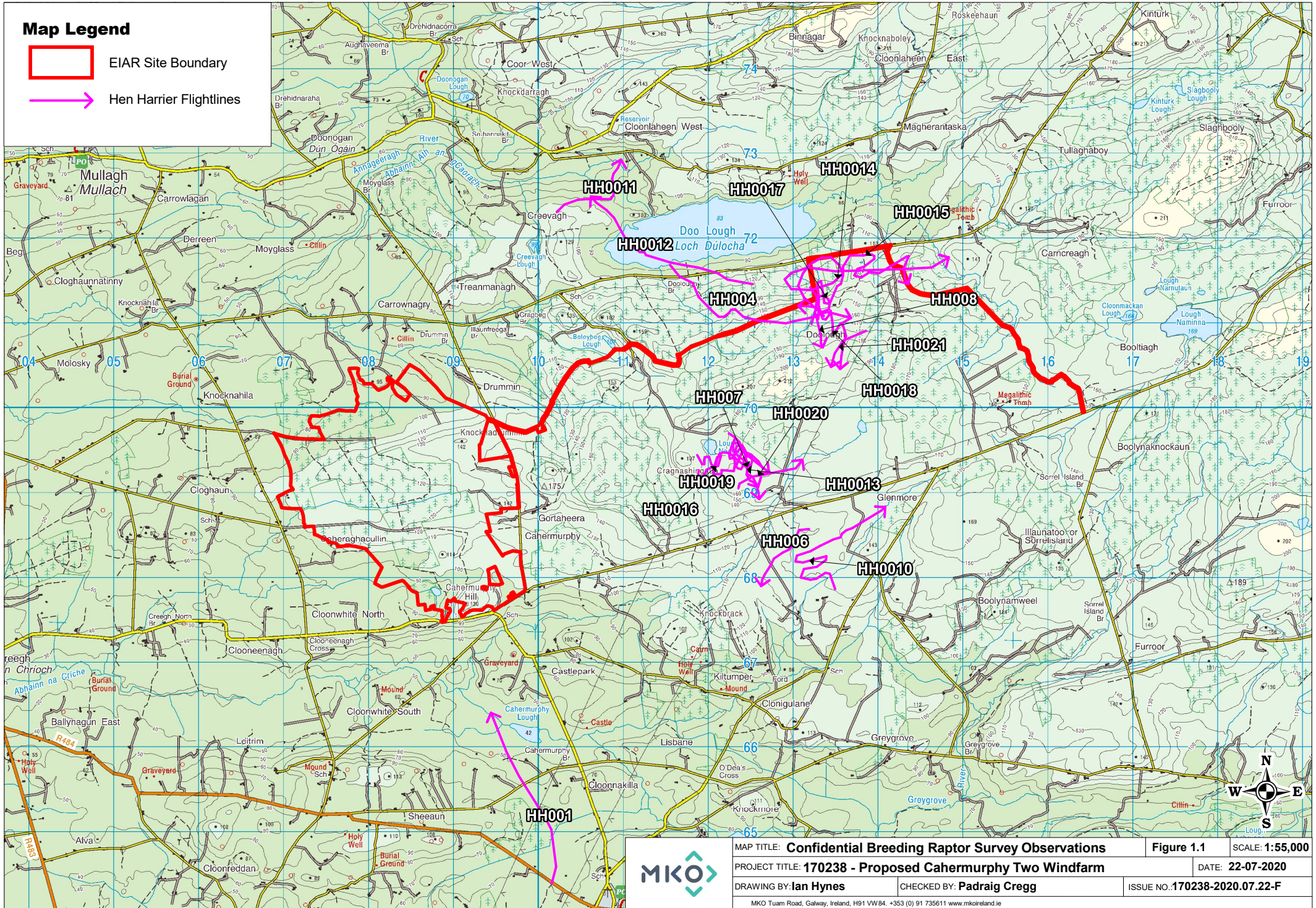
Table 1-1 Hen Harrier Core Breeding Raptor Survey Data

Reference No.	Date	HHVP	Species Name	No. of Birds	Time of flight	Duration of flight (s)	Habitat	Activity	Notes on habitat and activity	Comments	Surveyor
HH001	09/05/2017		Hen Harrier	2	02:30:00			Pair		Traveling South in band two. Male approximately 80m in front of female in flight	JK
HH002	15/05/2017		Hen Harrier	1	11:20:00			Female		Foraging in band 1	JK
HH003	12/06/2017		Hen Harrier	1	09:14:00	42		Female northside of site. Heading west. Foraging / hunting		Female northside of site. Heading west. Foraging / hunting	JK
HH005	26/06/2017		Hen Harrier	1	10:35:00	34		Male travelling west. Just North of P3		Male travelling west. Just North of P3	JK
HH009	30/05/2018		Hen Harrier	1	17:52:00	"25"	PB2, (Upland blanket bog) WD4, (Conifer plantation)	In flight	PB2, (Upland blanket bog) WD4, (Conifer plantation) In flight	Brief view of Male Hen Harrier flying in north easterly direction.	TK

Reference No.	Date	HHVP	Species Name	No. of Birds	Time of flight	Duration of flight (s)	Habitat	Activity	Notes on habitat and activity	Comments	Surveyor
HH0011	10/06/2018	Area 5	Hen Harrier	1	14:22:00	"30"	GA1, (Improved agricultural grassland) PB2, (Upland blanket bog)	In flight	GA1, (Improved agricultural grassland) PB2, (Upland blanket bog) In flight	Male Hen Harrier observed in flight.	TK
HH0017	18/05/2019	RVP1	Hen Harrier	1	13:42:00	188	PB2, (Upland blanket bog) WD4, (Conifer plantation)	Alarm calling	PB2, (Upland blanket bog) WD4, (Conifer plantation) Alarm calling	Male Hen Harrier approached as I was walking a transect, started alarm calling and flying over me, 1m height. As I retreated, it flew in general direction of last years suspected nesting area.	TK

Map Legend

-  EIAR Site Boundary
-  Hen Harrier Flightlines






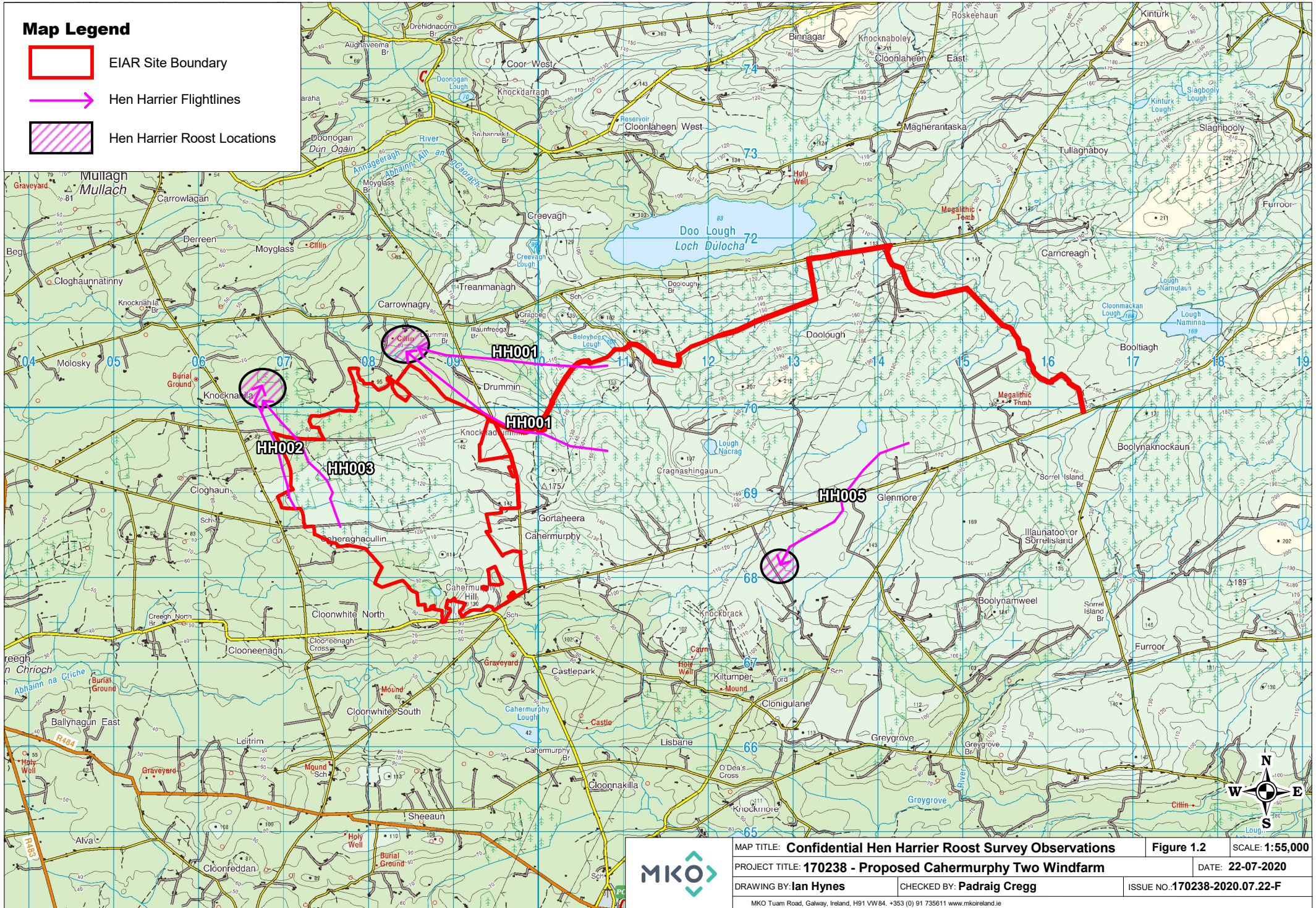
MAP TITLE: Confidential Breeding Raptor Survey Observations	Figure 1.1	SCALE: 1:55,000
PROJECT TITLE: 170238 - Proposed Cahermurphy Two Windfarm	DATE: 22-07-2020	
DRAWING BY: Ian Hynes	CHECKED BY: Padraig Cregg	ISSUE NO.: 170238-2020.07.22-F
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Table 1-2 Hen Harrier Core Hen Harrier Roost Survey Data

Map Ref. No.	Date	HHVP	Species Name	No. of Birds	Time of flight	Duration of flight (s)	Habitat	Activity	Notes on habitat and activity	Comments	Surveyor
HH001	11/12/2017	HHVP10	Hen Harrier	1	15:53		PB4, (Cutover bog)	Male came in to roost	PB4, (Cutover bog) Male came in to roost	To roost	JK
HH002	23/01/2018	HHVP4	Hen Harrier	1	15:35		PB4, (Cutover bog) WD4, (Conifer plantation)	Female came into roost	Female came into roost	Female came into roost	JK
HH003	02/10/2018	HHVP4	Hen Harrier	1	18:12:00			Outside buffer	To roost	To roost	JK
HH005	13/12/2018	HHVP1	Hen Harrier	2		83	PB3, (Lowland blanket bog)	Travelling to roost	PB3, (Lowland blanket bog) Travelling to roost	M+F	JK

Map Legend

-  EIAR Site Boundary
-  Hen Harrier Flightlines
-  Hen Harrier Roost Locations






MAP TITLE: Confidential Hen Harrier Roost Survey Observations		Figure 1.2	SCALE: 1:55,000
PROJECT TITLE: 170238 - Proposed Cahermurphy Two Windfarm		DATE: 22-07-2020	
DRAWING BY: Ian Hynes	CHECKED BY: Padraig Cregg	ISSUE NO.: 170238-2020.07.22-F	
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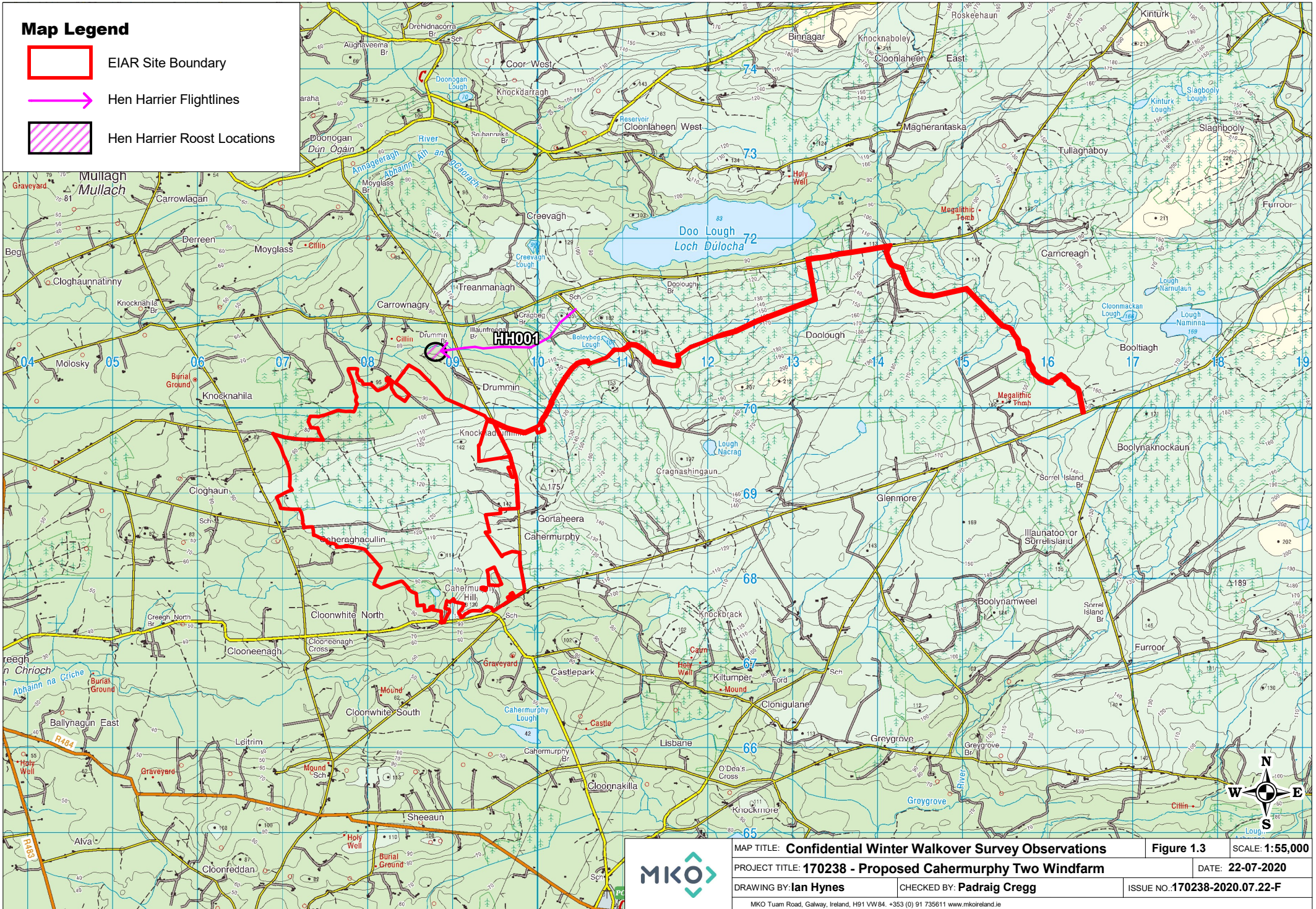


Table 1-3 Hen Harrier Core Winter Walkover Survey Data

Final Ref. No.	Survey Date	Trans No.	Time of observation	Species	Target Species	Number of birds	Sex/age	Habitat	Activity	Habitat and Activity	Comments	Surveyor
HH001	29/01/2019		15:40:00	Hen Harrier	Y	2			going to roost/roosting		male	JK

Map Legend

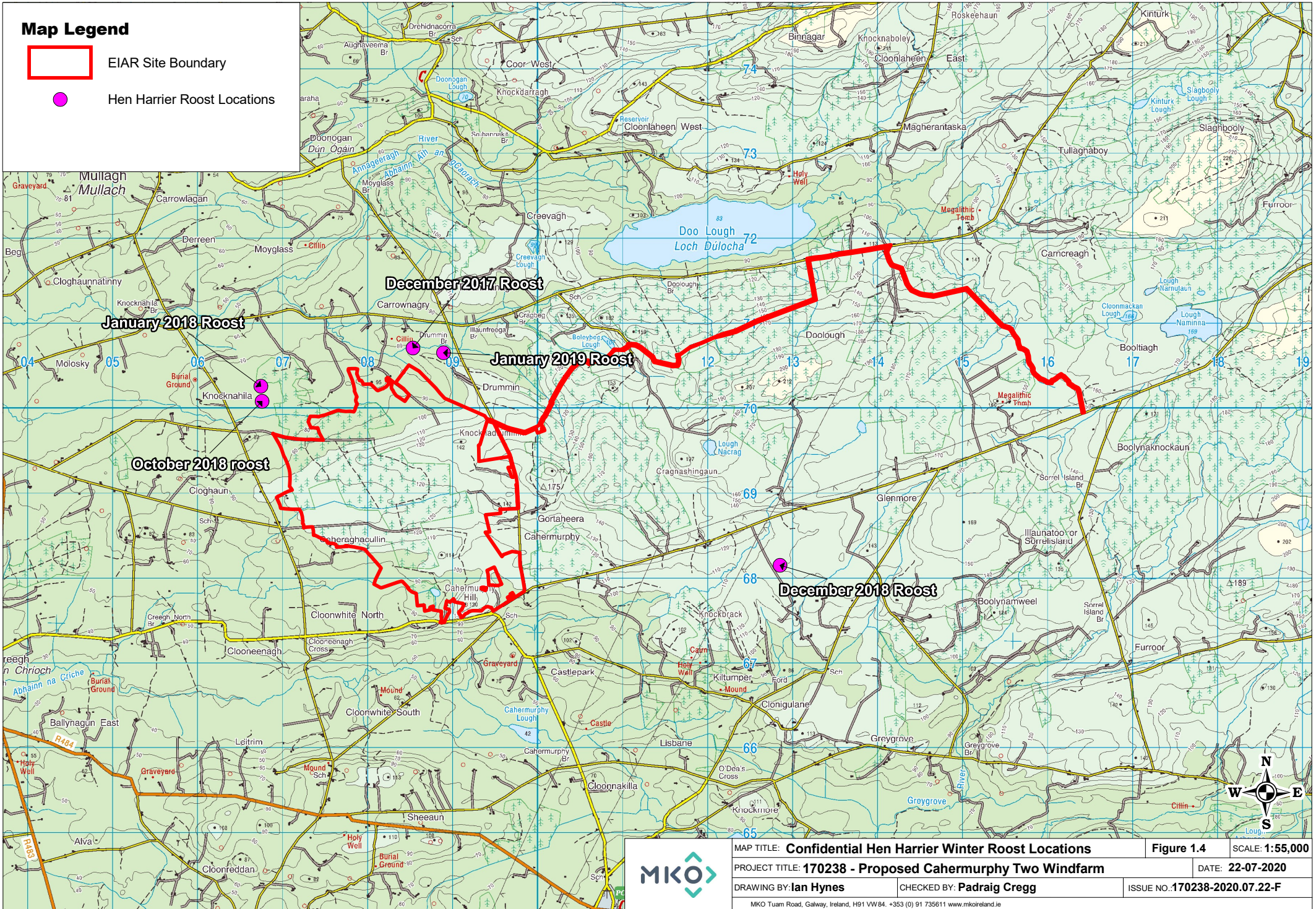
-  EIAR Site Boundary
-  Hen Harrier Flightlines
-  Hen Harrier Roost Locations



	MAP TITLE: Confidential Winter Walkover Survey Observations		Figure 1.3	SCALE: 1:55,000
	PROJECT TITLE: 170238 - Proposed Cahermurphy Two Windfarm			DATE: 22-07-2020
	DRAWING BY: Ian Hynes	CHECKED BY: Padraig Cregg	ISSUE NO.: 170238-2020.07.22-F	
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Map Legend

- EIAR Site Boundary
- Hen Harrier Roost Locations



December 2017 Roost

January 2018 Roost

January 2019 Roost




October 2018 roost

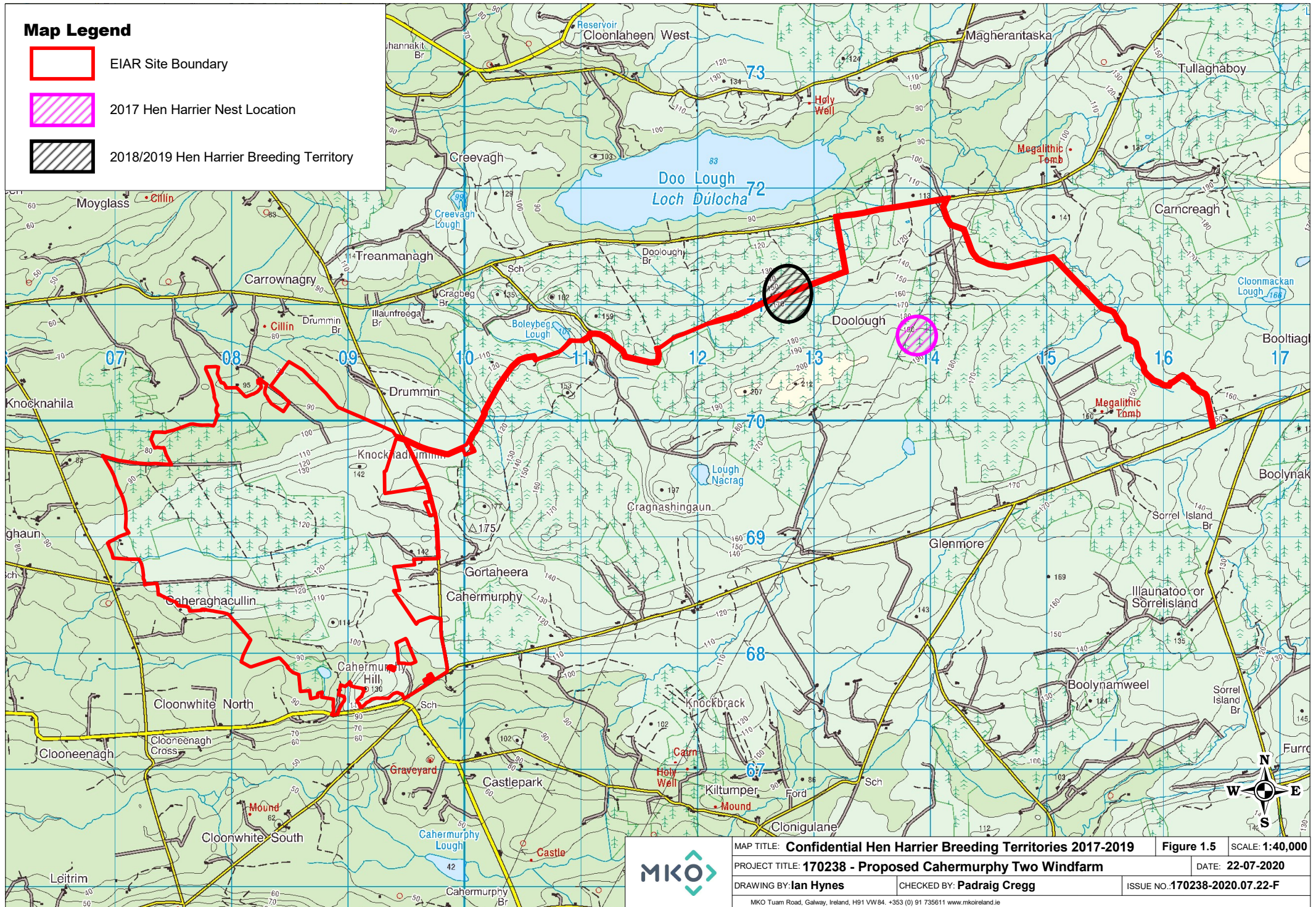
December 2018 Roost



MAP TITLE: Confidential Hen Harrier Winter Roost Locations	Figure 1.4	SCALE: 1:55,000
PROJECT TITLE: 170238 - Proposed Cahermurphy Two Windfarm	DATE: 22-07-2020	
DRAWING BY: Ian Hynes	CHECKED BY: Padraig Cregg	ISSUE NO.: 170238-2020.07.22-F
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Map Legend

-  EIAR Site Boundary
-  2017 Hen Harrier Nest Location
-  2018/2019 Hen Harrier Breeding Territory



MAP TITLE: Confidential Hen Harrier Breeding Territories 2017-2019	Figure 1.5	SCALE: 1:40,000
PROJECT TITLE: 170238 - Proposed Cahermurphy Two Windfarm	DATE: 22-07-2020	
DRAWING BY: Ian Hynes	CHECKED BY: Padraig Cregg	ISSUE NO.: 170238-2020.07.22-F
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2. APPENDIX 8-7 (CONFIDENTIAL NON-CORE SURVEY DATA)

Table 2-1 Hen Harrier Non-Core Vantage Point Survey Data

Final Ref No.	Date	VP	Species	No. of Birds	Time of flight	Duration of flight (s)	Band 1 (0-10m)	Band 2 (10-25m)	Band 3 PCH (25-175m)	Band 4 (>175m)	Notes on habitat and activity	Comments	Surveyor
HH001	20/04/2017	VP5	Hen Harrier	1	13:20:00	5		5			PB2, (Upland blanket bog) Displaying	Female	JM
HH002	20/04/2017	VP5	Hen Harrier	1	17:03:00	4		4			PB2, (Upland blanket bog) Travelling	Male	JM
HH003	21/04/2017	VP6	Hen Harrier	1	10:05:00	2	2				PB3, (Lowland blanket bog) Travelling	Male	JM
HH004	10/05/2017	VP5	Hen Harrier	1	19:34:00	42	42				PB2,(Upland blanket bog)WD4, Conifer plantation)Quartering over habitat	Male	JM
HH005	27/06/2017	VP5	Hen Harrier	1	08:40:00	5	5				PB2, (Upland blanket bog) Travelling	Male	JM
HH006	27/06/2017	VP5	Hen Harrier	1	11:15:00	8	3	5			WD4, (Conifer plantation)PB2, (Upland blanket bog)Quartering then flew West	Male	JM
HH007	27/06/2017	VP5	Hen Harrier	1	13:20:00	15	10	5			PB2, (Upland blanket bog) WD4, (Conifer plantation)Travelling/Quartering	Male	JM
HH008	27/06/2017	VP5	Hen Harrier	1	15:10:00	30		24	6		WD4, (Conifer plantation) Hovering and soaring over conifers	Male	JM
HH009	27/06/2017	VP5	Hen Harrier	1	15:55:00	45	14	31			WD4, (Conifer plantation) GS1, (Dry calcareous grassland and neutral grassland) Travelling/Quartering Dropped to ground and then flew up twice disappeared to NE	Male	JM

Final Ref No.	Date	VP	Species	No. of Birds	Time of flight	Duration of flight (s)	Band 1 (0-10m)	Band 2 (10-25m)	Band 3 PCH (25-175m)	Band 4 (>175m)	Notes on habitat and activity	Comments	Surveyor
HH0010	28/06/2017	VP6	Hen Harrier	1	12:10:00	40		35	5		WD4, (Conifer plantation) PB2, (Upland blanket bog) Hunting over tree tops	Male	JM
HH0011	28/06/2017	VP6	Hen Harrier	1	16:58:00	17	5	12			WD4, (Conifer plantation) PB2, (Upland blanket bog) Travelling/Hunting	Male	JM
HH0012	11/07/2017	VP5	Hen Harrier	1	15:20:00	21		13	8		WD4, (Conifer plantation)PB2, (Upland blanket bog) Circling and Soaring		JM
HH0013	11/07/2017	VP5	Hen Harrier	1	15:23:00	33		15	8	10	WD4, (Conifer plantation) PB2, (Upland blanket bog) Circling and Soaring above Pylon		JM
HH0014	11/07/2017	VP5	Hen Harrier	1	15:35:00	10		10			WD4, (Conifer plantation) PB2, (Upland blanket bog) Travelling above treeline		JM
HH0015	11/07/2017	VP5	Hen Harrier	1	16:41:00	22		22			WD4, (Conifer plantation) PB2, (Upland blanket bog) Travelling with prey		JM
HH0016	11/07/2017	VP5	Hen Harrier	1	17:10:00	16		16			WD4, (Conifer plantation) PB2, (Upland blanket bog) Circling and Soaring		JM
HH0017	11/07/2017	VP5	Hen Harrier	1	17:27:00	70		54	16		WD4,(Conifer plantation)PB2,(Upland blanket bog)Travelled to male for food pass		JM
HH0018	11/07/2017	VP5	Hen Harrier	1	17:27:00	41		30	11		WD4, (Conifer plantation) PB2, (Upland blanket bog) Brought prey for female from site		JM
HH0019	11/07/2017	VP5	Hen Harrier	1	19:05:00	10		10			WD4, (Conifer plantation) PB2, (Upland blanket bog) Flew into cove		JM

Final Ref No.	Date	VP	Species	No. of Birds	Time of flight	Duration of flight (s)	Band 1 (0-10m)	Band 2 (10-25m)	Band 3 PCH (25-175m)	Band 4 (>175m)	Notes on habitat and activity	Comments	Surveyor
HH0020	11/07/2017	VP5	Hen Harrier	1	19:40:00	16		16			WD4, (Conifer plantation) PB2, (Upland blanket bog) Hunting		JM
HH0021	11/07/2017	VP5	Hen Harrier	1	21:07:00	11		11			WD4, (Conifer plantation) PB2, (Upland blanket bog) Circled and descended		JM
HH0022	12/07/2017	VP6	Hen Harrier	1	10:45:00	100	25	45	30		WD4, (Conifer plantation) PB2, (Upland blanket bog) Food pass with male		JM
HH0023	12/07/2017	VP6	Hen Harrier	1	10:45:00	70		59	21		WD4, (Conifer plantation) PB2, (Upland blanket bog) Food pass with female		JM
HH0024	12/07/2017	VP6	Hen Harrier	1	11:00:00	22	22				WD4, (Conifer plantation) PB2, (Upland blanket bog) Travelling/hunting		JM
HH0025	12/07/2017	VP6	Hen Harrier	1	12:09:00	52	5	32	15		WD4, (Conifer plantation) PB2, (Upland blanket bog) Circling/Soaring/Flew to ground		JM
HH0025	12/07/2017	VP6	Hen Harrier	1	15:16:00	52		36	16		WD4, (Conifer plantation) PB2, (Upland blanket bog) Travelling		JM
HH0026	12/07/2017	VP6	Hen Harrier	1	15:19:00	125	3	5	92	25	WD4, (Conifer plantation) PB2, (Upland blanket bog) Circling/Soaring/Descending/Ascending		JM
HH0027	12/07/2017	VP6	Hen Harrier	1	15:25:00	30		30			WD4, (Conifer plantation) PB2, (Upland blanket bog) Perched near VP then flew NW into site area		JM
HH0028	12/07/2017	VP6	Hen Harrier	1	16:01:00	26		26			PB2,(Upland blanket bog)WD4,(Conifer plantation)Flew in with food pass		JM
HH0029	12/07/2017	VP6	Hen Harrier	1	16:14:00	40		40			PB2,(Upland blanket bog) WD4, (Conifer plantation)Flew to chase of HC pair		JM

Final Ref No.	Date	VP	Species	No. of Birds	Time of flight	Duration of flight (s)	Band 1 (0-10m)	Band 2 (10-25m)	Band 3 PCH (25-175m)	Band 4 (>175m)	Notes on habitat and activity	Comments	Surveyor
HH0030	12/07/2017	VP6	Hen Harrier	1	16:42:00	19	9	10			PB2,(Upland blanket bog) PB2, (Upland blanket bog) Food pass with male		JM
HH0031	12/07/2017	VP6	Hen Harrier	1	16:42:00	19	9	10			PB2, (Upland blanket bog) PB2, (Upland blanket bog) Food pass with female		JM
HH0032	12/07/2017	VP6	Hen Harrier	2	17:17:00	54		30	24		PB2, (Upland blanket bog) WD4, (Conifer plantation)Two males flying together		JM
HH0033	12/07/2017	VP6	Hen Harrier	1	16:04:00	37		37			PB2, (Upland blanket bog) WD4, (Conifer plantation) Food pass		JM
HH0034	20/09/2017	VP4	Hen Harrier	1	16:45:00	30	30				PB2, (Upland blanket bog) Travelling	Male	PM
HH0034	20/09/2017	VP4	Hen Harrier	1	17:47:00	114		114			PB2, (Upland blanket bog) WD4, (Conifer plantation) Hunting	Male	PM
HH0036	01/11/2017	VP6	Hen Harrier	1	15:21:00	78			78		PB4, (Cutover bog) WD4, (Conifer plantation) Soaring	Adult Female	JK
HH0037	09/01/2018	VP5	Hen Harrier	1	14:50:00	56			56		PB4, (Cutover bog) Travelling	Adult Male	JK
HH0038	21/04/2018	VP4	Hen Harrier	1	10:42:00	1860			120	120	PB2, (Upland blanket bog) WD4, (Conifer plantation)Mostly circling high, up to c.650 metres; sky danced twice	male	P.Troake
HH0039	21/04/2018	VP4	Hen Harrier	1	11:13:00	420			45	45	WD4, (Conifer plantation) PB2, (Upland blanket bog) GA1, (Improved agricultural grassland) Mostly circling high, to about 750 metres	second bird, visible at same time as first - male	P.Troake
HH0040	21/04/2018	VP4	Hen Harrier	1	14:33:00	310			120	100	WD4, (Conifer plantation) Skydancing for whole flight, up to c.250 metres		P.Troake

Final Ref No.	Date	VP	Species	No. of Birds	Time of flight	Duration of flight (s)	Band 1 (0-10m)	Band 2 (10-25m)	Band 3 PCH (25-175m)	Band 4 (>175m)	Notes on habitat and activity	Comments	Surveyor
HH0041	21/04/2018	VP4	Hen Harrier	1	15:43:00	95	95				PB2, (Upland blanket bog) Hunting, height 1-2m	Ringtail	P.Troake
HH0042	28/04/2018	VP5	Hen Harrier	1	10:08:00	100		100			WD4, (Conifer plantation) PB2, (Upland blanket bog)	Female	P.Troake
HH0043	28/04/2018	VP5	Hen Harrier	1	10:17:00	460		90	370		WD4, (Conifer plantation) Circled up to c.90m then drifted ESE	Male	P.Troake
HH0044	28/04/2018	VP5	Hen Harrier	1	10:19:00	35			35?		WD4, (Conifer plantation) PB2, (Upland blanket bog) Skydancing	>2km? Male Skydancing	P.Troake
HH0045	28/04/2018	VP5	Hen Harrier	1	10:32:00	10	10				PB2, (Upland blanket bog) Landed on top of hillock on bog; begging calls	Female	P.Troake
HH0046	28/04/2018	VP5	Hen Harrier	1	10:38:00	130	65	65			PB2, (Upland blanket bog) WD4, (Conifer plantation) Followed male at end of flight; begging calls	Female at Height 20m, dropped to 2m	P.Troake
HH0047	28/04/2018	VP5	Hen Harrier	1	10:39:00	195	170				PB2, (Upland blanket bog) WD4, (Conifer plantation)	Male	P.Troake
HH0048	28/04/2018	VP5	Hen Harrier	1	11:34:00	240	50	70	40		WD4, (Conifer plantation) Rose to c.35 metres	Female	P.Troake
HH0049	28/04/2018	VP5	Hen Harrier	1	12:13:00	65	65				PB2, (Upland blanket bog) WD4, (Conifer plantation)	Female, Height 1m	P.Troake
HH0050	28/04/2018	VP5	Hen Harrier	1	13:18:00	80		80			WD4, (Conifer plantation)	Male With prey	P.Troake
HH0051	28/04/2018	VP5	Hen Harrier	1	13:19:00	40		40			WD4, (Conifer plantation) Followed male	Female	P.Troake
HH0052	28/04/2018	VP5	Hen Harrier	1	14:41:00	100	90	10			PB2, (Upland blanket bog) WD4, (Conifer plantation)	Male	P.Troake

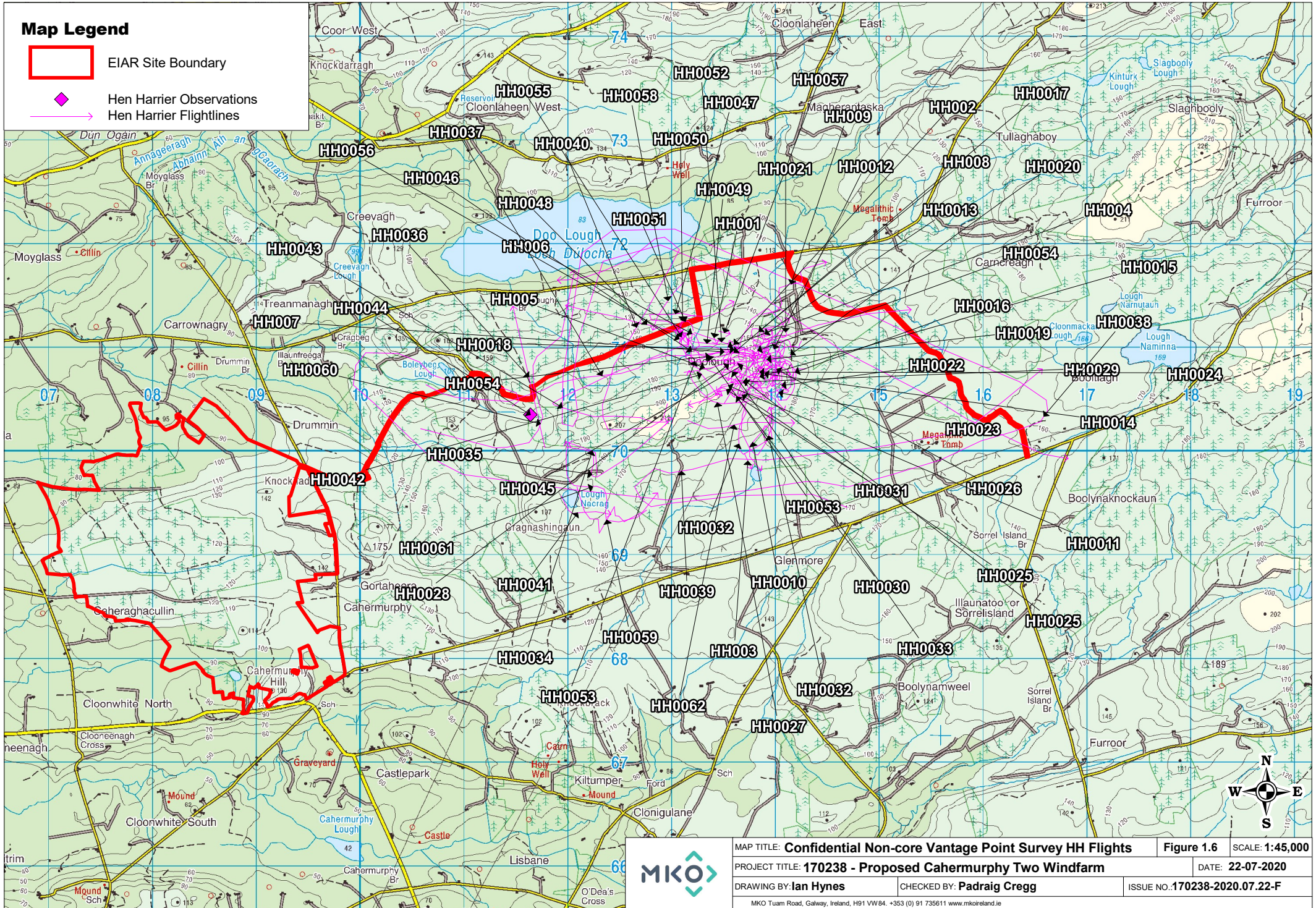
Final Ref No.	Date	VP	Species	No. of Birds	Time of flight	Duration of flight (s)	Band 1 (0-10m)	Band 2 (10-25m)	Band 3 PCH (25-175m)	Band 4 (>175m)	Notes on habitat and activity	Comments	Surveyor
HH0053	28/04/2018	VP5	Hen Harrier	1	15:19:00	700	60	90			PB2, WD4, (Conifer plantation) joined male (14); both circling for a few minutes around area circled on map - clearing under pylon line; followed male back across to cleared forestry area; attempted to catch Mallard	Female	P.Troake

Final Ref No.	Date	VP	Species	No. of Birds	Time of flight	Duration of flight (s)	Band 1 (0-10m)	Band 2 (10-25m)	Band 3 PCH (25-175m)	Band 4 (>175m)	Notes on habitat and activity	Comments	Surveyor
HH0054	28/04/2018	VP5	Hen Harrier	1	15:21:00	540	80	10			PB2, (Upland blanket bog) WD4, (Conifer plantation)	Male, Height variable, low at end of flight	P.Troake
HH0055	28/04/2018	VP5	Hen Harrier	1	15:37:00	20	20				WD4, (Conifer plantation)	female	P.Troake
HH0056	28/04/2018	VP5	Hen Harrier	1	15:38:00	45	20	25			WD4, (Conifer plantation)	male	P.Troake
HH0057	28/04/2018	VP5	Hen Harrier	1	16:00:00	8	8				PB2, (Upland blanket bog)	male	P.Troake
HH001	18/05/2018	VP2	Hen Harrier	1	14:25:00			128			PB4, (Cutover bog) WD4, (Conifer plantation) Foraging	Adult Male	JK
HH0058	06/07/2018	VP5	Hen Harrier	1	13:52:00	"20"		"20"			PB2, (Upland blanket bog) WD4, (Conifer plantation) Carrying prey in its talons to probable nest site.	Adult male seen briefly carrying prey in talons at tree top height before disappearing behind crest of hill.	TK
HH0059	07/07/2018	VP4	Hen Harrier	1	14:10:00	"50"	"40"	"10"			PB2, (Upland blanket bog) WD4, (Conifer plantation) Hunting	Male Hen Harrier hunting low to ground, approx. 2m above ground level.	TK
HH0060	27/11/2018	VP4	Hen Harrier	1	08:37:00	44		44			PB2, (Upland blanket bog) WD4, (Conifer plantation) Travelling	Adult Male	JK

Final Ref No.	Date	VP	Species	No. of Birds	Time of flight	Duration of flight (s)	Band 1 (0-10m)	Band 2 (10-25m)	Band 3 PCH (25-175m)	Band 4 (>175m)	Notes on habitat and activity	Comments	Surveyor
HH0061	14/12/2018	VP4	Hen Harrier	1	12:18:00	120	120				Hunting	Male Hen Harrier observed flying low over ground 2-5m above bog.	TK
HH002	30/01/2019	VP2	Hen Harrier	1	12:10:00	49					WD4, (Conifer plantation) GA1, (Improved agricultural grassland)	Adult Male	JK
HH003	26/02/2019	VP2	Hen Harrier	1	13:10:00	48	24	24			Travelling	female	JoeK
HH004	09/03/2019	VP2	Hen Harrier	1	12:02:00	135	125	10			PB2, (Upland blanket bog) WD4, (Conifer plantation) Hunting	Male Hen Harrier observed flying over conifer plantation before flying low to ground over area of bog/wet grassland.	TK
HH0062	20/03/2019	VP5	Hen Harrier	1	08:25:00			55			PB3, (Lowland blanket bog) WD4, (Conifer plantation) Foraging	Male	JK

Map Legend

- EIAR Site Boundary
- ◆ Hen Harrier Observations
- Hen Harrier Flightlines





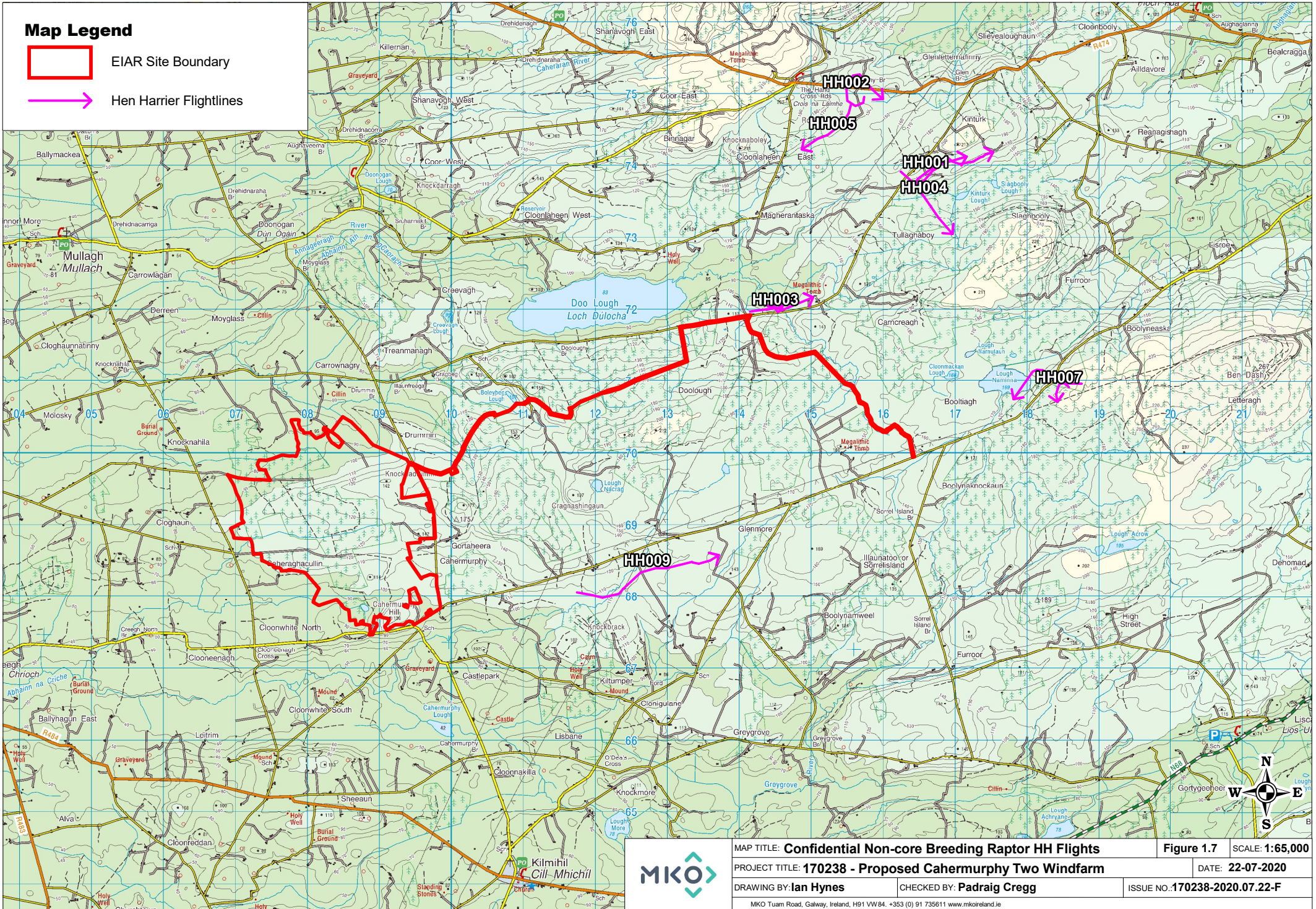
MAP TITLE: Confidential Non-core Vantage Point Survey HH Flights		Figure 1.6	SCALE: 1:45,000
PROJECT TITLE: 170238 - Proposed Cahermurphy Two Windfarm		DATE: 22-07-2020	
DRAWING BY: Ian Hynes	CHECKED BY: Padraig Cregg	ISSUE NO.: 170238-2020.07.22-F	
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Table 2-2 Hen Harrier Non-Core Breeding Raptor Survey Data

Final Ref No.	Date	HHVP	Species Name	No. of Birds	Time of flight	Duration of flight (s)	Notes on habitat and activity	Comments	Surveyor
HH001	11/05/2017	RVPC	Hen Harrier	1	09:50:00		GA1, (Improved agricultural grassland) PB2, (Upland blanket bog) WD4, (Conifer plantation) hunting along fields along forestry	Male	DM
HH002	07/06/2017	RVPE	Hen Harrier	1	10:25:00		PB2, (Upland blanket bog) WD4, (Conifer plantation) hunting over by forestry	Male	DM
HH003	07/06/2017	RVPD	Hen Harrier	1	15:20:00		PB2, (Upland blanket bog) WD4, (Conifer plantation) GA1, (Improved agricultural grassland) hunting over rough farmland.	made kill and ate it	DM
HH004	09/06/2017	RVPC	Hen Harrier	1	09:30:00		PB2, (Upland blanket bog) WD4, (Conifer plantation) GA1, (Improved agricultural grassland) Travelling high over farmland and forestry	Male flying high	DM
HH005	05/07/2017	RVP E	Hen Harrier	1	12:55:00			Hunting over bog and forestry	DM
HH006	05/07/2017	RVP E	Hen Harrier	1	16:30:00			Male hunting in rough farmland	DM
HH007	06/07/2017	RVP A	Hen Harrier	1	13:15:00			male hunting over heather and forestry	DM
HH008	06/07/2017	RVP A	Hen Harrier	1	14:36:00			male hunting - made a kill and carried it away	DM
HH009	04/07/2018	Area 1 VP 3	Hen Harrier	1	14:02:00	"60"	PB2, (Upland blanket bog) WD4, (Conifer plantation) In flight	Male Hen Harrier observed in flight approx. 10m above ground.	TK

Map Legend

-  EIAR Site Boundary
-  Hen Harrier Flightlines



MAP TITLE: Confidential Non-core Breeding Raptor HH Flights		Figure 1.7	SCALE: 1:65,000
PROJECT TITLE: 170238 - Proposed Cahermurphy Two Windfarm			DATE: 22-07-2020
DRAWING BY: Ian Hynes	CHECKED BY: Padraig Cregg	ISSUE NO.: 170238-2020.07.22-F	
<small>MKO Tuam Road, Galway, Ireland, H91 VW84. +353 (0) 91 735611 www.mkoireland.ie</small>			

Table 2-3 Hen Harrier Non-Core Breeding Walkover Survey Data

Final Reference No.	Survey Date	VP/Trans/Quad No.	Time of observation	Species	Number of birds	Sex/age	Habitat and Activity	comments	Surveyor
HH001	25/07/2017			Hen Harrier	1		GA1, (Improved agricultural grassland) PB2, (Upland blanket bog) WD4, (Conifer plantation), male	flying close to the ground and hunting	JM
HH002	25/07/2017			Hen Harrier	1		GA1, (Improved agricultural grassland) PB2, (Upland blanket bog) WD4, (Conifer plantation), female	flying close to the ground and hunting	JM
HH003	26/07/2017			Hen Harrier	1		GA1, (Improved agricultural grassland) PB2, (Upland blanket bog) WD4, (Conifer	flying low and hunting	JM

Final Reference No.	Survey Date	VP/Trans/Quad No.	Time of observation	Species	Number of birds	Sex/age	Habitat and Activity	comments	Surveyor
							plantation), male		
HH004	26/07/2017			Hen Harrier	1		GA1, (Improved agricultural grassland) PB2, (Upland blanket bog) WD4, (Conifer plantation), male	same male flying low and hunting	JM
HH005	26/07/2017			Hen Harrier	1		GA1, (Improved agricultural grassland) PB2, (Upland blanket bog) WD4, (Conifer plantation), male	same male flying low and hunting	JM
HH006	06/04/2018			Hen Harrier	1		Male Hen Harrier seen briefly in Flight.		TK






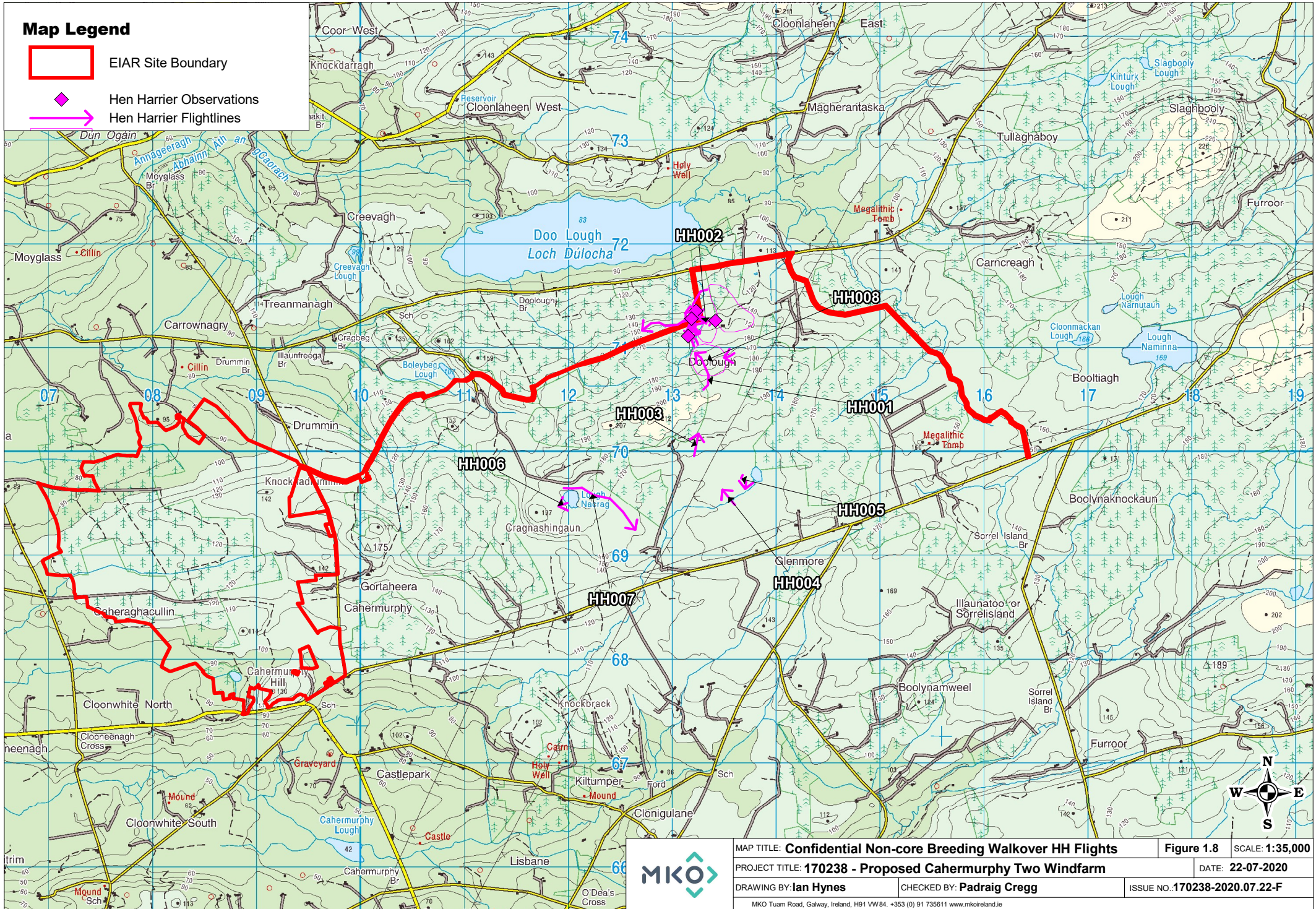
Final Reference No.	Survey Date	VP/Trans/Quad No.	Time of observation	Species	Number of birds	Sex/age	Habitat and Activity	comments	Surveyor
HH007	03/05/2018			Hen Harrier	1		GA1, (Improved agricultural grassland) PB2, (Upland blanket bog) WD4, (Conifer plantation)	In flight	TK

Final Reference No.	Survey Date	VP/Trans/Quad No.	Time of observation	Species	Number of birds	Sex/age	Habitat and Activity	comments	Surveyor
HH008	21/06/2018	A	12:39:00	Hen Harrier	1		PB4, (Cutover bog) GA1, (Improved agricultural grassland) WD4, (Conifer plantation)	male flew in low and started alarm calling. Spent apex 40 mins mobbing observer and calling. Spent 3 secs in band 1 and 25 secs in band two but majority in band three range. The bird retreated to the clear fell several times and went to ground briefly. 1-2 mins at a time. Then went to ground in clear fell for 45 mins. Observer retreated to VP5 for better view.	CM

Final Reference No.	Survey Date	VP/Trans/Quad No.	Time of observation	Species	Number of birds	Sex/age	Habitat and Activity	comments	Surveyor
HH008	21/06/2018	A	13:55:00	Hen Harrier	1		PB4, (Cutover bog) GA1, (Improved agricultural grassland) WD4, (Conifer plantation)	male rose from clear fell to mob observer at VP5 for 6 mins then landed on a clump of heather in the bog/field and continued to call.	CM
HH008	21/06/2018	A	14:16:00	Hen Harrier	1		PB4, (Cutover bog) GA1, (Improved agricultural grassland) WD4, (Conifer plantation)	male came up from bog flew at observer the flew away over forestry and landed in clear fell for two mins. It then flew north along the clear fell slowly perching along the way. It was lost out of sight behind conifers to the west at 14:26.	CM

Map Legend

-  EIAR Site Boundary
-  Hen Harrier Observations
-  Hen Harrier Flightlines





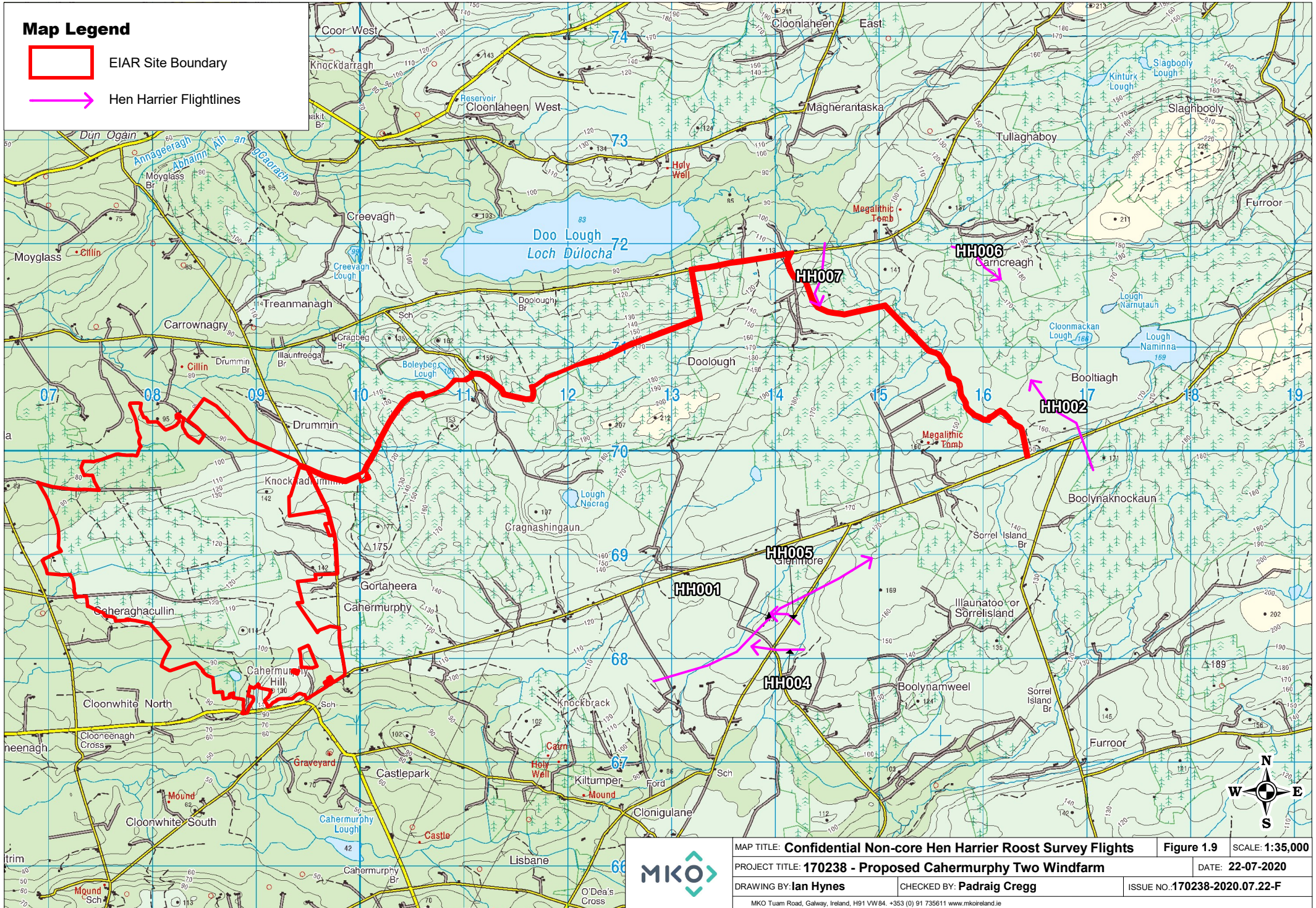
MAP TITLE: Confidential Non-core Breeding Walkover HH Flights		Figure 1.8	SCALE: 1:35,000
PROJECT TITLE: 170238 - Proposed Cahermurphy Two Windfarm		DATE: 22-07-2020	
DRAWING BY: Ian Hynes	CHECKED BY: Padraig Cregg	ISSUE NO.: 170238-2020.07.22-F	
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Table 2-4: Hen Harrier Non-core - Hen Harrier Roost Survey Records

Final Ref No.	Date	HHVP	Season	Species Name	Target Spp (N/Y)	No. of Birds	Time of flight	Notes on habitat and activity	Comments	Surveyor
HH001	10/10/2017	hhvp8	Non-breeding	Hen Harrier	Y	1	06:05:00	Heading north east	female	JK
HH002	08/12/2017	HHVP9	Non-breeding	Hen Harrier	Y	1	15:27:00	PB3, (Lowland blanket bog) PB4, (Cutover bog) Male came into roost, approx. 700m from road, 200m from wind turbine		JK
HH004	29/11/2018	8	Non-breeding	Hen Harrier	Y	1	15:03:00	PB3, (Lowland blanket bog) PB4, (Cutover bog) Roosting	Female	JK
HH005	29/11/2018	8	Non-breeding	Hen Harrier	Y	1	15:40:00	PB3, (Lowland blanket bog) PB4, (Cutover bog) Roosting	Female	JK
HH006	20/02/2018	3	Non-breeding	Hen Harrier	Y	1	16:21:00	PB3, (Lowland blanket bog) PB4, (Cutover bog)	Male	JK
HH007	20/02/2018	3	Non-breeding	Hen Harrier	Y	2	16:35:00	PB3, (Lowland blanket bog) PB4, (Cutover bog)	Female and Juv	JK






Map Legend

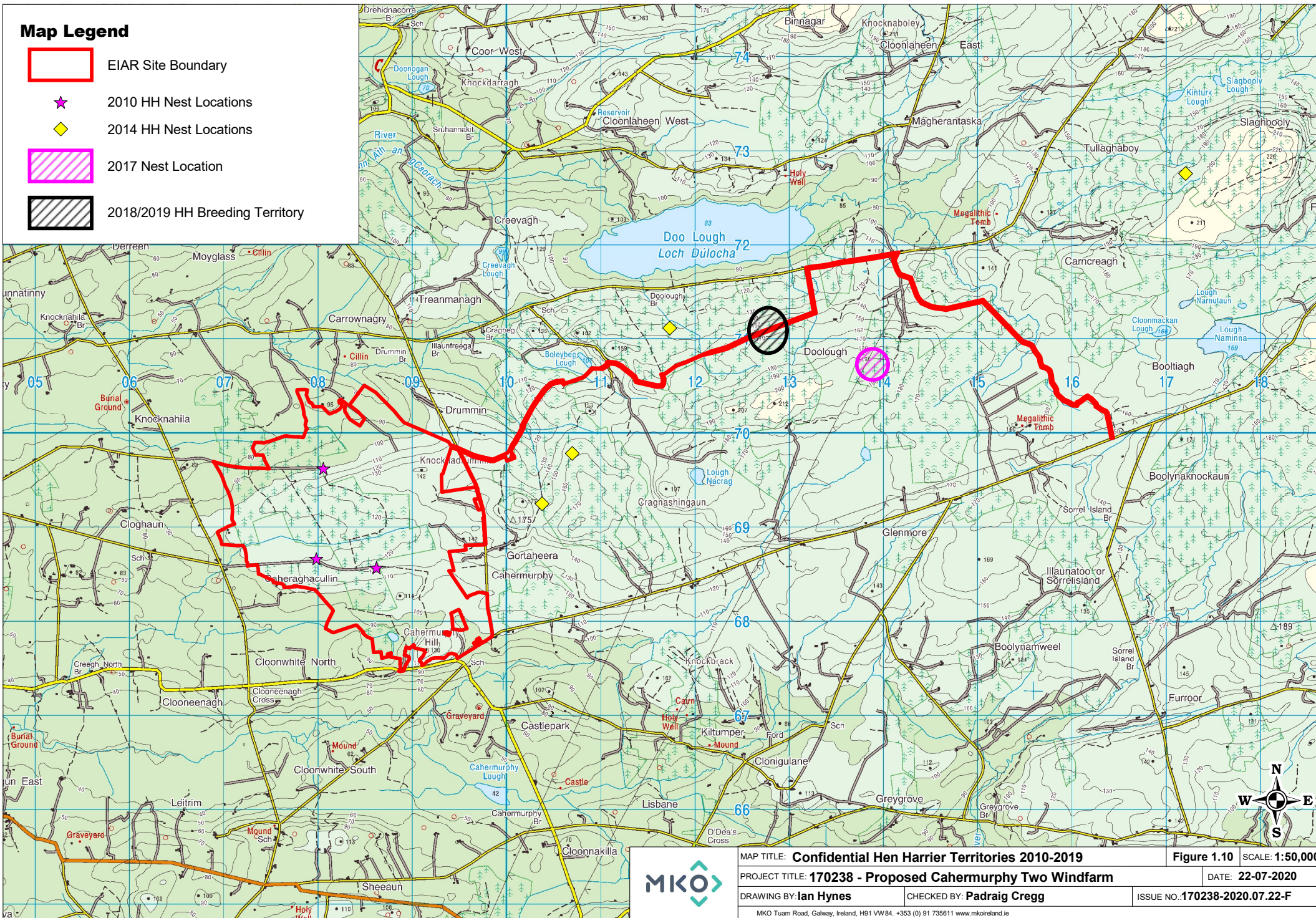
-  EIAR Site Boundary
-  Hen Harrier Flightlines



MAP TITLE: Confidential Non-core Hen Harrier Roost Survey Flights	Figure 1.9	SCALE: 1:35,000
PROJECT TITLE: 170238 - Proposed Cahermurphy Two Windfarm	DATE: 22-07-2020	
DRAWING BY: Ian Hynes	CHECKED BY: Padraig Cregg	ISSUE NO.: 170238-2020.07.22-F
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Map Legend

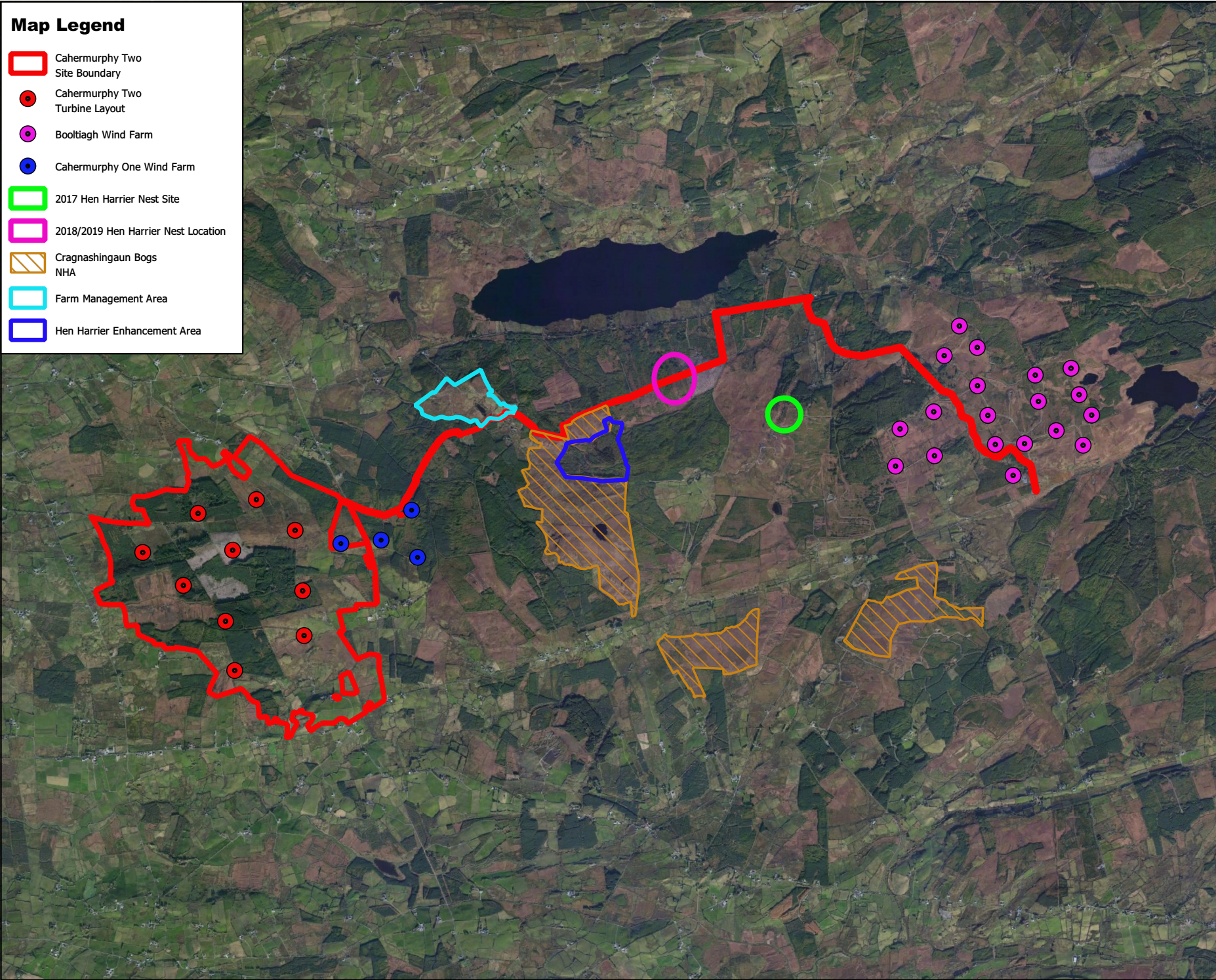
-  EIAR Site Boundary
-  2010 HH Nest Locations
-  2014 HH Nest Locations
-  2017 Nest Location
-  2018/2019 HH Breeding Territory



MAP TITLE: Confidential Hen Harrier Territories 2010-2019		Figure 1.10		SCALE: 1:50,000	
PROJECT TITLE: 170238 - Proposed Cahermurphy Two Windfarm				DATE: 22-07-2020	
DRAWING BY: Ian Hynes		CHECKED BY: Padraig Cregg		ISSUE NO.: 170238-2020.07.22-F	
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Map Legend

-  Cahermurphy Two Site Boundary
-  Cahermurphy Two Turbine Layout
-  Booltiagh Wind Farm
-  Cahermurphy One Wind Farm
-  2017 Hen Harrier Nest Site
-  2018/2019 Hen Harrier Nest Location
-  Cragnashingaun Bogs NHA
-  Farm Management Area
-  Hen Harrier Enhancement Area



Drawing Title
Hen Harrier Enhancement Area

Project Title
Cahermurphy Two

Drawn By IH	Checked By PC
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Project No. 170238	Drawing No. Figure 1.11
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Scale 1:50000	Date 23.07.20
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Table 2-5: Confidential Breeding Raptor Survey Effort

Date	Season	Survey Method	VP/ transect/ area number	Survey Duration	Weather Conditions	Comments	Surveyor
18/05/2019	Breeding	Breeding Raptor Survey	Area 2 Transects 1 -4	01:30 starting at 13:30	Wind Speed and Direction: Moderate Breeze, NW; Visibility: Good (>2km); Cloud Height: >500m; Cloud Cover %: 33-66 Rain: None; Frost: None ; Snow: None	Male Hen Harrier approached as I was walking a transect, started alarm calling) and circling over me. As I retreated, it flew in general direction of last years suspected nesting area.	TK

Table 2-6: Confidential Hen Harrier Roost Survey Effort

Date	Season	Survey Method	VP/ transect/ area number	Survey Duration	Weather Conditions	Comments	Surveyor
11/12/2017	Non Breeding	HH Roost Survey	HHVP10	03:00 starting at 14:20	Wind Speed and Direction: Fresh Breeze, NW; Visibility: Good (>2km); Cloud Height: 150-500m; Cloud Cover %: 33-66 Rain: Light Showers; Frost: On site; Snow: None	Male HH came into Roost at 15:53pm. Flock of 12 SN Flew over site 16:05PM	JK
23/01/2018	Non-Breeding	HH Roost Survey	HHVP 4	02:30 starting at 15:00	Wind Speed and Direction: Strong Breeze, SW; Visibility: Moderate (1-2km); Cloud Height: 150-500m; Cloud Cover %: 33-66 Rain: Light Showers; Frost: None ; Snow: None	Female HH came to roost at 15:35PM	JK
28/02/2018	Non - Breeding	HH Roost Survey	HHVP2	01:00 starting at 15:30	Wind Speed and Direction: Fresh Breeze, NE; Visibility: Good (>2km); Cloud Height: >500m; Cloud Cover %: 66-100 Rain: None; Frost: On site; Snow: None	Male Hen Harrier observed in flight during roost watch	TK
02/10/2018	Non Breeding	HH Roost Survey	HHVP 4	02:30 starting at 17:00	Wind Speed and Direction: Strong Breeze, W; Visibility: Moderate (1-2km); Cloud Height: 150-500m; Cloud Cover %: 66-100 Rain: Drizzle Mist; Frost: None ; Snow: None	Female HH into Roost outside buffer, see map	JK
13/11/2018	Non Breeding	HH Roost Survey	HHVP2	01:00 starting at 15:20	Wind Speed and Direction: SSE; Visibility: ; Cloud Height: ; Cloud Cover %: 66-100 Rain: ; Frost: ; Snow:	Male Hen Harrier seen perched on ground and Hunting.	TK

Table 2-7 Confidential Winter Walkover Survey Effort

Date	Season	Survey Method	VP/ transect/ area number	Survey Duration	Weather Conditions	Comments	Surveyor
29/01/2019	Non Breeding	Winter Walkover		06:00 starting at 11:45	Wind Speed and Direction: Strong Breeze, NW; Visibility: Good (>2km); Cloud Height: 150-500m; Cloud Cover %: 33-66 Rain: Heavy Showers; Frost: None ; Snow: None	2 Male HH came in to roost near Drummin Br see WWO map.	JK

Table 2-8 Confidential Additional Surveys (Hen Harrier Roost) Survey Effort

Date	Season	Survey Method	VP/ transect/ area number	Survey Duration	Weather Conditions	Comments	Surveyor
08/12/2017	Non Breeding	Hen Harrier Roost Survey	HHVP9	03:00 starting at 14:15	Wind Speed and Direction: Moderate Breeze, NW; Visibility: Good (>2km); Cloud Height: 150-500m; Cloud Cover %: 0-33 Rain: Light Showers; Frost: On site; Snow: None	Male HH came in to roost at 15:27PM, approx 100M from a wind turbine. SH hunting on site.	JK
02/10/2018	Non Breeding	Hen Harrier Roost Survey	HHVP 4	02:30 starting at 17:00	Wind Speed and Direction: Strong Breeze, W; Visibility: Moderate (1-2km); Cloud Height: 150-500m; Cloud Cover %: 66-100 Rain: Drizzle Mist; Frost: None ; Snow: None	Female HH into Roost outside buffer, see map	JK
29/11/2018	Non Breeding	Hen Harrier Roost Survey	8	03:00 starting at 14:00	Wind Speed and Direction: Strong Breeze, SW; Visibility: Moderate (1-2km); Cloud Height: 150-500m; Cloud Cover %: 33-66 Rain: Light Showers; Frost: None ; Snow: None	Two female HH came into roost	JK

Table 2-9 Confidential Additional Surveys (Winter Walkover) Survey Effort

Date	Season	Survey Method	VP/ transect/ area number	Survey Duration	Weather Conditions	Comments	Surveyor
29/01/2019	Non-Breeding	Winter Walkover		06:00 starting at 11:45	Wind Speed and Direction: Strong Breeze, NW; Visibility: Good (>2km); Cloud Height: 150-500m; Cloud Cover %: 33-66 Rain: Heavy Showers; Frost: None ; Snow: None	2 Male HH came in to roost near Drummin Br see WWO map.	JK

Table 2-10 Confidential Additional Surveys (Vantage Point) Survey Effort

Date	Season	Survey Method	VP/ transect/ area number	Survey Duration	Weather Conditions	Comments	Surveyor
12/07/2017	Breeding	Vantage Point Survey	VP6	01:00 starting at 09:30	Wind Speed and Direction: Light Air, S; Visibility: Good (>2km); Cloud Height: >500m; Cloud Cover %: 0-33 Rain: None; Frost: None ; Snow: None	2 male HH provisioning for 1 Female HH. Also 1 Sparrowhawk on site	JM