

APPENDIX D

POST-BREEDING CHOUGH SURVEY REPORT

DURSEY ISLAND CABLE CAR

Dursesey Island Post-Breeding Chough Survey Report



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1. Introduction

This report presents a summary of post-breeding surveys of Red-billed Chough (*Pyrrhocorax pyrrhocorax*) undertaken by EirEco Environmental Consultants over the period August to November 2019 to inform the EIAR and NIS for the Dursey Island Cable Car Project. The results of breeding surveys undertaken on Dursey Island and the adjacent lands on the mainland over the period March to June 2019, and transect surveys undertaken to map chough activity and habitat utilisation between May and July 2019 were presented in an earlier report (EirEco, 2019).

The chough is an Annex I listed species under the Birds Directive and a Special Conservation Interest for the Beara Peninsula SPA (site code 004155). The Fulmar (*Fulmarus glacialis*), which is not an Annex listed species, is also listed as a special conservation interest for the SPA as the site supports nationally important numbers. The SPA is also noted to support 4 pairs of Peregrine falcon (*Falco peregrinus*), an Annex I listed species. Observations made on other breeding birds recorded during the surveys are also presented.

2. Methodology

Monitoring of Chough breeding activity was undertaken by Paul Murphy monthly from August to November 2019 aimed at covering the period from the establishment of nursery flocks towards the aggregation into winter flocks the use of communal roost sites. During this period the choughs foraging typically shifts from the maritime grasslands used during the breeding season to heathlands and then onto improved grasslands during the winter, but may include dunes where these are available within their range. The focus of survey effort included a potential zone of influence around the proposed cable car and associated infrastructure on the mainland and on Dursey Island to determine if these habitats were being used outside of the breeding season, but extended to include the entire of Dursey Island as well as the Garinish Loop Walk and Crow Head on the adjacent mainland.

Data recorded during surveys included:

- Number of Choughs observed.
- How birds first detected (seen or heard; flying or on the ground; distance from the observer)
- Location (grid reference and description / place name)
- Behaviour (foraging, flying, preening, vigilant, loafing, breeding or heard only)
- Habitat
- Micro-habitat patch use
- Land use:
 - Grazed (including type of livestock)
 - Not grazed recently (no sign of recent grazing, e.g. longer swards - silage field, or no evidence of dung)
 - Ungrazed (e.g. cliffs/ coastal slopes where livestock have been excluded)
 - Cultivation (Cut silage, amenity grassland, etc.)
 - Weather conditions (Wind force, wind direction, visibility and occurrence of precipitation)
 - General notes on other interesting aspects including
 - features of land use and habitat e.g. poaching, strip grazing, out-wintering of livestock
 - timing of agricultural activities e.g. spring grazing, cutting of silage
 - behavioural aspects of the birds e.g. did the bird(s) move to different habitats or direction of flights

Surveys also aimed to gather data on distribution and/or occurrence of other special conservation interest species namely Fulmar and Peregrine Falcon, along with observations for all other bird species.

These surveys built on a suite of earlier survey work of Chough activity at Dursey and the hinterland, including breeding surveys undertaken over the period March to June 2019, and transect surveys undertaken on Dursey Island and the adjacent lands on the mainland to map chough activity and habitat utilisation between the 22nd May and the 18th July 2019 (EirEco, 2019). Transects were based on the existing path network along the spine of Dursey Island as well as the loop walks at Garnish and on Crowe Head.

3. Results

3.1 Chough Observations

Dursey Island

Following the fledging of young birds in June, choughs remain as family groups for a period of weeks and typically remain within the immediate vicinity of the nest site which is utilised as a night roost. Once the young birds develop their full flight skills and are capable of foraging for themselves, the family flocks merge to form 'nursery' flocks. These larger aggregations typically travel to feeding sites away from breeding areas. The nursery flocks will generally use communal roost sites which may be up to 10km from foraging areas.

Table 1 presents a summary of observations of chough over the period August to November 2019. Overall activity of choughs on Dursey Island over this period was quite low, with small numbers recorded foraging primarily at the western end of the island (a maximum of 15 recorded in October) and to a lesser extent at the eastern end. From the observations it would appear that the birds appear to be travelling further afield than the island for foraging and also for roosting (see Section 3.2 below). Choughs appear to utilize improved pasture along with dung more as the autumn and winter advances (Trewby et al, 2006) which would result in birds extending outside of the breeding season range where improved pasture is a limited resource.

Foraging by chough on Dursey Island during the period August 2019 was recorded only in the eastern and western tips of the island. A pair of choughs was observed foraging on the short grasslands immediately adjacent to the cable car platform on the island within c20m of 12 tourists waiting for the cable car. Further west at Ballynacallagh, a solitary chough landed within 20m of this surveyor and commenced foraging. On the western tip of the island at Tilickafinna two separate flocks of six and four choughs were recorded foraging on the steep rocky grounds along the southern shore where the vegetation is comprised of a mixture of grassland and heath. A solitary pair of choughs were also present on the gentler grassland slopes along the northern shore which showed alertness when approached within c30m, and took flight at c20m, though they promptly settled a short distance off (c70m).

During September chough were again only recorded in the eastern and western ends of the island. Four birds were observed foraging in the grassland/heath mosaic immediately north of Foilnamuck. A single pair were recorded foraging along an earthen bank in the fields at Tilickafinna, while a flock of eight were observed foraging on the short grasslands towards the headland. A single pair were observed loafing at the coast at the Ballinacarriga on Crow Head, which then flew west along the southern side of the peninsula.

During surveys in October and November a flock of up to 15 choughs were observed foraging on the steep rocky grounds along the southern shore of Tilickafinna. A report from one of the island's few residents indicated that a flock of approximately 40 birds were present at Tilickafinna in the middle of October. Elsewhere on the island, only single pairs of choughs were observed. A pair was recorded foraging in cattle dung in enclosed fields of semi-improved grassland at Ballynacallagh on Dursey Island in October. The birds showed no sign of being disturbed by tourists walking along the adjacent road at a distance of c20m. A pair of choughs was recorded on the same date, flying to the north on the mainland in the vicinity of the Cable Car but were not observed alighting.

Table 1. Chough observations on Dursey Island and hinterland over the period August to November 2019.

Date	Location	No. of birds	Activity Status
14-8-19	Foilnamuck	2	Foraging within 50m of cable car station where 12 people waiting.
14-8-19	Ballaghboy	2	Pair soaring over mainland cable car station.
14-8-19	Foilkunnis, Ballynacallagh	1	Single bird in flight landed within 50m and commenced foraging.
15-8-19	Tilickafinna	4	Flock foraging on steep broken ground along cliff edge.
15-8-19	Tilickafinna	6	Flock foraging on steep broken ground along cliff edge near Coosnacolan.
15-8-19	Tilickafinna, Dursey Head	2	Pair foraging on open ground to north. Alert at 30m, flushed at 20m but re-settled immediately.
9-9-19	Crow Head	2	Birds loafing on coast grassland to the north of the road. Flew west along the south side of the peninsula.
10-9-19	Foilnamuck	4	Foraging at c100m west of Foilnamuck in grassland/heath mosaic.
10-9-19	Tilickafinna, Dursey Head	5	Foraging and making short flights in open grassland.
10-9-19	Tilickafinna, Dursey Head	2	Foraging in short grassland at north of headland.
10-9-19	Allihies Copper Mine	2	Birds seen entering Coom Engine House at Dusk.
11-9-19	Tilickafinna	2	Pair in flight landed on field bank and commenced foraging.
11-9-19	Tilickafinna, Dursey Head	8	Flock feeding on open grassland, flew at 30m and re-settled 60m away.
31-10-19	Ballaghboy	2	Pair of birds calling in flight and flying to east of cable car station.
31-10-19	Ballynacallagh	2	Pair of birds foraging in enclosed field probing cattle dung.
31-10-19	Tilickafinna, Dursey Head	15	Flock foraging on steep rocky ground along southern cliffs. Occasional short flights before re-settling. Report of flock of c40 observed in mid-October.
31-10-19	Allihies Copper Mine	3	Three individuals observed entering open pit at dusk in very misty conditions.
1-11-19	Ballaghboy	2	Pair of birds observed flying to north of cable car station.
1-11-19	Crow Head, Ballinacarriga	2	Pair foraging in grassland / heath mosaic
2-11-19	Tilickafinna, Dursey Head	12	Flock foraging on open grassland to east of Coosnacolan

3.2 Roosting Sites

Communal roosts are sites where groups of Choughs spend the night with roost attendance tending to peak over the late summer and autumn when recently fledged young join the nursery flocks. In Ireland Chough roosts tend to be located on sea cliffs (only occasionally in ruined buildings or on inland cliffs) that provide good shelter from the elements, a lack of disturbance and good foraging habitats typically within a radius of 5 to 10 km of the roost though up to 30 km (Trewby, undated).

Trewby et al (2006) recorded regular roosting of between 9 and 17 chough within Dursey Sound over a one year study period in 2003-2004, though roosting was not recorded on each monthly survey. The location of this roost is on the mainland side of the sound on the cliffs opposite the small islet just north of Glasfeatula Point (Grid ref: V 50675 42326) (M. Trewby, pers. comm.). The surrounding area of maritime grassland near the roost is typically utilized for feeding and loafing in the evening prior to the choughs settling, or in the morning on leaving the roost.

Outside of the breeding season, the Dursey Island population of chough currently appear to utilise the old copper mines at Allihies as a primary communal roost site, which is located just under 10 km east of Dursey Sound (C. Heardman, NPWS, pers. comm.). The Mines at Allihies have been reported as a regular roosting site for choughs (C. Heardman, NPWS Ranger, pers. comm.) and numbers recorded by Trewby et al (2006) averaged in the mid to high 20's over the winter period (peak of 37 birds in October 2003) reducing to single figures over the summer months. The roosting birds typically utilised surrounding improved pastures for feeding and loafing in the evening prior to the choughs settling, or in the morning on leaving the roost (ibid).

Surveys were undertaken during the late afternoon until night fall on the 10th September and 1st November 2019 at Allihies mines, but unfortunately weather conditions during both evenings was poor with low cloud and drizzle reducing visibility to c50m. Two choughs were observed the Coom Engine House during the September survey while three birds were recorded at an open pit adjacent to the Man Engine House (Figure 1) during the November survey. The mines, which are just under 10 km from Dursey Sound, appear to be the main winter roosting site utilised by choughs in the western end of the Kenmare Peninsula.

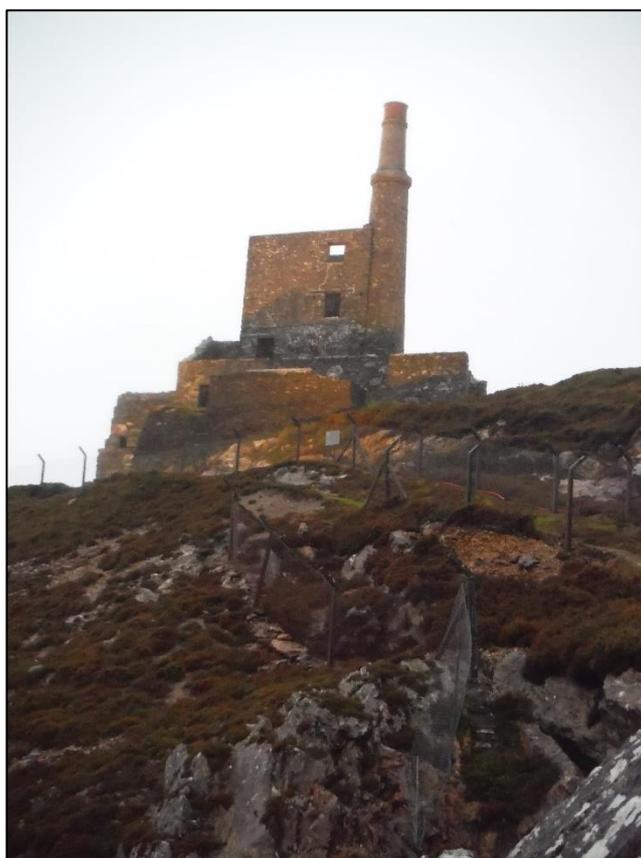


Figure 1. Man Engine House at Allihies Mine.

3.3 Disturbance and Flushing Distance

Observations of behaviour of foraging choughs in response to visitor disturbance has been recorded during all survey efforts on Dursey Island and on the Garinish and Crowe Head areas with an average flush distance estimated at 30 metres. Flush distances range from 25-40m for tourists though surveyors can sometimes get within 10–15m of some chough family groups before they take flight, and as noted above, a pair of choughs were observed in August foraging within c20m of 12 tourists waiting for the cable car. Personal observations during all survey work recorded birds typically becoming vigilant at c30m with flushing to flight at c20m. Prior to taking flight if disturbed, the nearest bird typically adopts an erect posture prior to giving an alarm call before the whole group takes off. Birds may resettle nearby or fly several hundred meters before alighting.

3.4 Other Species

Raven were observed during all visits between August and November, mainly in pairs though on several occasions as individual birds. Typically they were recorded in flight, often flying along the coastline on either the north or south of the island. As with chough, there is regular movement between the island and the mainland.

A single Merlin (*Falco columbarius*) was observed in flight at Tillickafinna in the west of the island in August 2019. These small falcons disperse from their breeding grounds mainly to coastal areas outside of the breeding season. A solitary sparrowhawk (*Accipiter nisus*) was also recorded in August in the eastern end of the island hunting along the field boundaries at Ballynacallagh.

Mixed flocks of meadow pipit and skylark were observed on the lower hill slopes during August along with occasional family flocks of wheatear and stonechat. Flocks of Fieldfare (*Turdus pilaris*) and Redwing (*T. iliacus*) were recorded in the low-lying fields around Ballynacallagh and Kilmichael during the survey in October. A regularly used roost of mixed gull species (Greater black-backed, Lesser black-backed and Herring gull) occurs at Maoil Bheag on the western tip of the island and was in use during surveys in August and September. A pair of Whimbrel (*Numenius phaeopus*) were present at Tillickafinna in September.

4. Discussion

The ornithologist Derek Scott has been in residence on Dursey Island over several decades and has undertaken continuous monitoring of choughs and other birds on the island over that period. His maximum counts of chough over the period 1978 to 2019 are presented in Table 1 below (Scott, 2019). From the plotted data, it can be seen that there has been considerable variation in total numbers over this period, which Scott has correlated to the occurrence of severe cold spells in winter which limits the bird's ability to forage and results in considerable mortality. The most recent such event was in March 2018 (referred to as the Beast from the East) which resulted in heavy snowfall and temperature as low as -6.0°C on Dursey Island for a number of days. Scott surmises that "choughs would have been unable to forage and, as it was approaching the end of winter, would have been in poor condition and less able to cope with the harsh conditions than if they had occurred earlier in the winter".

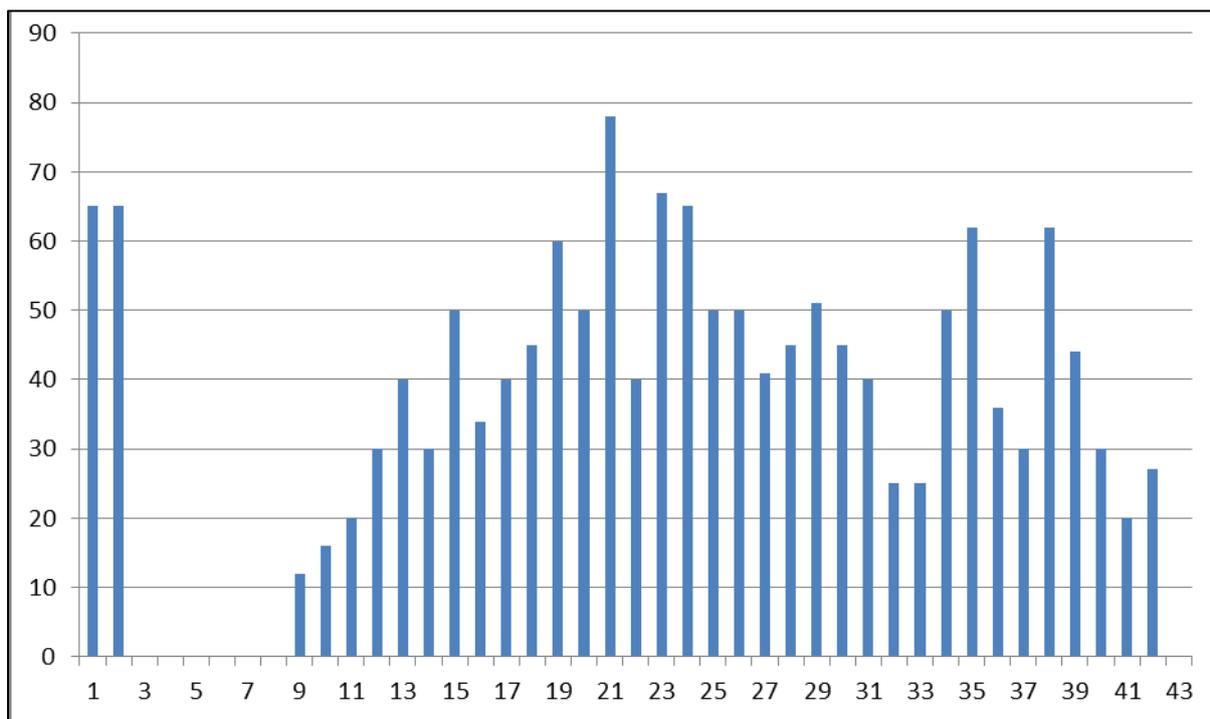


Table 1. Maximum counts of Chough on Dursey Island.
 (Source: Derek Scott, 2019)

Outside of the breeding season, the main concentration of choughs recorded on Dursey Island during the current surveys was at the western tip where a maximum of 15 choughs were observed in October 2019. As this part of the island has no demarcated pathway the open landscape will potentially result in visitors ranging over a wide area with a higher risk of potential disturbance. Numbers of choughs recorded elsewhere on the island over the 4 month period covered by this survey were limited to small numbers primarily at the eastern end of the island.

The main threat of disturbance of disturbance to foraging birds outside of the breeding season is therefore considered to be at the western tip of the island. This area presents an ultimate destination for people visiting the island and due to the open and accessible nature of the topography, encourages them to range over a wide area.

The roost site at Dursey Sound north of Glasfeatula Point at Foilnamuck is c400m from the existing cable car location. The site is in a location which is difficult to access (given the steep cliffs at the location), though the Garinish Loop Walk trail leading from the Cable Car Station passes through the maritime grasslands which chough may use for loafing and foraging prior to going to roost. However, as birds enter and leave the roost at dusk and dawn respectively, which is outside of the operational periods for the cable car, it is unlikely to be subject to disturbance from increased visitor numbers associated with the cable car upgrade.

5. References

EirEco (2019). *Dursey Island Breeding Chough Survey 2019*. Report prepared for Roughan O'Donovan Engineers / Cork County Council.

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