

Dartford Warbler Census 2019

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Summary

A census of Alderney's dartford warblers was undertaken to update our knowledge of its population size and distribution. To aid detection and improve accuracy data were obtained using a combination of survey techniques that involved common bird census (CBC) mapping with mindful use of an mp3 player to broadcast songs and elicit a response from any birds nearby. Twenty-four singing males were found occupying territories on Tourgis hill, the Giffoine, Trois Vaux and the south cliffs. At least 14 of these territories comprised pairs and evidence of breeding was found from all the inhabited sites. Most territories were juxtaposed together in clusters with the highest number located on the Giffoine. No birds were found on the eastern side of the island in the haunts where records have been made in the past. Some evidence suggests that these sites have undergone some habitat deterioration although the extirpation of the resident population during the winter storm in early 2018 could not be discounted as another cause of their absence. Repeat surveys are recommended to maintain knowledge of the bird's status with some local habitat/land management when needed to help safeguard the species presence in the future.

Introduction

The world population of dartford warbler *Sylvia undata* lies entirely within the far western end of the Palearctic, restricted mostly to the Iberian peninsula, the north coast of Morocco, the south and western seaboard of France and, in its northernmost reaches, the Channel islands and southern England. According to the latest assessment by the IUCN its population is undergoing a moderately rapid decline and, as a result, it has been classified as 'near threatened'

(<http://datazone.birdlife.org/species/factsheet/Dartford-Warbler>).

Within Alderney records of dartford warbler date back to the 1960's with few, if any, from the antiquities, although this may not indicate absence as the species is often highly secretive and difficult to detect. Periodic surveys since the 1970s have found 11-20 territories on the island. These were confined to areas with gorse *Ulex sp.* although some also occurred among bramble *Rubus sp.* thickets if gorse was present too (Sanders 2007, Caiden 2008). Local sites listed were mostly in the west and south of the island and included places such as the Giffoine, Clonque, the Zig-zag, Trois Vois and Val de L'Emauve but also Essex Hill and the Mannez Garenne in the east (Sanders 2007).

To ensure the status of Alderney's dartford warblers remains known and up to date it is important to maintain a 'watch' on the species presence by periodically carrying out a whole island census every few years. Data obtained can then contribute to an overall assessment of the species world population whilst any changes detected to the island's population size and distribution can inform local habitat/land management to help safeguard its presence in the future. The aim of this census was to update the species' status on Alderney since the last census carried out in 2007.

Method

Dartford warblers are secretive birds and prefer to stay in cover and out of sight most of the time. As a consequence they are difficult to census accurately. To best aid detection data were obtained using a combination of survey techniques that involved 'walk-around' common bird census (CBC) style mapping with mindful use of an mp3 player to broadcast songs and elicit a response from any territory holding birds nearby. The distribution of encounters plotted on to maps were then used to estimate the number of occupied territories and their breeding status.

The CBC mapping was carried out as part of a wider survey of breeding birds that was being undertaken over five areas of the island that included most of the habitat suitable for dartford warbler, Fig. 1. The CBC comprised nine visits to each site between mid-March and mid-June. A minimum of ten days separated each visit. Visits began from sunrise. Days with winds > beaufort 5, persistent rain or poor visibility were avoided. During each visit the site surveyed was walked over at a slow pace so that all birds seen or heard could be identified and plotted on to a map using standard British Trust for Ornithology (BTO) recording codes for species and behaviour, see Appendix 1 'BTO standard activity recording codes', also Gilbert *et al.* (1998). A new map was used for each visit so that by the end of the survey nine maps were completed for each site. After the final visit all the plotted registrations of dartford warbler were combined on to a separate 'species' map for each site and coded A,B,C,D,E,F,G,H or I depending on which of the nine visits they had been recorded on, Table 1, Figs. 2a-i. When the combined registrations on the 'species' maps fell neatly into clusters they were assumed to indicate the activity of particular birds or pairs throughout the season.

The number of dartford warbler territories were counted by analysing the 'species' maps for each site. When a cluster of registrations could be defined they were used to help designate likely territories following the CBC guidelines set out in Marchant (1983) but also criteria suggested specifically for dartford warbler by Gilbert *et al.* (1998). A territory was considered occupied if a singing male, boundary dispute(s) or breeding activity were seen on at least one visit. Examples of breeding activity included adults carrying food or nest material, adults behaving agitated as if with young or a nest nearby and/or the presence of an active or recently used nest.

The ability to record singing males varies with breeding density (as well as the weather), (Gilbert *et*

al. 1998). In areas of low breeding density the chance of detection can be very low using CBC methods alone. Therefore, to improve the accuracy of the survey, dartford warbler song was also broadcast from an mp3 player to elicit a response from any hidden birds nearby. With some mindful restrictions (see below), this maximised the chance of detecting any birds present without causing any significant disturbance.

Song was broadcast from an mp3 player at a natural volume from fixed 'play points' within suitable breeding habitat (see figs 2a-i) during only three of the nine visits; the first in late March, the second in late April and the last occasion in early June, c.f. Table 1. This limited any likely disruption to resident birds but allowed sufficient repeatability to aid detection. During these three periods any habitat suitable for breeding dartford warblers that was not covered by the CBC were also surveyed using this method e.g the Mannez Garenne, c.f. Fig.1, Table 1. The distance between each 'play point' varied according to the distribution of gorse, previous indications of high or low breeding density and accessibility. Generally 'play points' were at least 50m apart in places with extensive gorse cover, c.f. Figs 2a-i. At each 'play point' song was broadcast for two, one minute periods separated by a minute before moving on. If a bird(s) responded (typically by singing and flying towards the player) the broadcast was immediately terminated and the walk-around survey resumed. Extreme care was taken to note the movements of any responding birds as they were inclined to follow the surveyor and could easily be repeat counted by mistake at the next playing point, particularly where territories were not widely spaced apart.

Only a small proportion of habitat suitable for breeding dartford warbler was not accessible or sufficiently visible to survey. These included some sections of Tourgis hill (fig.2a), the Giffoine (fig. 2b), and the south cliffs (fig. 2g) as well as the gorse scrub near the impot (Site F, fig. 1).

Results

Twenty-four singing males were found on the island, Table 2. They occupied territories among gorse scrub or bramble thickets with gorse on Tourgis Hill, the Giffoine, Trois Vaux and above the south cliffs, Figs. 2a-g. No dartford warblers were found on Essex Hill and the Mannez Garenne or in Braye bay Figs,2h-j.

Territories were typically found clustered with several juxtaposed together. Most were located on the Giffoine (n=15) where the population density appeared highest, Table 2, Figs. 2c and 2d, but several territories were also juxtaposed along the south cliff tops too, Table 2, Fig. 2g. On Trois Vaux the situation was less clear. There was some uncertainty here because the records for each visit were widely spaced and may have represented either two pairs or just one pair moving around the area through the season, Table 2, Fig. 2e.

Females were seen less often than males and were only recorded from 14 of the 24 occupied territories, Table 2. When seen they were typically accompanied by a male and likely coupled in a breeding pair, Table 2. Females and signs of breeding were found at all the sites where males were present e.g. Tourgis hill, the Giffoine, Trois Vaux and the south cliffs. One nest was found on Trois vaux with three young ready to fledge (Fig. 2e), but other evidence of breeding was seen too, Table 2. This included observations of nest provisioning within two territories on the Giffoine (Fig. 2d) and nest building from one territory on Tourgis hill (Fig. 2a) as well as a two family parties, one seen on the Giffoine (Fig. 2d), the other on the south cliffs (Fig. 2g).

Some males were probably unpaired and there was evidence of immigration later in the season with three new singing males found late in the season during the penultimate visit of the survey in June.

These occupied gorse scrub juxtaposed to existing territories in the south-western end of the Giffoine, Fig.2d.

Conclusion

Dartford warblers are still resident on Alderney and bred successfully in 2019. Twenty-four territories were occupied by singing males with, at least 14 comprising pairs that likely bred. Furthermore, some small areas of habitat suitable for dartford warbler were not surveyed due to poor access so the actual number of breeding pairs maybe a bit higher than stated here.

The number of territories reported this year is higher than found before (Sanders 2007, Caiden 2008) even though birds were absent from some sites they had occupied in the past, notably in the eastern side of the island on Essex Hill and the Mannez Garenne.

Its unclear why birds were absent from the previously occupied sites. It could be that the habitat has deteriorated and become sub-optimal or it could be the resident population was extirpated from these places during the cold winter of 2018 and has yet to recover. The answer may also comprise a combination of both factors. Tracts of gorse on both Essex Hill and the Mannez Garenne are not regularly cut back and, as a result, have become quite tall and sparse. In places this has allowed bramble and other scrub to proliferate in its place so that less suitable habitat is now likely available for the dartford warbler's breeding purposes. However, birds resident on the eastern side of the island may have also been more vulnerable to the winter storms during 2018 when easterly winds dominated the weather.

The use of an mp3 player to broadcast song during the survey was clearly beneficial and probably improved the accuracy of the survey. On many occasions during the survey observations were made only after song had been broadcast and it's likely more birds were found than would have been using the CBC method alone. Indeed the high number of territories found this year may simply reflect the impact of this new approach to counting the birds rather than any significant change in the dartford warbler population.

The most preferred habitat for dartford warbler was found on the Giffoine. The birds here were found occupying scrub comprising a heterogenous mix of gorse and bramble thicket with patches of heather *Calluna vulgaris* /*Erica* sp. and elder *Sambucus nigra*.

Occupied territories were typically found clustered together except on Trois Vaux. The tendency to group together suggests unpaired males may prefer to settle on new sites adjacent occupied territories. This is probably because the occupied habitat is likely optimal but also, among others, an unpaired bird has the best chance of securing a mate.

Recommendations

- 1). Continue to monitor the dartford warbler population by periodically carrying out the census at regular intervals of at least every five years.
- 2) Share these data and submit any breeding records to the BTO nest record scheme.
- 3). When needed carry out some gorse management to help maintain it's presence. Where possible large tracts of gorse should be prevented from thinning out and/or dieing back so that other species

of scrub remain unable to encroach and replace it.

References

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- Cramp, S. & Simmons, K.E.L. (eds). (1992). *The birds of the Western Palearctic*. Vol. 6: Warblers. Oxford University Press.
- Gilbert, G., Gibbons, D.W. & Evans, J. (1998). *Bird Monitoring Methods: A manual of techniques for key U.K. species*. RSPB/BTO/JNCC/WWT/ITE/The Seabird Group RSPB/BTO, Sandy.
- Marchant, J.H. (1983). *BTO Common Birds Census Instructions*. BTO, Tring.
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Table 1. The nine dates (coded A-I) between mid-March and mid-June when CBC surveys were undertaken at each site.

Site	Visit-specific code dates								
	A	B*	C	D	E*	F	G	H*	I
Tourgis Hill	13/03	26/03	06/04	16/04	26/04	07/05	20/05	02/06	12/06
Giffoine	13/03	26/03	06/04	16/04	26/04	07/05	20/05	02/06	12/06
Trois Vaux	11/03	27/03	07/04	17/04	29/04	09/05	21/05	03/06	13/06
South cliffs	11/03	27/03	07/04	17/04	29/04	09/05	21/05	03/06	13/06
Essex Hill	13/03	26/03	06/04	16/04	26/04	07/05	20/05	02/06	12/06
Impot scrub	-	-	-	-	-	-	-	-	-
Braye bay scrub	13/03	26/03	06/04	16/04	26/04	07/05	20/05	02/06	12/06
Mannez Garenne	-	02/04	-	-	01/05	-	-	04/06	-

*During visits B, E and H song was broadcast from an mp3 player to help locate territory holding males by eliciting a response from any birds nearby.

Table 2. The number of Dartford warbler territories at each site occupied by a singing male.

Site	Site codes (c.f. fig. 1)	No. of territories (with singing males)	No. with a pair seen	No. of territories where additional breeding activity was seen.#				
				Nest	Food	Material	Alarm note	Family
Tougis Hill	A	2	2	-	-	1	1	-
Giffoine	B+C	15	9	-	2	-	3	1
Trois Vaux	D	1 (2)	1(2)	1*	1	-	1	-
South Cliffs	E	6	2	-	-	-	-	1
Impot scrub**	F	-	-	-	-	-	-	-
Essex Hill	G	0	0	-	-	-	-	-
Mannez Garenne	H	0	0	-	-	-	-	-
Braye bay scrub	I	0	0	-	-	-	-	-

No. of territories where i) an active nest was found, ii) food was seen being carried by adults, iii) nest material was seen carried by adults, iv) adults were seen/heard alarm noting or v) a family was seen i.e. fledged young still attended by adults.

* Nest found with 3 young near fledging on 11th June. Fledged successfully. Nest later extracted and sent to Prof. Mike Hansell at Glasgow University.

** The gorse scrub near the impot (site F, c.f. fig. 1) was not surveyed.



Fig. 1. The CBC survey areas (marked by orange border) and sites with habitat suitable for breeding dartford warbler i.e. coastal heath with extensive gorse cover (marked by white border). CBC areas (orange): ESH = Essex Hill, COM = Community woodland, BTV = Bonne Terre Valley, GIF = the Giffoine. Sites with extensive gorse (white): Site A = Tourgis Hill, Site B = the Giffoine (east), Site C = the Giffoine (west), Site D = Trois Vaux, Site E = the south cliffs, Site F = the impot scrub, Site G = Essex hill, Site I = Braye bay scrub, Site H = the Mannez Garenne.



Fig. 2b. Dartford warbler records from east Giffoine (site B). The small capitals (A-I) are visit specific-codes marking where and when dartford warblers were seen/heard c.f. Table 1. The thin grey lines encircle spatially distinct groups of registrations that comprise not more than one male and/or female and depict likely occupied territories. The sketched symbols and abbreviations are standard BTO activity codes, see Appendix 1. Song was broadcast from loci marked by the red dots on visits B, E and H. The orange dashed line marks the route taken by the surveyor. Zones of 'no access' were poorly covered by the survey.

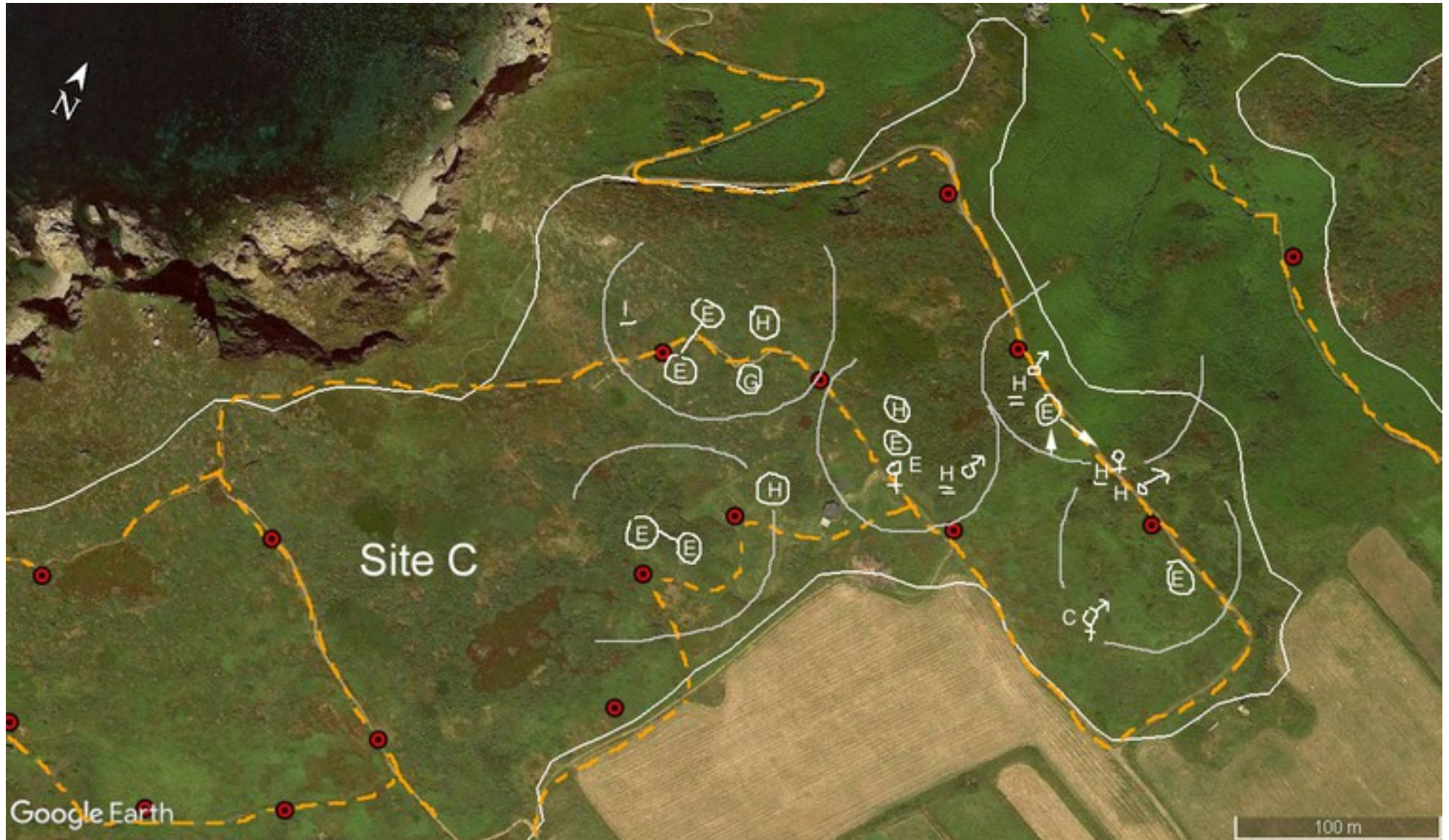


Fig. 2c. Dartford warbler records from west Giffoine (site C). The small capitals (A-I) are visit specific-codes marking where and when dartford warblers were seen/heard c.f. Table 1. The thin grey lines encircle spatially distinct groups of registrations that comprise not more than one male and/or female and depict likely occupied territories. The sketched symbols and abbreviations are standard BTO activity codes, see Appendix 1. Song was broadcast from loci marked by the red dots on visits B, E and H. The orange dashed lines mark the route taken by the surveyor. Zones of 'no access' were poorly covered by the survey.

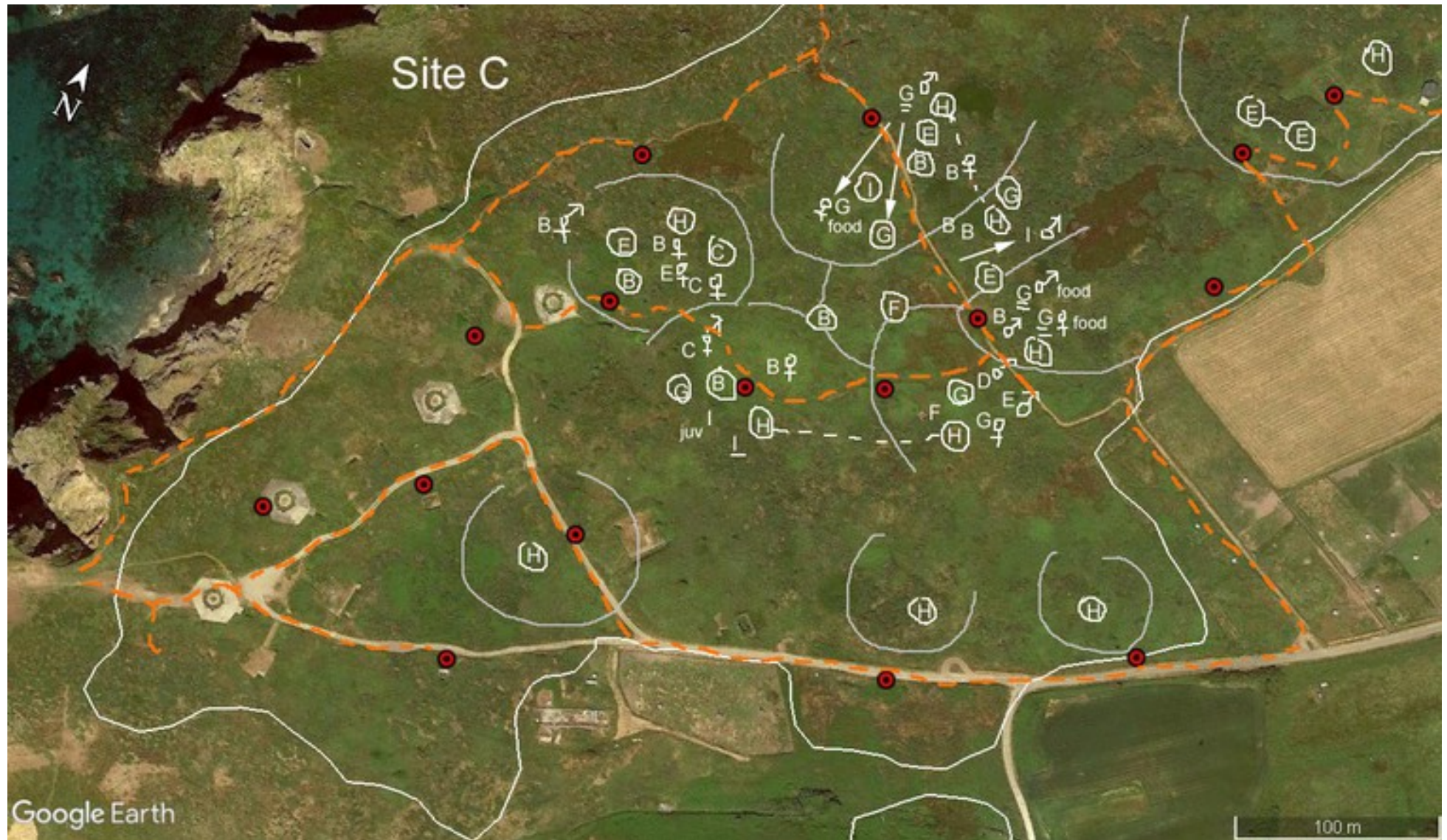


Fig. 2d. Dartford warbler records from west Giffoine (site C). The small capitals (A-I) are visit specific-codes marking where and when dartford warblers were seen/heard c.f. Table 1. The thin grey lines encircle spatially distinct groups of registrations that comprise not more than one male and/or female and depict likely occupied territories. The sketched symbols and abbreviations are standard BTO activity codes, see Appendix 1. Song was broadcast from loci marked by the red dots on visits B, E and H. The orange dashed line marks the route taken by the surveyor. Zones of 'no access' were poorly covered by the survey.

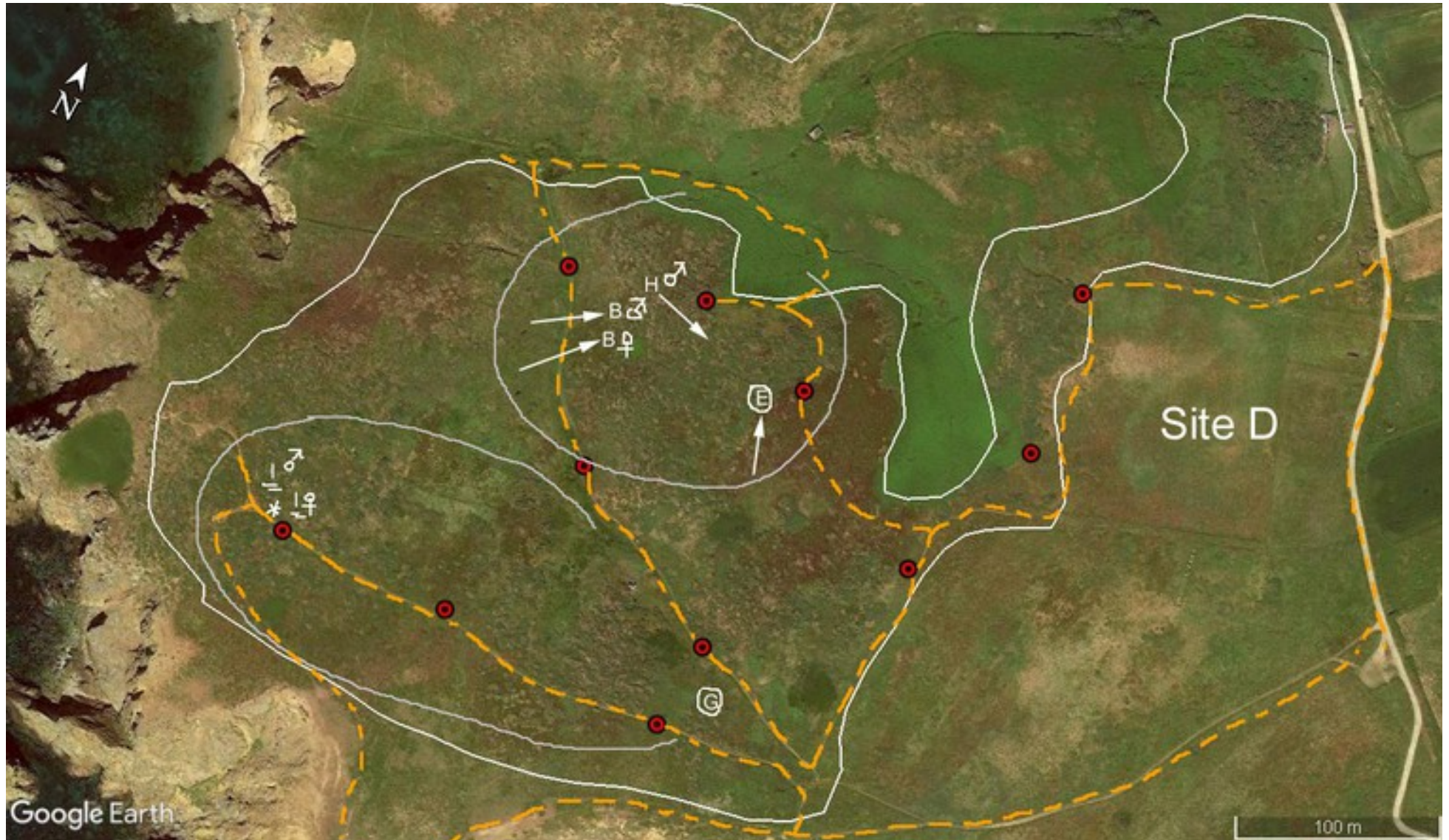


Fig. 2e. Dartford warbler records from Trois Vaux (site D). The small capitals (A-I) are visit specific-codes marking where and when dartford warblers were seen/heard c.f. Table 1. The thin grey lines encircle spatially distinct groups of registrations that comprise not more than one male and/or female and depict likely occupied territories. The sketched symbols and abbreviations are standard BTO activity codes, see Appendix 1. Song was broadcast from loci marked by the red dots on visits B, E and H. The orange dashed line marks the route taken by the surveyor. Zones of 'no access' were poorly covered by the survey.

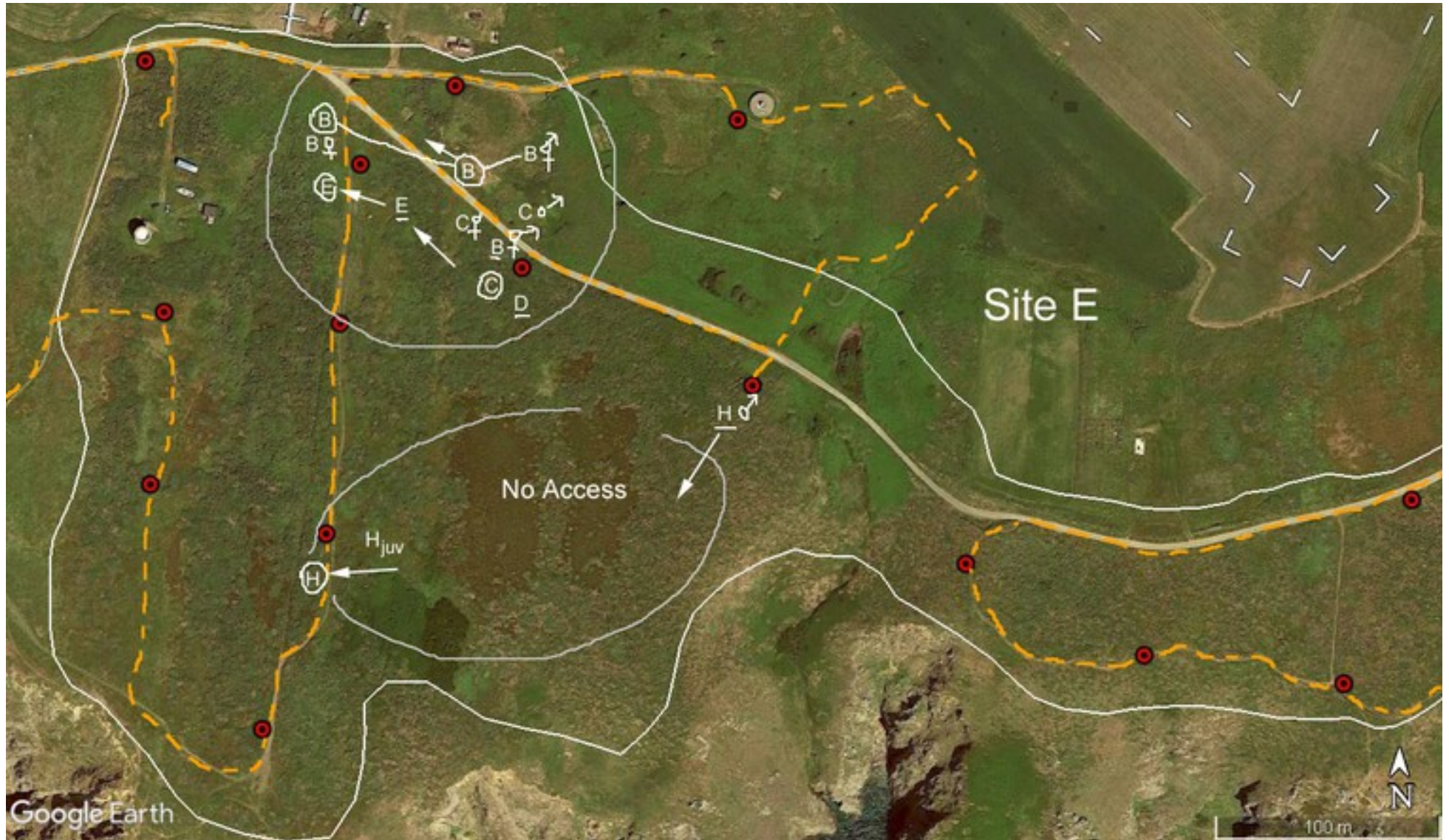


Fig. 2f. Dartford warbler records from the south cliffs (site E). The small capitals (A-I) are visit specific-codes marking where and when dartford warblers were seen/heard c.f. Table 1. The thin grey lines encircle spatially distinct groups of registrations that comprise not more than one male and/or female and depict likely occupied territories. The sketched symbols and abbreviations are standard BTO activity codes, see Appendix 1. Song was broadcast from loci marked by the red dots on visits B, E and H. The orange dashed line marks the route taken by the surveyor. Zones of 'no access' were poorly covered by the survey.

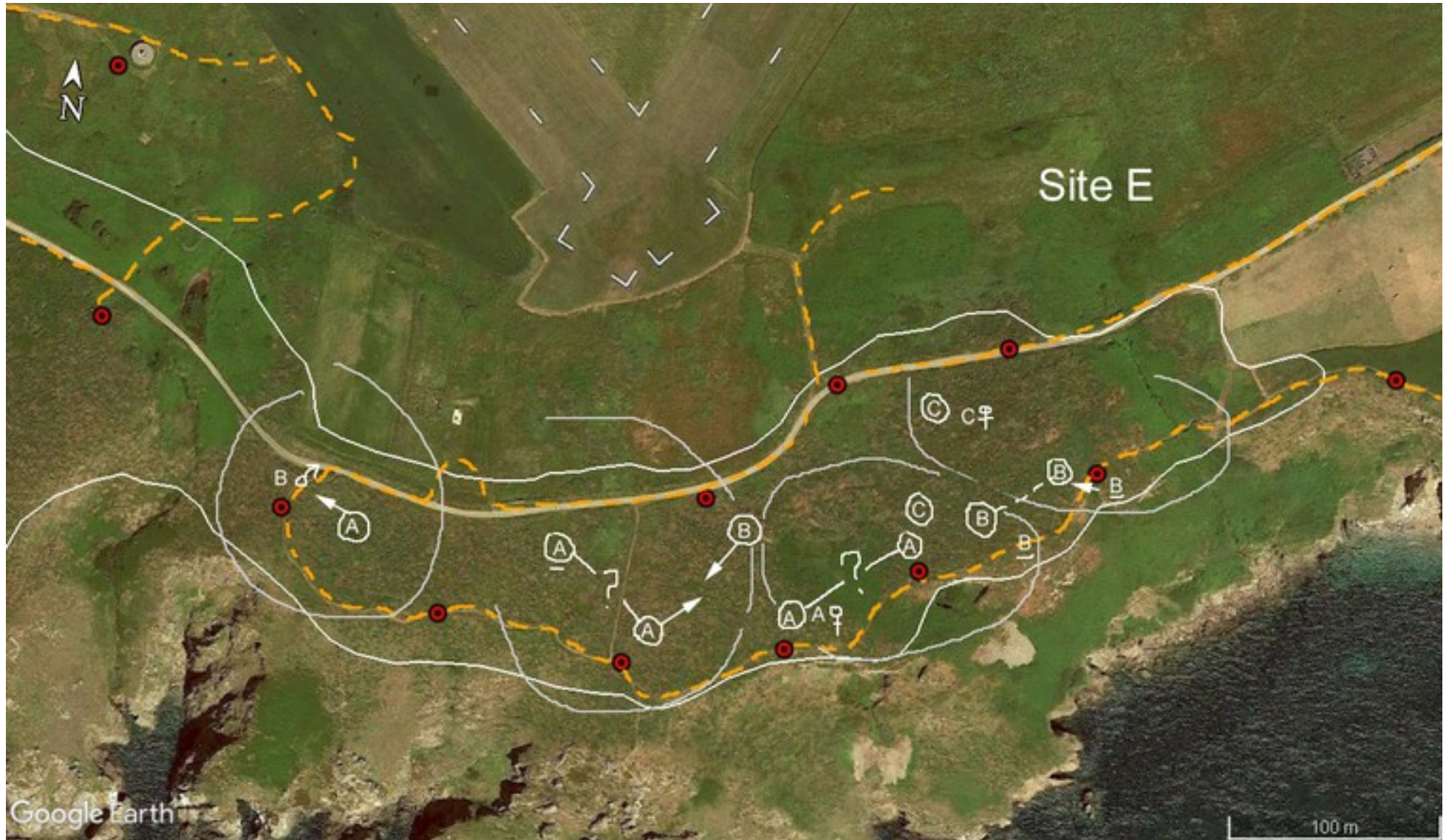


Fig. 2g. Dartford warbler records from the south cliffs (site E). The small capitals (A-I) are visit specific-codes marking where and when dartford warblers were seen/heard c.f. Table 1. The thin grey lines encircle spatially distinct groups of registrations that comprise not more than one male and/or female and depict likely occupied territories. The sketched symbols and abbreviations are standard BTO activity codes, see Appendix 1. Song was broadcast from loci marked by the red dots on visits B, E and H. The orange dashed line marks the route taken by the surveyor. Zones of 'no access' were poorly covered by the survey.



Fig. 2h. The survey route (orange dashed line) over Essex Hill (Site G) and loci (red dots) where song was broadcast on visits B, E and H of the CBC survey (c.f. Table 1 for the visit-specific code dates). No dartford warbler were found here. The gorse scrub by the impot (Area F) was not surveyed due to poor access and visibility.



Fig. 2i. The survey route (orange dashed line) on the Mannez Garenne and loci (red dots) where song was broadcast on visits B, E and H of the CBC survey (c.f. Table 1 for the visit-specific code dates). No dartford warbler were found here.



Fig. 2j. The survey route (orange dashed line) through habitat suitable for dartford warbler in Braye bay (site I) and loci (red dots) where song was broadcast on visits B, E and H of the CBC survey (c.f. Table 1 for the visit-specific code dates). No dartford warbler were found here.

Appendix 1.

The BTO standard activity recording codes from Gilbert *et al.* (1998).

BTO standard activity recording codes

The standard BTO list of conventions is designed to help you make your field notes clear and unambiguous, and the following are examples of their use. Symbols can be combined where necessary (see *Bird Census Techniques*). Additional activities of territorial significance, such as display or mating, should be noted using an appropriate clear abbreviation. In all cases the standard BTO species recording codes (see above) should be used.

CH_{juv} CH♂ CH♀

Chaffinch sight records, with age, sex or number of birds if appropriate. Use CH♂ to indicate one pair of chaffinches, so that 2CH♂ means two pairs together.

R_{fam}

Juvenile robins with parent(s) in attendance.

R

A calling robin.

R

A robin repeatedly giving alarm-calls or other vocalisations (not song) thought to have strong territorial significance.

(R)

A robin in song.

R R

An aggressive encounter between two robins.

*R

An *occupied* nest of robins; do not mark unoccupied nests, which are of no territorial significance by themselves.

[*] BT

Blue tits nesting in a specially provided site (eg nest-box). Please remember to use this special symbol for a nest in a tit box.

*PW on

Pied wagtail nest with an adult sitting.

PW mat

Pied wagtail carrying nest material.

PW food

Pied wagtail carrying food.

Movements of birds can be indicated by an arrow using the following conventions:

— GR →

A calling greenfinch flying over (seen only in flight).

(D.) →

A singing dunnock perched, then flying away (not seen to land).

→ B. ♂

A male blackbird flying in and landing (first seen in flight).

WR —————> WR

A wren moving between two perches. The solid line indicates it was definitely the same bird.

The following registrations indicate when registrations relate to different birds, and when to the same bird. Their proper use is essential for the accurate assessment of territorial clusters.

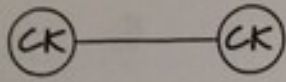
(WR) ----- (WR)

Two wrens in song at the same time, ie definitely different birds. The dotted line indicates a *simultaneous registration* and is of very great value in separating territories.

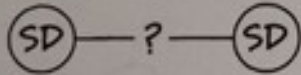
*
LI ----- *
LI

Two linnet nests *occupied* simultaneously and thus belonging to different pairs. This is another example of the value of dotted lines. Only adjacent nests need be marked in this way.

BTO standard activity codes cont.:



The solid line indicates that the registrations definitely refer to the same cuckoo.



A question-marked solid line indicates that both registrations of stock dove *probably* relate to the same bird. This convention is of particular use when the census route returns to an area already covered – it is possible to mark new positions of (probably the same) birds recorded before, without the risk of double-recording. If birds are recorded without using the question-marked solid line, overestimation of territories will result.