



Jersey Farmland Bird Monitoring Manual

# JERSEY FARMLAND BIRD MONITORING MANUAL

Version 1.1



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**Durrell Wildlife Conservation Trust**



BIRDS ON THE EDGE

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## INTRODUCTION

Bird monitoring provides one of the most robust and globally recognised methods for measuring changes in the state of biodiversity and the broader environment. Currently the UK Farmland Bird Indicator is one of the UK Government's 15 sustainable development indicators (the only biodiversity indicator) and the European farmland bird indicator, led by Birdlife International is part of the key EU indicator set. The prevalence of this indicator is partly due to the biology of birds as they are high in food chains and respond rapidly to change, but is also because birds are visible, inexpensive to survey and are therefore very popular with amateur naturalists. Analyses of pan-European farmland bird data have shown the impact of intensive farming practices on bird numbers and have been responsible for major policy changes.

The term 'monitoring' is used quite loosely and can appear to have a fairly broad definition, but it is important to be clear about what is meant from the outset.<sup>1</sup> It is useful to distinguish between monitoring, surveillance and survey. A *survey* is a method of data collection (like mapping), which provides a framework for the systematic measurement of variables. *Surveillance* is the systematic measurement of variables over time, with the aim of establishing a series of time-related data. *Monitoring* refers to the measurement of variables over time in a systematic way with specific management objectives in mind.

This structured island-wide monitoring scheme is managed by the Durrell Wildlife Conservation Trust through collaboration between Durrell, the Société Jersiaise, National Trust for Jersey and the States of Jersey Environment Division. Results will be published each year in high-profile media outlets to raise awareness in the Jersey population concerning the state of their wildlife. The programme further aims to be able to provide recommendations for direct conservation action and input into any conservation strategies aimed to support Jersey's farmland birds and their habitat. Each of the partners in this project will develop implementable actions resulting from survey results and be directly involved in carrying these out.

### Background to the programme

**This monitoring programme aims to track changes in the population size of all farmland and marginal habitat birds in Jersey including skylark, meadow pipit, stonechat and linnet at 14 focal sites.**

Following a meeting in 2005 to discuss the plight of the curlew *Emberiza cirlus* in Jersey, and to establish possible methods to re-establish this species, it was recognised that the Island was lacking in basic data on numbers and trends in farmland birds. In order to redress this lack of knowledge a programme of intensive bird monitoring at five sites in Jersey was begun in

<sup>1</sup> Gilbert, G., Gibbons, D.W. & Evans, J. 1998. *Bird Monitoring Methods*. RSPB, Sandy.



April 2005. The sites were chosen in part through their connection with the States as it would, in theory, be possible to make changes to the environment of these sites if recommendations arose from the monitoring programme. Initially each site was visited weekly and a total of eight transects were surveyed. The programme of site visits was changed in 2008 so that each site is now visited every two weeks. Some original site transects were merged and five further sites were established to make a total of ten. A further four sites were added in 2011/2012.

Five focal bird species, considered rare or declining, were initially chosen for particular study and these, skylark *Alauda arvensis*, stonechat *Saxicola rubicola*, Dartford warbler *Sylvia undata*, yellowhammer *E. citrinella* and ciril bunting as well as meadow pipit *Anthus pratensis* and linnet *Carduelis cannabina*, and they influenced the choice of the original five survey sites at:

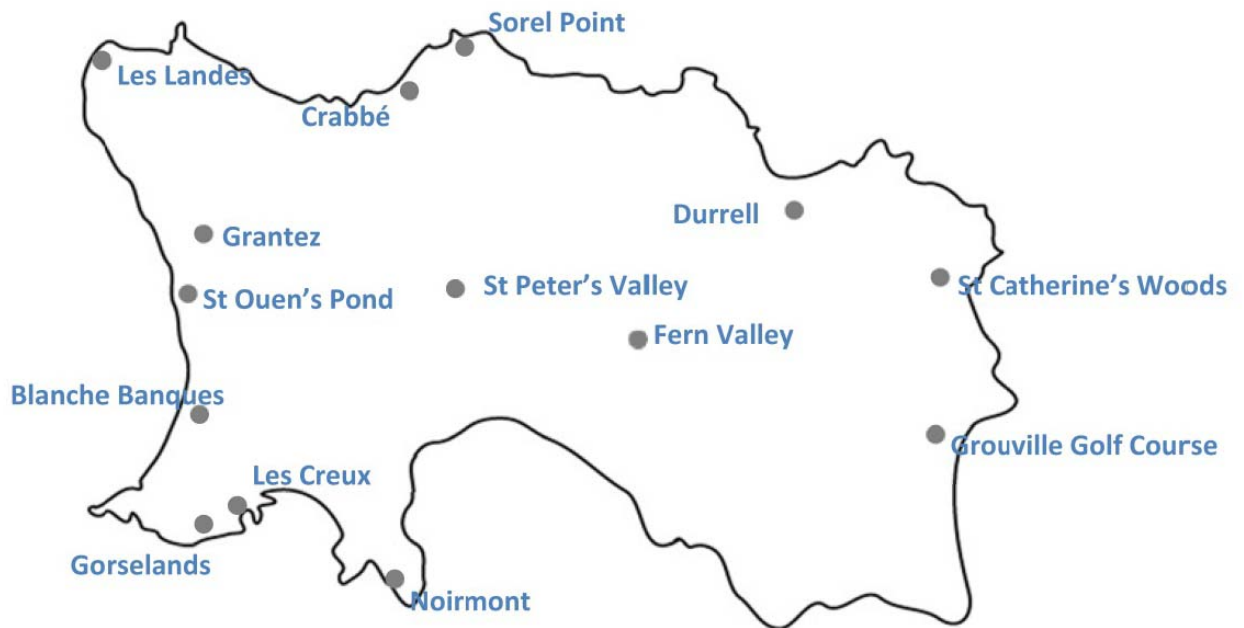
- Crabbé – north facing cliff-top farmland and last breeding site for yellowhammer
- Les Landes – heath and unimproved grassland with marginal fields: skylark, meadow pipit, Dartford warbler, stonechat, linnet
- Blanches Banques (Les Mielles) – dune habitat, unimproved grassland: skylark, meadow pipit, linnet
- Les Creux – marginal, low intensity farmland : meadow pipit, stonechat
- Noirmont – marginal, low intensity farmland: meadow pipit, Dartford warbler

The sites added in 2008/2009 are at:

- Durrell grounds – parkland habitat
- Gorselands – heath and unimproved grassland with marginal fields: meadow pipit, Dartford warbler, stonechat, linnet
- St Ouen's Pond – unimproved grassland with marginal fields: skylark, meadow pipit, stonechat, linnet
- Grouville Marsh/Golf-course – unimproved grassland adjacent to intensively managed area
- St Catherine's Woods – woodland.

The sites added in 2011/2012 are at:

- Sorel Pont-Mourier Valley – north facing cliff-top farmland includes restoration sites including sheep-grazing: Dartford warbler, linnet
- Fern Valley – woodland
- St Peter's Valley (Le Don Gaudin to Quétivel) – woodland
- Grantez (St Ouen) - heath and unimproved grassland with marginal fields : meadow pipit, linnet



**Map of sites for Jersey farmland bird monitoring project**

## **METHODS**

### **Basic methods**

Distance sampling along walked line transects is used to monitor bird numbers. This involves an observer walking each transect path and noting each individual bird or group of birds seen or heard and at which distance band they are observed (using four bands: 0-25m, 25-50m, 50-100m, 100m+). Distance sampling allows estimation of population size by combining count data with an estimate of detection probability.

Please submit notable observations on the day to the Société Jersiaise Ornithology Section via HGY (860032 or [glyn.young@durrell.org](mailto:glyn.young@durrell.org)).

### **Check-sheets**

All birds are recorded onto a check-sheet (Appendix I) except those species noted below. Further basic data (see below) are also recorded during each visit. Check-sheets will be supplied to each observer as hard copies or they can be printed from an e-mailed version. Filled sheets should be returned to HGY at Durrell as soon after each site visit as possible. All observations are later transferred to an Excel file and Access Database (see Appendix III) and stored. Hard copies (filled check-sheets) are also stored.





## Transects

Each transect is relatively flat and easy to walk. There may be wet grass at times so appropriate footwear is recommended.

- *Number of visits in a year*

Each site will be visited every two weeks throughout the year. Fortnightly blocks are determined in advance and each Island site will be monitored during the two weeks. HGY will check with surveyors that each site will be covered in the next two-week period and surveyors are encouraged to visit different sites over the year if possible.

- *Times of visit*

Visits should always be made in the early morning as birds are most active then. Some species such as wrens and house sparrows often virtually disappear later in the day.

- *Duration of visit and speed of walking*

You should walk at around 2km per hour along the transect recording every bird seen and heard. It is advisable not to stay too long in one place as this can result in over-recording bird numbers. No transect should typically take longer than 40 minutes. If possible speed of walking and duration of visit should be the same on each visit to the site.

- *Direction of transect*

The maps (see below) show the typical direction of travel along the transects. However, the direction is not necessarily important and the surveyor can start at the other end if preferred.

- *Recording birds to left or right of transect*

The recording sheet allows for birds to be noted for left or right of the transect line. This data is not included in the final data-set and is more for convenience of the surveyor to reduce double counting than for future analysis.

- *Bird species included*

All birds except those species noted below are recorded during each site visit. This includes birds flying overhead and not obviously using the surveyed area such as cormorant or grey heron. However, please note all such birds as in future trends may be important. Introduced pheasant and red-legged partridge and feral goose should be recorded at all times.

- *Bird species not included*

The following species have not been included in the monitoring programme because of the likelihood of them actually being on adjacent marine areas (e.g. on cliffs or at sea) that cannot be considered part of the survey site:

- European shag
- Northern fulmar
- Northern gannet
- Oystercatcher – unless on the fields



- Gulls – all species
- Rock pipit if heard from cliffs (record if seen on transect).

### Data recorded on form

On each survey please record date, site, observer (by initials), weather (please use: fine, sunny, overcast, foggy, raining, frosty and snowing and include wind speeds – see Beaufort scale (Appendix II)) and start and finish times.

- *Recording group size*

Each group of birds is recorded exactly as it is observed. Species such as wrens are typically considered to be found as single birds spaced out along the transect and would be recorded as: 1,1,1,1,1,1,1,1 (it is not necessary to put in the commas when recording). However, it is possible that some observations of wren may be of two or more birds such as a feeding pair or fighting males and the tally will appear as: 1,1,1,1,2,1,1,2. Many birds are found in a variety of groupings such as blackbirds and would be tallied as e.g.: 1,1,4,2,1,4,1,1. Please do not add single birds up for convenience – it is very tempting with meadow pipits! Please put a ring around all groups large than 9 as 13 or 78 as this avoids 13 appearing as 1,3 etc.

- *Overhead migrants*

Although birds migrating overhead such as meadow pipits, swallows chaffinches, redwings etc. are not actively using the site they should still be counted. However, do not spend too much time attempting to record every individual chaffinch as it passes and getting group size right. Very quickly the data will show that there were lots of chaffinches on that day!

- *Extra birds*

Each check-sheet includes an additional column for extra birds. This column should be used to record birds seen at the site during the visit but which can not be included in the survey e.g. birds seen on the walk back after leaving the transect. Typically only 'important' birds such as skylarks, stonechats or early migrants etc. are recorded this way but this is at the recorder's discretion. No records will be discarded and these birds are not included in the main analysis.

- *Distance measuring*

Distances of each bird or group of birds between the location they are first observed and the transect are recorded. For convenience these distances are simplified as occurring within four bands or belts:

1. 0-25 metres from the transect
2. 25-50 metres from the transect
3. 50-100 metres from the transect
4. More than 100 metres from the transect



Notes:

- A bird that is seen at a long distance in front along the transect will still fit into the relevant distance bands i.e. the bird's distance is relevant to transect and not to the observer. A blackbird standing on the transect line 500m away from you is still in the 0-25m band.
- Birds flying across transects i.e. from a right angle or similar are recorded in the distance band in which they are first seen (even if this is not the band you identify them in!) and not where they end up.
- Birds flying high overhead should as closely as possible be put into the distance bands relative to the transect as if near the ground i.e. a skylark 500m directly above the transect should be recorded in the 0-25m band.

### Double-counting

Wherever possible, double-counting (recording the same individual or group of individuals more than once) should be avoided. In practice this can be very difficult as one wren or blue tit looks much like another and each individual's movements cannot be followed. However, with experience and intuition it should be possible to reduce this problem – it is highly likely that the repeated fly-pasts by the female marsh harrier only represent one bird. But what of the swallow doing the same? With experience it should be possible to judge whether swallows are migrating in ones across a field or whether a single nesting bird is flying back and forth with insects.

It is also best practice, wherever possible, to not walk back down the transect after completion of the survey. This removes all temptation!

### 'Knowing' the birds

- *Known individuals*

Regular visitors to a transect will eventually get to recognise some individual birds and learn their patterns. If a male blackbird regularly sings from a favourite perch it is tempting to wait or look for him if he chooses not to be there one day. This should be avoided and the observer should continue at normal pace even if this means not recording a bird that you believe is definitely present somewhere.

- *Invisible birds*

Several species naturally almost always occur in groups of more than one – Cetti's warblers, dunnocks and bullfinches are 'never' alone. However, if only one bird can be seen or heard the observer should not record the believed unseen members of the family or group. Equally, baby birds calling loudly must have one or more parents nearby – but, if they are not seen they should not be recorded.





## Notes and specific problems

- *Whitethroats*

Whitethroats represent an almost unique problem. It is always possible to unknowingly double count birds who appear prominently at one point and then at another later. However, this is almost standard behaviour with whitethroats who regularly sing openly from a perch before flying long distances to do the same at another perch possibly several fields away. It is not until you watch them doing this that you actually realise what they are capable of. While it is always hoped that all the males in an area will chose to sing at once this rarely happens and the observer should be alert to whitethroat behaviour.

- *Robins*

Robins and some other species such as blackbirds and stonechats will often precede the observer along a transect as if asking to be double-counted. Great care should be taken to ensure that any individuals displaying this behaviour are mentally noted and repeat counts avoided.

- *Dogs*

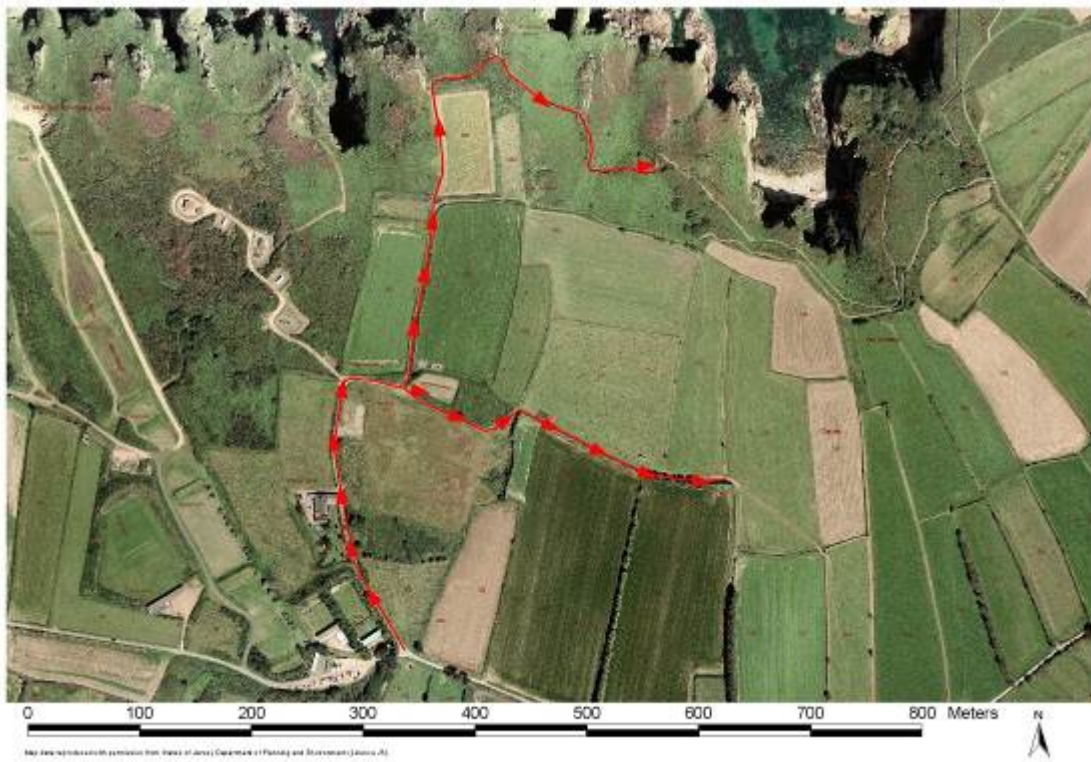
It should be noted that all sites (except that at Durrell) are also used by dog walkers (especially Blanche Banques!) and that encounters with dogs and their often defensive (aggressive?) owners are inevitable. Be warned, don't wear your best clothes and watch where you put your feet!

## Countryside Code

Please always remember that the welfare of the birds comes first and always follow the Countryside Code.



## THE SITES



**Crabbé**

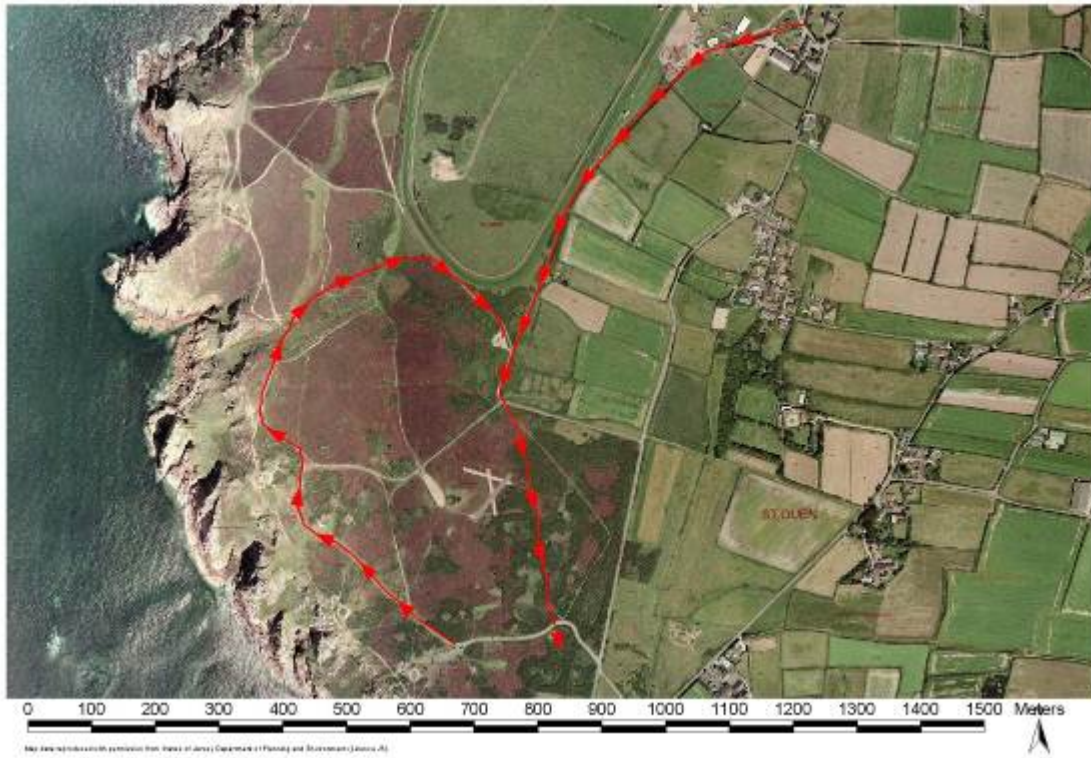


**St Ouen's Pond Kempt Tower to Scrape Hide**





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**Les Landes – Transects 1 and 2**

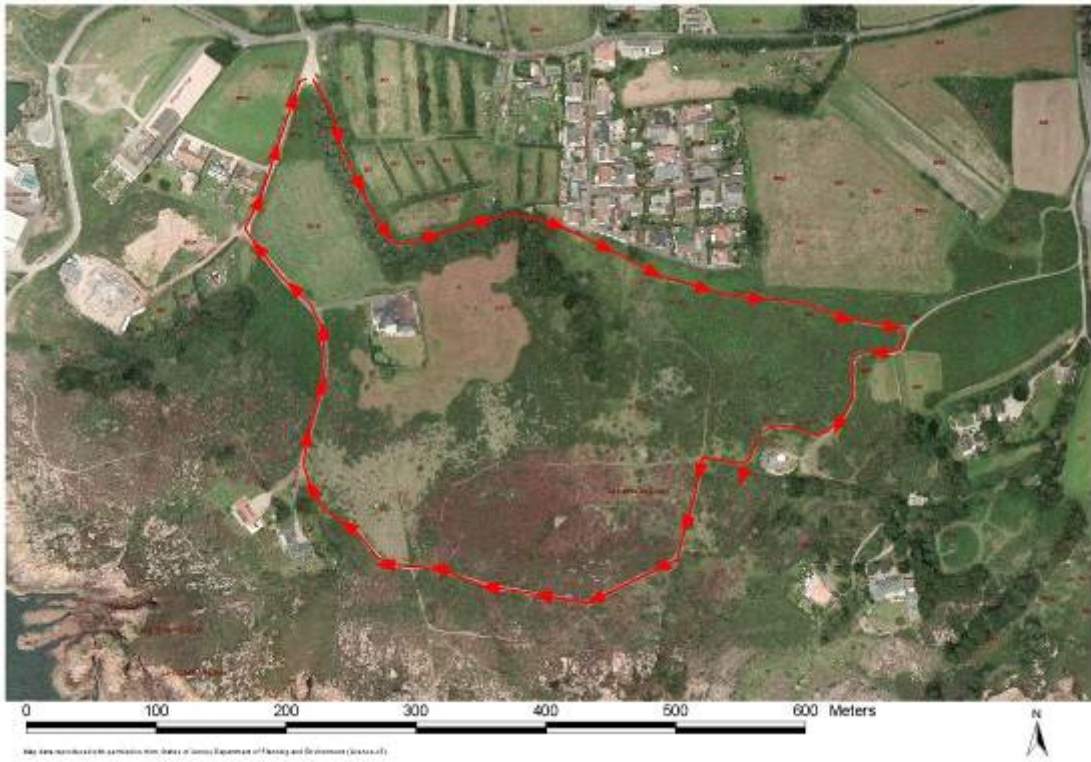


**Noirmont**





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**Gorselands**



**Les Creux**





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### Blanche Banques (Les Mielles)

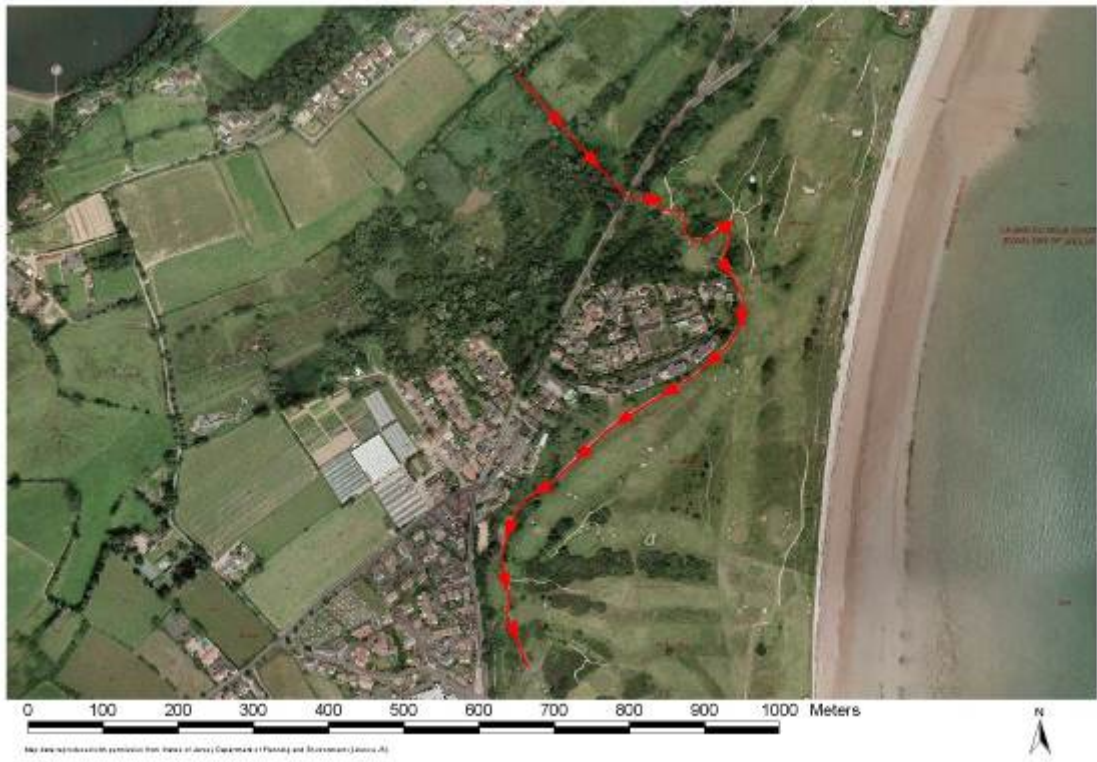


### Durrell grounds

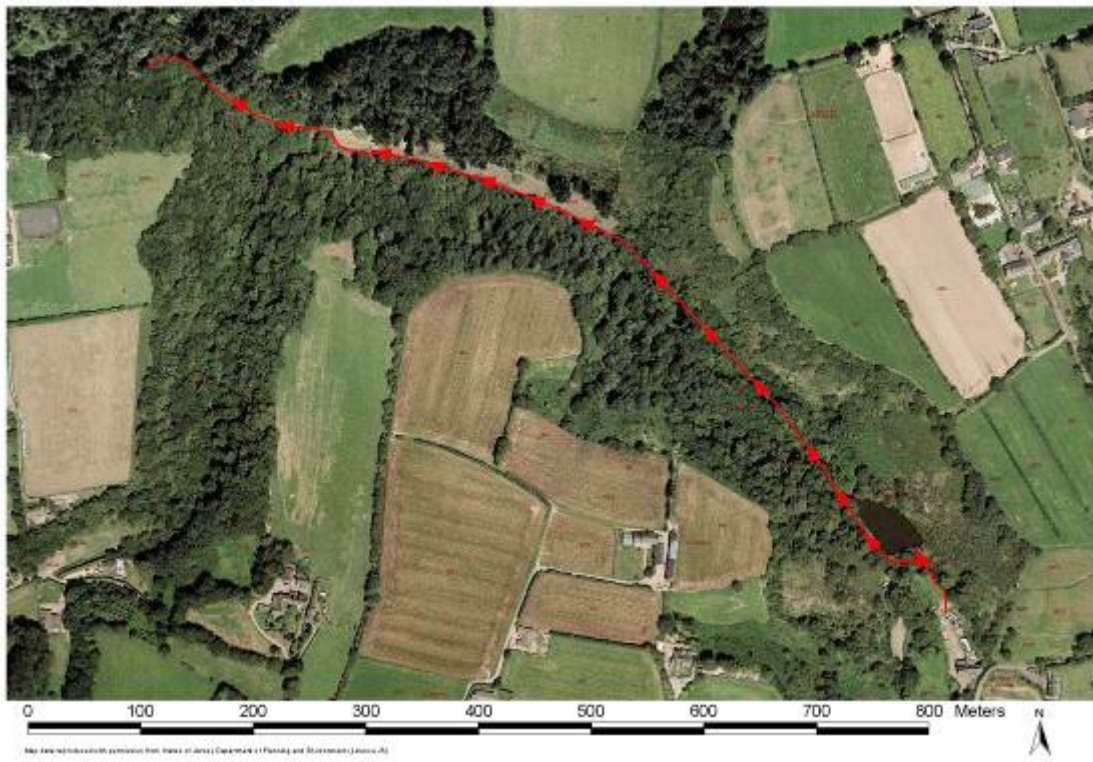




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**Grouville Golf Course**

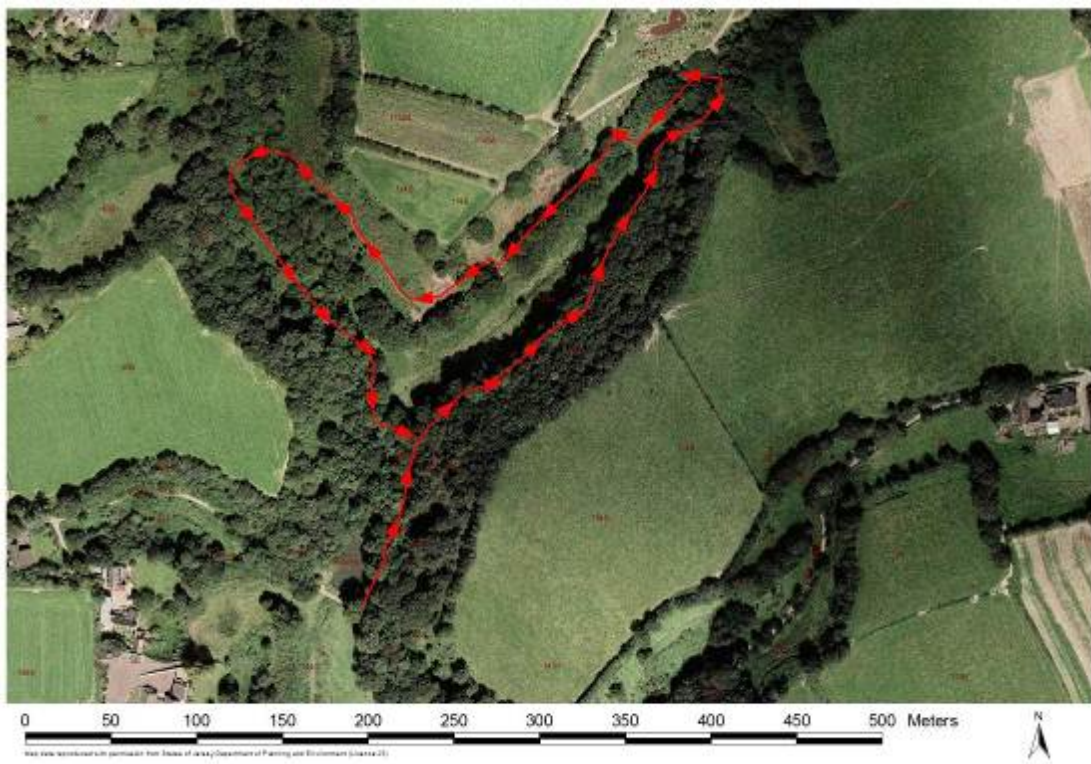


**St Catherine's Woods**



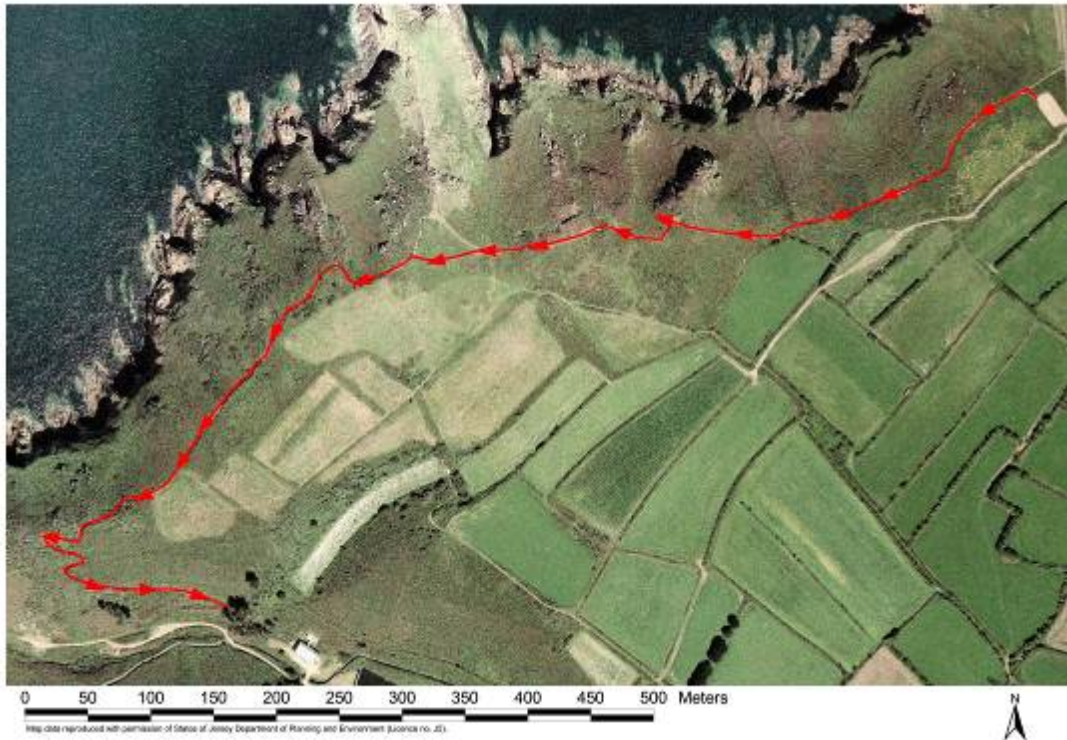


**Grantez**

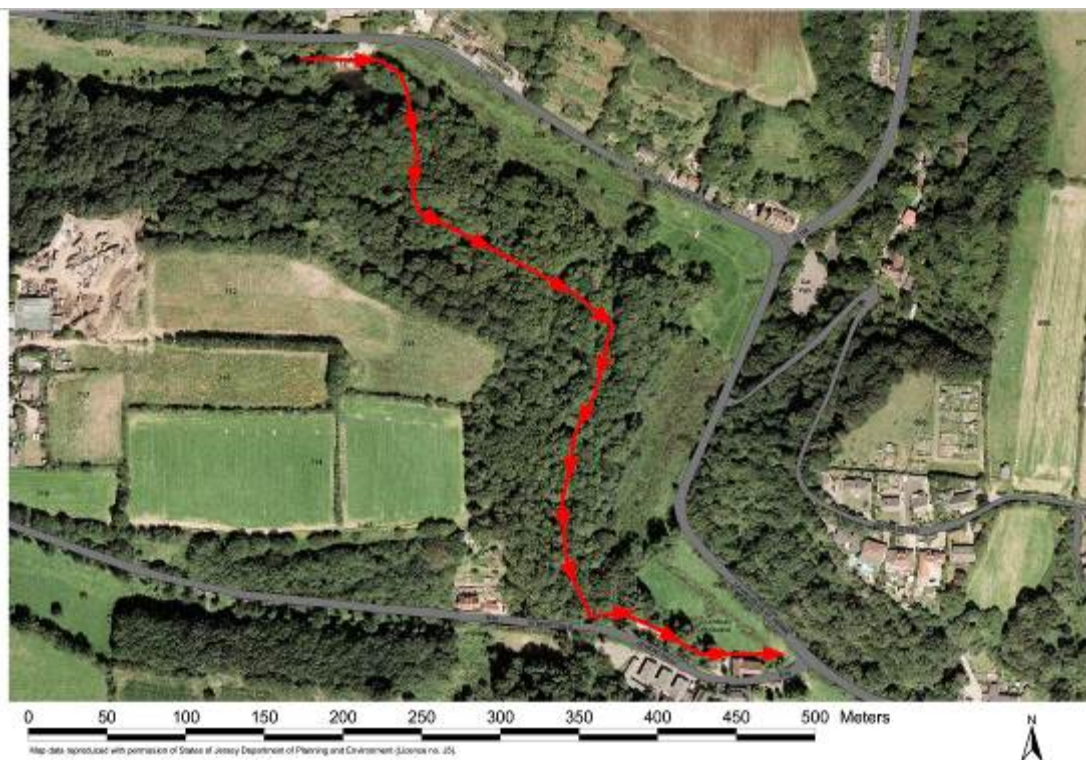


**Fern Valley**





**Sorel** Sorel Point to Mourier Valley



**St Peter's Valley** Le Don Gaudin to Quétivel



## APPENDIX I

### Standard Recording Check-sheet

**Site** \_\_\_\_\_ **Transect No.** \_\_\_\_\_ **Date** \_\_\_\_\_ **Recorder** \_\_\_\_\_  
**Weather** \_\_\_\_\_ **Start time** \_\_\_\_\_ **Finish time** \_\_\_\_\_

Record numbers of birds above 9 in a circle i.e. 11

	Left of transect				Right of transect				
Bird species	100 m +	50-100 m	25-50 m	0-25 m	0-25 m	25-50m	50-100 m	100 m +	Extra birds
Skylark									
Stonechat									
Dartford Warbler									
Mallard									
Pheasant									
Wood Pigeon									
Stock Dove									
Rock dove									
Collared Dove									
Kestrel									
Marsh Harrier									
Great-spotted wood									
Swift									
Meadow Pipit									
Pied Wagtail									
Swallow									
Carrion Crow									
Magpie									
Jay									
Blackbird									
Song thrush									
Redwing									
Robin									
Dunnock									
Wren									
Great Tit									
Blue Tit									
Long-tailed Tit									
Chiffchaff									
Blackcap									
Whitethroat									
Goldcrest									
Chaffinch									
Greenfinch									
Goldfinch									
Linnet									
Starling									
House Sparrow									



## APPENDIX II

### The Beaufort Scale of wind speeds

No.	Knots	Mph	Description	Effects at sea	Effects on land
0	0	0	Calm	Sea like a mirror	Smoke rises vertically
1	1-3	1-3	Light air	Ripples, but no foam crests	Smoke drifts in the wind
2	4-6	4-7	Light breeze	Small wavelets	Leaves rustle. Wind felt on face
3	7-10	8-12	Gentle breeze	Large wavelets crests, not breaking	Small twigs in constant motion. Light flags extended
4	11-16	13-18	Moderate wind	Numerous whitecaps	Dust, leaves and loose paper raised. Small branches move.
5	17-21	19-24	Fresh wind	Many whitecaps, some spray	Small trees sway
6	22-27	25-31	Strong wind	Larger waves form. Whitecaps everywhere. More spray	Large branches move. Whistling in phone wires. Difficult to use umbrellas
7	28-33	32-38	Very strong wind	White foam from breaking waves begins to be blown in streaks	Whole trees in motion
8	34-40	39-46	Gale	Edges of wave crests begin to break into spindrift	Twigs break off trees. Difficult to walk
9	41-47	47-54	Severe gale	High waves. Sea begins to roll. Spray may reduce visibility	Chimney pots and slates removed
10	48-55	55-63	Storm	Very high waves with overhanging crests. Blowing foam gives sea a white appearance	Trees uprooted. Structural damage
11	56-63	64-72	Severe storm	Exceptionally high waves	Widespread damage
12	63	73	Hurricane force	Air filled with foam. Sea completely white. Visibility greatly reduced	Widespread damage. Very rarely experienced on land





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### APPENDIX III Example of data spreadsheet

Site	Transect Code	Date	Recorder	Weather	Species	Group size	Distance band	Start time	Finish time	Distance (Mtrs)	Year
Gorselands	GL1	25/05/08	HGY	Half overcast, F3-4	Mallard	2	1	07.40am	08.19am	0-25 M	2008
Gorselands	GL1	25/05/08	HGY	Half overcast, F3-4	Pheasant	1	4	07.40am	08.19am	100 M+	2008
Gorselands	GL1	25/05/08	HGY	Half overcast, F3-4	Pheasant	1	4	07.40am	08.19am	100 M+	2008
Gorselands	GL1	25/05/08	HGY	Half overcast, F3-4	Pheasant	1	4	07.40am	08.19am	100 M+	2008
Gorselands	GL1	25/05/08	HGY	Half overcast, F3-4	Wood pigeon	1	1	07.40am	08.19am	0-25 M	2008
Gorselands	GL1	25/05/08	HGY	Half overcast, F3-4	Wood pigeon	2	2	07.40am	08.19am	25-50 M	2008
Gorselands	GL1	25/05/08	HGY	Half overcast, F3-4	Wood pigeon	2	2	07.40am	08.19am	25-50 M	2008
Gorselands	GL1	25/05/08	HGY	Half overcast, F3-4	Wood pigeon	1	4	07.40am	08.19am	100 M+	2008
Gorselands	GL1	25/05/08	HGY	Half overcast, F3-4	Rock dove	3	4	07.40am	08.19am	100 M+	2008
Gorselands	GL1	25/05/08	HGY	Half overcast, F3-4	Meadow pipit	1	1	07.40am	08.19am	0-25 M	2008
Gorselands	GL1	25/05/08	HGY	Half overcast, F3-4	Meadow pipit	1	1	07.40am	08.19am	0-25 M	2008
Gorselands	GL1	25/05/08	HGY	Half overcast, F3-4	Swallow	1	1	07.40am	08.19am	0-25 M	2008
Gorselands	GL1	25/05/08	HGY	Half overcast, F3-4	Swallow	1	2	07.40am	08.19am	25-50 M	2008
Gorselands	GL1	25/05/08	HGY	Half overcast, F3-4	Swallow	1	4	07.40am	08.19am	100 M+	2008
Gorselands	GL1	25/05/08	HGY	Half overcast, F3-4	Carrion crow	1	1	07.40am	08.19am	0-25 M	2008
Gorselands	GL1	25/05/08	HGY	Half overcast, F3-4	Carrion crow	1	1	07.40am	08.19am	0-25 M	2008
Gorselands	GL1	25/05/08	HGY	Half overcast, F3-4	Carrion crow	1	2	07.40am	08.19am	25-50 M	2008
Gorselands	GL1	25/05/08	HGY	Half overcast, F3-4	Carrion crow	1	2	07.40am	08.19am	25-50 M	2008
Gorselands	GL1	25/05/08	HGY	Half overcast, F3-4	Carrion crow	1	2	07.40am	08.19am	25-50 M	2008
Gorselands	GL1	25/05/08	HGY	Half overcast, F3-4	Carrion crow	1	3	07.40am	08.19am	50-100 M	2008
Gorselands	GL1	25/05/08	HGY	Half overcast, F3-4	Carrion crow	1	4	07.40am	08.19am	100 M+	2008
Gorselands	GL1	25/05/08	HGY	Half overcast, F3-4	Carrion crow	1	4	07.40am	08.19am	100 M+	2008
Gorselands	GL1	25/05/08	HGY	Half overcast, F3-4	Carrion crow	1	4	07.40am	08.19am	100 M+	2008
Gorselands	GL1	25/05/08	HGY	Half overcast, F3-4	Carrion crow	1	4	07.40am	08.19am	100 M+	2008
Gorselands	GL1	25/05/08	HGY	Half overcast, F3-4	Magpie	1	1	07.40am	08.19am	0-25 M	2008
Gorselands	GL1	25/05/08	HGY	Half overcast, F3-4	Magpie	1	1	07.40am	08.19am	0-25 M	2008
Gorselands	GL1	25/05/08	HGY	Half overcast, F3-4	Magpie	2	2	07.40am	08.19am	25-50 M	2008
Gorselands	GL1	25/05/08	HGY	Half overcast, F3-4	Magpie	1	3	07.40am	08.19am	50-100 M	2008
Gorselands	GL1	25/05/08	HGY	Half overcast, F3-4	Blackbird	1	1	07.40am	08.19am	0-25 M	2008
Gorselands	GL1	25/05/08	HGY	Half overcast, F3-4	Blackbird	1	1	07.40am	08.19am	0-25 M	2008
Gorselands	GL1	25/05/08	HGY	Half overcast, F3-4	Blackbird	1	1	07.40am	08.19am	0-25 M	2008
Gorselands	GL1	25/05/08	HGY	Half overcast, F3-4	Blackbird	1	1	07.40am	08.19am	0-25 M	2008
Gorselands	GL1	25/05/08	HGY	Half overcast, F3-4	Blackbird	1	2	07.40am	08.19am	25-50 M	2008
Gorselands	GL1	25/05/08	HGY	Half overcast, F3-4	Robin	1	1	07.40am	08.19am	0-25 M	2008