

# BIRDS ON THE EDGE MONITORING STRATEGY



# **BREEDING BIRD SURVEY 2014**







## Breeding Bird Survey 2014 – BOTE Monitoring Strategy

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Birds On The Edge is a partnership of Durrell Wildlife Conservation Trust, States of Jersey Department of the Environment and the National Trust for Jersey.

Cover photo: Male cirl bunting feeding young.

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## I. INTRODUCTION AND AIMS

Birds On The Edge is a partnership project between Durrell Wildlife Conservation Trust, States of Jersey Department of the Environment and the National Trust for Jersey that aims to stop the decline of locally endangered birds through the restoration of their coastal habitats<sup>1</sup>.

The two main aims of the present survey are 1) to provide a baseline of data on the current status and trend of populations of endangered birds<sup>2</sup> in **Areas 1 and 2 (Map 1)** by replicating the survey over a period of at least three years and 2) to provide real-time feedback on ongoing conservation work, especially on the management of small endangered populations.

This survey is part of Birds On The Edge's Monitoring Strategy, which supports a wide range of habitat restoration work, identifies sites of ecological importance in the production of conservation management plans<sup>3</sup>, and provides independent advice to funding applications that will increase the wildlife value of these sites. Examples of wildlife-friendly management are hedge planting and restoration, enhancement of boundaries, planting of insect and bird conservation crops, bracken clearance and scrub management. To date, bracken control has been undertaken in parts of **Area 1** with the added conservation effect of a grazing flock since 2009<sup>4</sup>, and since 2013 a farmland scheme has allowed for the cultivation of conservation crops that will serve as winter food sources to many farmland breeding and wintering species<sup>5</sup>. A further project to restore the woodland of Mourier Valley has started with the removal of bracken and the planting of a variety of trees<sup>6</sup>. Scientific recording is of paramount importance as resources are limited and need to be utilized effectively. The research carried out by BOTE via this and other surveys aims to generate management recommendations for ongoing and future restoration work.



#### Map 1. Birds On The Edge areas of work: Area 1 and Area 2

## 2. METHODOLOGY

#### 2.1 Area of study

The 2014 Breeding Bird Survey has collected data from **Areas 1 and 2** as defined by the BOTE steering group. **Area 1** (3,180.8vg, 572.5ha), which was also covered in the 2013 Breeding Bird Survey<sup>7</sup> comprises the land north of the coastal road between Sorel Point and L'Étacq, and **Area 2** (5,929.5vg, 1,067.3ha) extends from L'Étacq to La Pulente and goes as far east as the roads above St Ouen's Bay. It includes the Airport grounds and the fields north and south of it. See section 2.2 for details on how data was collected throughout the survey area.

#### 2.2 Data collection

Following the 2013 survey methodology and in order to maximize the amount of data available, this survey compiled results from the following sources:

<u>BOTE Breeding Bird Survey Transect:</u> A linear survey where the observer walked the coastal paths and recorded presence of breeding pairs by direct observation. Each section of the survey was walked twice between 1<sup>st</sup> May and 1<sup>st</sup> August 2014. The surveys were carried out between one and three hours after sunrise and on dry weather-days with a wind force of 5 or less in the Beaufort Scale. The observer recorded the location of each breeding pair and behaviour such as singing, territorial displays, nest-building and food delivery to the young. The path walked in **Area 1** was the same as the 2013 Breeding Bird Survey. The total path walked was of 19,7km (**Map 2**).

Map 2. Linear path walked during the 2014 survey.



Survey Path 2014 BOTE Breeding Bird Survey

The Bird Monitoring Scheme<sup>8</sup>: A structured Island-wide monitoring scheme managed by the Durrell Wildlife Conservation Trust in collaboration with the Société Jersiaise, the National Trust for Jersey and the States of Jersey Department for the Environment. This monitoring programme was initiated in 2005 and aims to track trends in the population of all farmland and marginal habitat birds in Jersey. Data is collected by direct sampling along walked line transects at 22 sites across Jersey. This involves an observer walking each transect path every two weeks 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+)<sup>8</sup>. Of the total 22 transects, eight are found in the area covered in the survey (see maps 3, 4, 5, 6, 7, 8 below).





Map 5. Les Landes transects 1 and 2

Map 4. Sorel transects 1 and 2





Map 7. St Ouen's Pond transect





Map 8. Les Blanches Banques transect



The British Trust for Ornithology Breeding Birds Surveys (BBS)9: Launched in 1994 with the aim of monitoring population changes of over 100 bird species in the UK, it involves volunteer birdwatchers carrying out standardized annual bird counts on randomly-located 1-km sites. The survey route comprises two parallel lines, each 1km in length, about 500m apart, and about 250m from the edge of the square. The two 1-km transects are divided into 200m sections, making a total of ten 200m sections per square. A first visit to the site establishes the route and classifies habitat types found in the square. A first bird count is carried out in the early part of the breeding season (April to mid-May) and a second at least four weeks later (mid-May to the end of June). All birds seen or heard are recorded in four distance categories, three measured at right angles to the transect line (within 25m, between 25-100m, or over 100m from the transect line), and those seen in flight only. No surveys are conducted in heavy rain, poor visibility, or strong winds when bird activity is dampened. One of the BTO BBS squares is found within **Area 1** and was surveyed in 2013 and 2014 (**Map 9**).



#### Map 9. BTO's Breeding Bird Survey square within Area 1.

<u>Individual reports</u>: Observations submitted by members of the public were investigated if they involved a species of interest (**section 2.3**).

#### 2.3 Species

The list of species surveyed comprised nine species that were monitored in 2013 and four new species that have been added because they are found in **Area 2**. Some species that were previously surveyed in 2013 were surveyed again in 2014, but only in the original **Area 1**. Their monitoring did not expand into **Area 2** due to lack of resources and their relatively good breeding success rate, which increased their numbers beyond that which was possible to monitor. Monitoring each pair's productivity was restricted to species with 10 pairs or less (see **Table 1** for a full list of species).

**Table 1.** List of species surveyed per year and per area, stating what aspects of the species' breeding ecology were monitored.

<i>ei</i>		
Species*	2013	2014
	Area 1	Area 1 & Area 2
Common kestrel	Breeding pairs	Breeding pairs
	Pair productivity	Pair productivity
Peregrine falcon	Breeding pairs	Breeding pairs
	Pair productivity	Pair productivity
Northern lapwing	No territories in Area 1	No territories in Area 1
Turtle dove	No territories in Area 1	No territories in Area 1
Jackdaw	Breeding pairs	Breeding pairs in Area 1
		Unknown status in Area 2
Raven	Breeding pairs	Breeding pairs and productivity in Area 1
	Pair productivity	No territories in Area 2
Skylark	No territories in Area 1	No territories in Area 1
		Breeding pairs and productivity in Area 2
Meadow pipit	Breeding pairs	Breeding pairs and productivity in Area 1
	Pair productivity	Widely distributed in Area 2
Common whitethroat	Breeding pairs	Breeding pairs and productivity in Area 1
	Pair productivity	Widely distributed in Area 2
Dartford warbler	Breeding pairs	Breeding pairs
	Pair productivity	Pair productivity
Common stonechat	Breeding pairs	Breeding pairs
	Pair productivity	Pair productivity
Linnet	Breeding pairs	Breeding pairs and productivity in Area 1
	Pair productivity	Widely distributed in Area 2
Cirl bunting	No territories in Area 1	No territories in Area 1 or Area 2
		Breeding pairs and productivity at only known
		site in Grouville.

\*For scientific names see Appendix 1

The cirl bunting is included in this report, even though it is not found in the survey area, because it is a species of high conservation concern and priority for BOTE. The cirl bunting is a farmland indicator species that favours mixed coastal farmland and has narrow habitat requirements. The only individuals known in Jersey at present are found in Grouville, but the last known breeding site - before the species was considered absent for a decade- was in St Brelade's Bay and this bunting was regularly recorded in **Area 2** prior to *c*. 1990. The SW corner of Jersey is directly adjacent to **Area 2** and is also where young individuals in dispersal have been seen during the autumns of 2013 and 2014. It is hoped that habitat restoration efforts will facilitate the establishment of a new population in the west and south west of the Island.

## 3. RESULTS

The table below summarizes the results of the 2014 survey. The first digit refers to the number of breeding pairs and the second digit refers to the total number of fledged young by each species.

Species*	2013	2014	
	Area 1	Area 1	Area 2
Common kestrel	6:-	3:-	1:4
Peregrine falcon	2:-	3:6	0
Lapwing	0	0	3:9
Turtle dove	0	0	1:0
Raven	1:-	1:5	0
Skylark	0	0	5:-
Common whitethroat	5:-	7:-	10 : -
Dartford warbler	5:-	9:-	1:-
Common stonechat	1:3	5:17	1:4

Table 2. Results of the 2014 survey (number of breeding pairs: number of fledged young)

## 4. SPECIES REVIEW AND MANAGEMENT RECCOMENDATIONS

The 2014 survey benefited from a successful breeding season for most of the species, which were recorded in higher numbers than in 2013. This allowed for some species to be kept out of the monitoring list in **Area 2**: Eurasian jackdaw, common whitethroat, meadow pipit and linnet. We hope that changes in their populations in the longer-term will be reflected by the Bird Monitoring Scheme transects at Grantez, St Ouen's Pond and Les Blanches Banques. Efforts were directed at monitoring the species with discrete number of breeding pairs: kestrel, peregrine falcon, lapwing, turtle dove, raven, skylark, Dartford warbler and cirl bunting.

Comparing 2014 data from **Area 1** to the previous year it is clear that most farmland and coastal birds concentrated their breeding efforts once again at Les Landes, while large, cliff-nesting birds remain relatively spaced along the north coast.

The following reviews offers species background based on historical records compiled by the Ornithology Section of La Société Jersiaise<sup>10</sup>, an analysis of the 2014 survey data and conservation management recommendations for each species.

### 4.1 Common kestrel



With an estimate 52,000 breeding pairs during the late 1980s, the UK population has declined significantly in the last two decades. The factors contributing to this decline are not yet known, but early hypotheses suggest habitat change, lack of prey, increased nest-site competition from jackdaws and barn owls, increased predation from buzzards, ravens and goshawks, increased use of rodenticides and negative effects of a wetter climate, product of global trends of climate change.

The BTO, RSPB and other research organizations combined efforts to investigate and test formally whether the decline is caused by any of these factors. Not all factors have been tested as yet, but preliminary results suggest that both changes in agricultural practices and increased use of rodenticides are associated with the decline of the UK's kestrel population.

In Jersey the kestrel is listed as of Amber conservation<sup>2</sup> concern due to its small population, which is believed to be suffering a shallow decline. An undetermined number of kestrels nest in sea-cliffs and coastal areas, such as at Plémont and Crabbé, but it is believed that the bulk of the breeding population uses a proportion of the 220 kestrel nest-boxes provided by the Barn Owl Conservation Network<sup>11</sup>, which maintain and monitor them throughout the year.

2013 was a difficult year for kestrels that use nestboxes and the case might have been similar for those nesting in cliffs, although the reasons for the local decline are not clear. Out of the five boxes found in the survey area (**Maps 11 and 12**), only two had active pairs in 2013.

The 2013 Breeding Bird Survey found six pairs of kestrel in **Area 1**, one of them thought to be using a nestbox and the other five thought to be nesting in cliffs by Les Landes, Plémont, Crabbé, Col de la Rocque and Sorel.

#### Survey results

The kestrel breeding population in the survey area suffered a further decline with only three pairs of kestrels nesting in the cliffs (between Les Landes and Plémont, near Crabbé and near Sorel), and only one pair in a nestbox, near St Ouen's Bay, out of the five available nestboxes in the survey area (**Maps 10 and 11**).

Although no habitat management recommendations for the kestrel in Jersey can be produced at present, it would be advisable to carry out formal research to investigate in detail the negative trend of the population and to test a variety of factors that could be causing the trend.





Map 11. Location of kestrel nestboxes in Area 2.



#### Management recommendations

The present trend of Jersey's kestrel population has not been clearly established and, therefore, before any management is carried out, the priorities are:

- To conduct an in-depth review of the data from the nest box scheme by the Barn Owl Conservation Network, and to establish an methodology to analyze breeding data on an annual basis.
- To investigate all cases of cliff-nesting kestrels and to monitor their breeding success.

#### 4.2 Peregrine falcon



After an absence of over 30 years, due to negative population trends across Europe that related to the use of pesticides and direct persecution, a peregrine pair established a territory in Jersey in 2000 and successfully bred. For three years this pair (or a pair at the same site) represented the entire resident population of peregrines in Jersey, but in 2003 a second pair established in the Island and since then the population has slowly grown to a number ranging between five and seven breeding pairs, albeit that not all of them breed every year (**Graph 1**).

Besides the possibility of disturbance at breeding sites, the only known human cause of mortality for this species in Jersey is through aeroplane-related incidents at the Airport, with three casualties since 2009. All the peregrines involved appeared to have been juveniles.



#### Graph 1. Peregrine population in Jersey 1997-2014.

#### Survey results

In 2014 a nationwide breeding peregrine census was carried out by the BTO. The local representative of the BTO co-ordinated efforts to monitor all known and suspected breeding sites in Jersey. Seven pairs were found of which five bred successfully, fledging a combined total of 10 young (**Map 12**).

Whilst **Area 2** has no known peregrine territories, probably due to the lack of suitable sea-cliffs, the two pairs surveyed in **Area 1** in 2013 remained faithful to their nest sites and each fledged three young. A third pair was found in the NW corner of **Area 1**, at a former site known during the 1950s, where there have been sightings and evidence of a territorial pair since at least 2010. A male and a female were monitored during the breeding season but no nest or young were found. They were at times accompanied by a 1st calendar-year bird, which could have been their own offspring from 2013 or an unrelated individual prospecting for a mate.





#### Management recommendations

- To continue monitoring of breeding sites from January until chicks have fledged and to investigate possible new breeding sites.
- To grant new breeding sites with the same level of protection as known sites.
- To reinforce the present protection of breeding sites from human disturbance. Disturbance might come from activities such as rock climbing, coasteering, paragliding, flying model aeroplanes and flying quad-copters, amongst others. The protection from disturbance should be effective all year-round, but most critically between February and October.

#### 4.3 Lapwing



In the UK the decline in lapwings has been linked to changes in agricultural practices such as intensification and specialisation, both in arable land and in pastures<sup>12</sup>. The disappearance of crop rotations, switch from spring to autumn sown crops, increased drainage, and increased use of pesticides have made land unsuitable for nesting as the crops are too high and there is less invertebrate food available. A varied habitat of spring crops, rough grazing, unimproved pastures, grass and spring tillage fields is paramount for successful nesting and chick rearing<sup>13</sup>.

The lapwing population of Jersey appeared stable according to records from the 1980s and 1990s; however, wintering numbers, known to be over a thousand birds at times, began declining 15-20 years ago, and the breeding population followed behind, going from an average of 12 breeding pairs per year between 1997 and 2005, to 3-4 pairs per year since 2010 (**Graph 2**). The population decline in Jersey is likely caused by a combination of degradation of prime habitat, reduction of habitat, disturbance and predation when the population is at a critically low level. Human disturbance is likely to stem from the increase in walkers and dog-walkers at the most important breeding site near St Ouen's Pond. The degradation of habitat is likely caused, amongst other factors, by the increase of feral greylag geese. The localized increase of feral greylag geese populations have been shown to cause damage to a wide range of natural habitats and commercial crops, trampling the vegetation, promoting water eutrophication and killing small waterbirds during breeding season<sup>14,15</sup>.

The 2013 survey did not find any territories in **Area 1**, but the species has been included in the 2014 survey as **Area 2** holds the only two known breeding sites in Jersey (St Ouen's Pond and Simon's Sand Pits).





#### Survey results

In 2014 the lapwing breeding population consisted of three pairs in the scrape near St Ouen's Pond plus a possible fourth at Simon's Sandpit (**Map 13**). At the Pond at least three chicks were hatched by each pair, although most of them disappeared within a few days, some probably due to disturbance or predation (many were observed being attacked by carrion crows and one was seen being taken by a marsh harrier). Of the original nine chicks only one was confirmed to fledge. It is unknown how many chicks, if any, were produced and successfully fledged by the pair at the Sandpit.

Map 13. Lapwing breeding sites in 2014.



#### Management recommendations

- To continue monitoring of breeding sites and breeding success of each pair.
- To protect all known breeding sites from human disturbance.
- To investigate the impact of predation and disturbance by feral ferrets, cats, corvids and raptors.
- To investigate the impact of the feral greylag geese population in St Ouen's Bay with special interest in the lapwing breeding areas.
- To monitor the wintering population, its habitat use and distribution in Jersey.

#### <u>4.4 Turtle dove</u>



Turtle dove populations have declined by 95% in the UK since 1970 and by 74% across Europe since the 1980s, a rate that has increased during recent years. The UK population has also suffered a range contraction and is now confined to areas in East Anglia and the South-east of England. It is unclear what has triggered this decline but it is widely accepted that problems on wintering grounds and hunting on migration contribute to it, whilst the reduction in breeding attempts per year points to a reduction in overall productivity as a major cause of the population decline<sup>16</sup>. This reduction in the number of nesting attempts has been linked to a reduction in available weed seeds on farmland leading to a switch from weed seeds to cereals.

A project to reverse this trend has been launched in England by a partnership of organizations<sup>17</sup>. The main aim of this partnership is to research the effect of certain crops, which would provide seed-rich habitat, on the breeding success of turtle doves, as well as other key habitat features. So far positive influences on turtle dove presence, abundance, survival and breeding productivity have been identified including: mixes of flowers providing suitable seed food and structure, established scrub, hedgerows of over 4m height, standing water, bare ground and fallow land. Grazed land has been found to have a negative effect on the species' abundance. The project also is researching into the potential role of parasites in the ecology of the turtle dove, in particular by protozoan *Trichomonas gallinae*<sup>18</sup>, which has been found in 96% of breeding turtle doves (*n*=104).

In Jersey the turtle dove has followed a nationwide trend of rapid decline, going from a spring population of over 200 individuals in Jersey in the 1990s to of only one or two individuals, seen for a few weeks each spring (**Graph 3**). The factors causing this local decline are unclear but, resembling those outside of Jersey are being investigated by conservation and research organizations elsewhere. In the meantime, crops planted to provide food for the species during breeding season are being tested in the UK with some positive results.

No individuals or breeding attempts were located in the 2013 survey of **Area 1**, and only one pair was recorded in Jersey, at the National Trust for Jersey's site Les Mielles de Morville in that year.





#### Survey results

In the spring of 2014 one individual was reported east of the Grantez area but no pair was located at the former site of Les Mielles de Morville. However, a breeding pair was located by a member of the birdwatching community in the south end of St Ouen's Bay, between La Pulente and Les Blanches Banques SSI. Although the pair was seen nest-building, no evidence of eggs or fledged young could be found (**Map 14**).





#### Management recommendations

- Whilst the causes of the decline in Jersey are not fully understood it is paramount to maintain surveys in the areas where birds are sighted and to investigate reports of possible breeding attempts.
- Any site where doves display signs of breeding should be immediately assessed and measures should be put in place to protect the site from disturbance and the birds from possible predation.
- Identify arable fields near breeding sites where dove-suitable crops could be trialed. In the case of La Pulente/Blanches Banques SSI suitable areas might be difficult to find but in other sites they might be easier, such as Les Mielles de Morville and Grantez, which are near arable land.

#### 4.5 Jackdaw



In the UK jackdaws have increased in abundance since the 1960s<sup>19</sup> albeit with regional fluctuations, favoring grazing and grassland. In the Channel Islands the numbers have suffered significant fluctuations over the last century, disappearing from certain islands, including Jersey, at times. Although numbers in Jersey might have been historically underestimated, there was a noticeable absence of jackdaws before the early 1990s since when a small population has been on a steady increase and nowadays the species is found on most parts of the Island's coast.

The 2013 survey found at least four breeding pairs in **Area 1**, and in 2014 reports of jackdaws have increased all across the Island, including **Area 1** and **Area 2**. Many individuals have been observed regularly flying over and feeding in the survey areas; however, breeding sites have proved difficult to find and monitor.

The jackdaw is not a species of conservation concern in Jersey. Monitoring its breeding population and productivity is difficult and time-consuming, and, therefore, it was not monitored during the 2014 survey. However, it is recommended to put aside resources to study the expansion of the species in the Island, how it uses the breeding and feeding habitats, its possible dependence on farmland habitats and what parallels can be drawn with the British and European populations in order to understand any changes in the Jersey population.

#### Management recommendations

Censuses of jackdaw are challenging due to many reasons including the semi-colonial nesting strategy of this species, which makes it difficult to establish breeding success of pairs. The present trend appears to be positive and, therefore, the recommendations are:

- To continue monitoring abundance and distribution via the Farmland Bird Monitoring Scheme transects and the BTO's Breeding Bird Survey squares.
- To keep its present level of protection under the Conservation of Wildlife (Jersey) Law 2000.

- To launch an awareness campaign focused on identification of all corvid species, to prevent accidental shooting of jackdaws that might be mistaken for carrion crows.

#### <u>4.6 Raven</u>



The raven population in the UK stands at around 7,000 breeding pairs and its stability has granted it 'Green' conservation status, meaning that is of low conservation concern at the moment.

The raven population in Jersey has remained similarly stable over the last decade, fluctuating between three and five breeding pairs each year, which remain relatively faithful to their nesting areas. The 2013 survey confirmed the successful breeding of a pair within **Area 1**, at a site that has been active and successful for many years.

#### Survey results

In 2014 at least three pairs of raven bred successfully in Jersey, including the pair that is monitored in **Area 1**, which fledged 5 young. There is no local knowledge of a breeding pair in **Area 2** and none was found in the 2014 survey. The absence of ravens there is most likely due to the lack of suitable sea-cliffs in most of the area.

#### Management recommendations

The Jersey population of ravens seems to be stable; however, the breeding population is small and, therefore, the priorities for the species are:

- To continue monitoring abundance and distribution via the Farmland Bird Monitoring Scheme's transects.
- To keep its present level of protection under the Conservation of Wildlife (Jersey) Law 2000.
- To carry out an awareness campaign focused on identification of all corvid species, to prevent accidental shooting of jackdaws that might be mistaken for carrion crows.

#### 4.7 Skylark



The skylark is suffering a generalized decline over all of northern and western Europe. The UK population has halved during the 1990s and the decline continues, with a reduction of 75% between 1972 and 1996 in preferred farmland habitats. The main cause of this decline is the reduction of productivity per nest, caused by changes in farmland management such as: a) the switch from spring to autumn-sown cereals, which are taller and denser and more difficult to nest in; b) reduction of fields left in stubble, where winter food is usually found, c) the increase use of pesticides and weedkillers, which remove important sources of food, d) the increase of stocking densities in grassland habitats, which makes de grass too short for nesting and increases the risk of nests being trampled, and e) a switch from hay to silage, resulting on some nests being destroyed by the cutting machinery. In England, the provision of breeding plots within large arable fields has been proven to increase the nesting success and breeding productivity of this species<sup>20</sup>.

Skylarks have been on the decline in Jersey for at least the last ten years, firstly disappearing from breeding grounds at Les Landes, and decreasing dramatically at Les Blanches Banques and the Airport grounds (**Graph 4**). The causes for this decline are probably a combination of loss of breeding habitat and disturbance or predation during the breeding season.



Graph 4. Skylark breeding estimates (singing males) in Jersey 1997-2014.

At the Airport, the skylark is discouraged from breeding due to two main issues: 1) a birdstrike hazard of high probability albeit of very low risk to the aeroplane, and 2) an attractor of aerial predators such as peregrines, marsh harriers and sparrowhawks, which have various degrees of birdstrike probability and severity. The grass is managed to remain at one-foot height and as dense as it can be to discourage breeding and feeding of not only skylarks but also meadow pipits, stock doves and various gulls. This is probably one of the reasons why the breeding population at the airport has declined from 14 singing males in 2006 to 4 in 2014, and from a total 36 individuals to  $26^{21}$ .

#### Survey results

In a similar pattern to 2013, no pair, singing males or any other individual could be located within **Area 1**. No pairs have been recorded at the former breeding site at Les Landes since 2010.

The known sites were monitored during the breeding season. The Airport survey in July found four singing males, and two other males were located at Les Blanches Banques, making up the lowest total of singing males since records began. The Airport survey detected 22 further individuals, some of which were likely to be young from the year. At Les Blanches Banques it is likely that at least one of the males was part of a breeding pair, as it was observed singing until late July, whilst the other male was only observed on two occasions (**Map 15**).



Map 15. Skylark breeding sites in 2014.

#### Management recommendations

- To continue intensive monitoring of breeding population in 2015 and investigate reports of possible breeding pairs elsewhere in Jersey.
- To determine productivity in Airport pairs by undertaking two surveys during the year, the first one during the incubation period and the second one after the young have fledged.
- To identify areas of suitable or potential breeding habitat in the vicinity of the Airport, where agricultural restoration can be undertaken in order to attract skylarks that lose breeding habitat at the Airport.
- To increase the area of the fenced exclusion zone at Les Blanches Banques or establish a second fenced area.

#### 4.8 Common whitethroat



The whitethroat suffered a steep decline in the UK at the end of the 1960s due to environmental circumstances in their wintering grounds in Africa, but the populations have steadily recovered. The present trend of a shallow increase with annual fluctuations is mainly limited due to loss of farmland habitats. The Jersey population has been slowly recovering too, and 2014 saw a higher number of breeding pairs than in 2013.

#### Survey results

Compared to the 2013 survey, in which five pairs were located within **Area 1**, the 2014 survey found seven pairs in the same area, as well as evidence of more than 10 pairs within **Area 2**. No further monitoring was carried out due to the large size of the breeding population and the present positive trend of the species in Jersey and in England

#### Management recommendations

No management recommendations are issued at this time except:

To continue monitoring the population trends via the ongoing Farmland Bird Monitoring Scheme and the BTO's Breeding Bird Survey squares.

#### 4.9 Dartford warbler



The Dartford warbler maintains a stable population in Jersey that fluctuates between 40-45 singing males, although recent surveys suggest that the population might be slowly increasing. An island-wide breeding survey in 2012 located 13 breeding pairs in **Area 1**<sup>22</sup>; however, only five were found in 2013.

#### Survey results

The 2014 survey found an increase of Dartford warbler pairs in **Area 1** with a total of nine singing males detected, all within Les Landes SSI. Only one pair was found in the rest of the survey area, at Les Blanches Banques dunes, near a common stonechat pair. Most pairs succeeded in fledging at least one young each but it was not possible to monitor their total productivity.

#### Management recommendations

 To continue monitoring the species at known breeding sites such as Les Landes and Les Blanches Banques. This species' dependence on mature heathland and gorse can be used as an indicator of habitat quality.

### 4.10 Stonechat



The stonechat was widespread in the coastal areas of Jersey, with a population of over 100 resident individuals which started declining in the decade of 1990. Over the last two decades a mush smaller population has suffered severe fluctuations and its present negative trend has been linked to loss of good quality habitat for nesting and disturbance at nesting sites. Nevertheless it is possible that part of the strong fluctuations on the data is caused by a difference in surveying effort throughout the

years; as an example, the sudden increase from three pairs in 2002 to 14 pairs in 2003 is likely due to an intensive survey effort carried out by M. Handschuh<sup>23</sup> in that year (**Graph 5**).

The two strongholds of the stonechat in Jersey have been Les Landes and St Ouen's Bay, which held up to eight breeding pairs in 2003. Territories were found near the pond, Les Blanches Banques, the Sandpits and Les Mielles Golf Course. Up until 2012 two pairs were present in the bay. The 2013 survey found one pair at Les Landes, with evidence of a second pair of unknown breeding status.



Graph 5. Stonechat breeding pairs in Jersey 1996-2014.

#### Survey results

Due to the critical state of the stonechat breeding population in 2013, monitoring efforts were increased during the 2014 survey and former breeding sites were investigated.

A total of six breeding pairs were located, five at Les Landes and one at Les Blanches Banques (**Maps 16 and 17**). All six pairs fledged young successfully and produced a combined total of 21 young. At least three of the pairs were known to have reared at least two broods. During a particular count seven different males were located at Les Landes, five of which were part of breeding pairs and two of which either belonged to undetected pairs or were, most likely, unpaired.

Site	Pair	1 <sup>st</sup> Brood	2 <sup>nd</sup> Brood	TOTAL
Les Landes	Moltke	2	3	5
	S-Track	2		7
	Target			1
	Grosnez			1
	N-Track	2	1	3
Les Blanches Banques	Dunes	3	1	4
TOTAL				21

Table 3. Stonechat breeding p	airs and productivity in 2014.
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Les Landes remains the stonechat's stronghold in Jersey, with the largest area of heathland and DSH (dwarf shrub heath) in the Island, offering a mosaic of short heath, dwarf gorse, bramble and shrubs.

Les Landes is, however, regularly disturbed by human activities such as dog-walking, cycling, model airplanes, helicopter-quads and horse racing, but there are some inaccessible areas of DSH, surrounded by bramble and thick gorse, where the stonechats might be more likely to nest.



Map 16. Stonechat breeding territories and unpaired males in 2014 at Les Landes.

The breeding pair at Les Blanches Banques was found by a member of the public and the nesting site was located in an area of tall shrubs, bramble and short trees. Whilst this area is surrounded by dunes and short grasses, the patch itself is thick, thorny and impenetrable, so it was likely to remain undisturbed by humans or their domestic animals (**Map 16**).



Map 17. Stonechat breeding territories former and present in St Ouen's Bay.

These six pairs were the only ones known in the Island during 2014. The former breeding sites at Kempt Tower and La Pulente, successful until 2012, were empty in 2014. The nesting area at Kempt Tower consisted of a small area of gorse surrounded by coastal dunes and grassland, in the vicinity of the tower. There have been works carried out in the tower since the beginning of 2014, with vehicles, workmen and machinery, which might have discouraged breeding attempts. The site at La Pulente was a small bush surrounded by short vegetation and ground, which in the spring of 2014 was regularly used to lay out equipment for a variety of leisure and commercial outdoor activities. It is possible that the pair found at Les Blanches Banques in 2014 is the pair from La Pulente that moved because of the disturbance.

The autumn of 2014 saw a strong influx of migrant and wintering stonechats, with estimates of 60-80 individuals in the island on most days. Small aggregations of 4-8 individuals have been observed at migration hotspots such as Noirmont and Petit Port, Les Landes, Sorel and St Ouen's Pond. Interestingly, stonechats have also been recorded regularly at the winter bird crops of Sorel, Crabbé, Catel de Lecq and west of St Ouen's Pond. It is believed that the mild weather and the abundance of insects so late in the autumn attracted the stonechats to these crops, where they were observed perched on top of sunflowers and other plants. As dispersal and migration movements were strong at this time of the year it is difficult to determine what proportion of stonechats using these sites are part or the local breeding population or even the offspring of the local pairs.

#### Management recommendations

- To continue intensive monitoring of the breeding population in 2015 and follow up reports of possible breeding pairs elsewhere in Jersey.
- To protect exposed nesting sites from human disturbance with artificial or natural barriers.
- To prioritize DSH management to created patches of short shrub (20-40cm tall) surrounded by excluding vegetation such as taller, thicker gorse and bramble.

- To continue monitoring of wintering individuals and juveniles in dispersal as they will likely use habitats with breeding potential (Sorel, Noirmont, Portelet, Plémont, Petit Port, La Lande du Ouest, and the winter bird crops north and west).
- To mark birds with colour rings on their legs to study the population at the individual level, including territory size, territorial interactions, pairings during the breeding season, mate fidelity, juvenile dispersal, adult movements across the island outside of breeding season, proportion and distribution of wintering birds, and changes in habitat preferences. In England the BTO manages four different colour-ringing projects which provide data on small populations of stonechats and their habitats; similar projects have also been carried out in Germany, Belgium, Netherlands, Spain and Cyprus<sup>24.</sup>

#### 4.11 Meadow pipit



Like the linnet, the meadow pipit has been on a downward trend in the UK since the mid-1970s due to changes in wintering ground habitat and loss of breeding habitat in England<sup>25</sup>. At present the species is on a shallow decline and conservation efforts focus in restoring its breeding habitat. In Jersey the species has been given Amber status as there is concern for its long-term survival.

#### Survey results

In 2014 the breeding population at Les Landes had doubled from the six breeding pairs found in 2013. In **Area 2**, between L'Étacq and La Pulente, over 35 breeding pairs were detected, a figure that likely reflects a favorable combination of suitable nesting sites, adequate weather conditions and an abundance of invertebrates.

Early results from the BOTE farmland restoration work, mainly the implementation of 'Winter Bird Crops' in target areas, indicate that these crops attract large numbers of pipits. Due to a breeding population of over 35 pairs detected in **Area 2**, and the lack of resources needed to monitor each pair individually, no data was collected beyond the number of singing males.

#### Management recommendations

To continue monitoring breeding sites via local research schemes and to ensure that changes in population trends feedback onto farmland and conservation management plans.
To continue monitoring local and wintering populations at the BOTE's winter bird crops.

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#### 4.12 Linnet



Linnet populations in the UK fell rapidly in the mid 1970s and 80s, remaining low until recent declines have hit the UK and European populations even further. The population decline is happening at the breeding stage, with nesting failure and reduced pair productivity, which are linked to loss of good quality hedgerows and lack of adequate crops during the nestling period<sup>26</sup>.

In Jersey, linnets are in the Amber category of conservation concern<sup>2</sup> due to the widespread moderate declines of its populations. It is feared that changes in the agricultural landscape, mainly a reduction of good quality hedgerows and lack of suitable crops, is the main cause of the species' decline at a local level.

#### Survey results

The number of breeding pairs of linnet in **Area 1**, found mostly at Les Landes, increased to 16 from only seven found in 2013. **Area 2**, which was surveyed for the first time this year, held over 40 breeding pairs, making the monitoring of each individual pair unviable with limited resources.

Like the meadow pipit and other farmland species, the linnet seems to be flocking in large numbers to the BOTE winter bird crops implemented in the north and west coasts. Despite the inability to monitor all breeding pairs found in **Areas 1 and 2** in 2014, most breeding sites (Les Landes, St Ouen's Pond fields and Les Blanches Banques) are surveyed by the Bird Monitoring Scheme transects and the BTO Breeding Bird Survey for presence and breeding status.

#### Management recommendations

- To continue monitoring breeding sites via local research schemes and to ensure that changes in population trends feedback onto farmland and conservation management plans.

- To investigate the possibility of incorporating oilseed rape into arable rotations via the BOTE habitat restoration strategy, as it has been determined that nestling diet incorporates a high proportion of oilseed rape seeds<sup>27</sup>.

- To monitor migrating and winter populations at the winter bird crops.

#### 4.13 Cirl bunting



The cirl bunting was never a very abundant farmland bird in Jersey, likely due to its very narrow habitat requirements, small dispersal range and relatively short life-span (three years on average). The species suffered a steep decline during the 1990s and by the year 2000 the breeding population was down to a single pair, which failed to re-appear in 2001. For the following 10 years Jersey had no known breeding pairs of cirl buntings, and individual records were scarce and scattered.

Then in 2011 a pair was found in Grouville, prompting an intensive monitoring and management effort, aimed to increase its chances of survival and its breeding productivity. A group of local ornithologists and conservationist set up a grid of supplementary feeding stations that the cirl buntings started using regularly. A pair has been seen in that site every year since, with fledged young being observed in 2012 and again in 2013 (**Graph 6**).

There had been no significant records of individuals outside Grouville until November 2013 when two young males were found together at a farm near Noirmont. It is believed that these were birds in post-juvenile dispersion phase, most likely from either a population in England, France or even the Jersey breeding pair in Grouville. It is not impossible that they were the offspring from an, as yet, undetected pair somewhere in Jersey. Even though the farm site where they were found has potentially suitable habitat for the species, these two birds disappeared after a week. Most recently a juvenile cirl bunting of unknown origin was observed at Noirmont on 20<sup>th</sup>October but disappeared shortly after (M. Dryden *in litt*.).



Graph 6. Cirl bunting population in Jersey 1992-2014.

#### Survey results

The known breeding pair at Grouville was monitored throughout the winter and as spring arrived it was possible to follow their breeding progress. Later in the spring it was suspected that a second pair was in the vicinity, and a coordinated count was organized to census the breeding population. The count was carried out on 5<sup>th</sup> August with five observers who found 13 birds in total: two breeding pairs and nine young or recently fledged chicks.

Evidence collected throughout the spring suggests that one pair had at least two broods and successfully fledged two chicks from each, whilst the second pair also produced at least two broods, fledging at least two chicks on the first brood and four on the second brood. This brought the total productivity to 10 fledged chicks (**Table 4**).

Year	Pairs	Broods	Fledged
2011	1	-	-
2012	1	-	2
2013	1	2	1
2014	2	4	10
		(2 each pair)	

**Table 4**. Cirl bunting breeding summary since 2011.

#### Management recommendations

- To continue intensive monitoring of breeding population in 2015 and follow up reports of possible breeding pairs elsewhere in Jersey.
- To continue supplementary feeding of breeding pairs and adapt the location of the feeding stations to their movements, especially placing them near their nesting area during the spring.
- If the spring is particularly cold, to add invertebrates such as mealworms, crickets and waxmoth larvae to the feeds. This will help particularly the earliest brood, which usually has the lowest survival rate due to lack of invertebrates in the environment.
- To protect vulnerable nesting sites from disturbance caused by people, pets or predators, without drawing attention to the site itself.
- To monitor the individuals using the feeding stations with camera traps. These will potentially show other species by the feeders, including predators and pets.
- To continue monitoring of wintering individuals and juveniles in dispersal as they will favor the most suitable habitats in the island - Sorel, Noirmont, Portelet, Petit Port, La Lande du Ouest etc.
- To mark birds with colour rings on their legs to be able to study the population at the individual level, including territory size, territorial interactions, pairings during the breeding season, mate fidelity, juvenile dispersal, adult movements across the island outside of breeding season, proportion and distribution of wintering birds, and changes in habitat preferences.

## 5. FINAL CONCLUSIONS AND RECOMMENDATIONS

#### 5.1 Aims and Methodology

The main aim of this survey is to gain information on breeding ecology at the individual level for species with discreet populations in the island. At the beginning of 2014 it was noticed that some species that had been intensively monitored in 2013 were doing very well. Over time the numbers of breeding pairs that were found increased, especially of linnet, meadow pipit and common whitethroat, so it was decided to scale down the level of monitoring for these species. Observation effort was directed instead to species with less than 10 breeding pairs and small breeding ranges, such as lapwing, stonechat and skylark. It is recommended that a similar pattern is followed in the 2015 survey, so that as breeding pairs are detected the level of monitoring is adjusted to each species.

The second aim of this survey was to provide conservation management guidelines at a local scale, sometimes even at the level of a breeding pair unit. For some species of conservation concern, the advice is consistent with the species' biodiversity action plans (BAPs) by the States of Jersey<sup>28</sup>.

#### 5.2 Results and recommendations

2014 showed to be a better year than 2013 in terms of breeding pairs for some farmland species such as linnet and meadow pipit, and coastal species such as Dartford warbler and common whitethroat. The breeding populations of others such as peregrine falcon and raven seem to remain stable, whilst the trend of jackdaw and even kestrel is not known in detail.

The species of most concern, however, seem to not be making a significant recovery, or worse continuing declining. Turtle dove is probably extinct as a breeder in Jersey, with only one breeding attempt known, which was unsuccessful. Lapwing and skylark are at their lowest since records begun. Of the birds of highest conservation concern in Jersey, only cirl bunting and stonechat have increased their breeding population marginally in 2014.

#### 5.3 Further research

It is hoped that the 2015 Breeding Bird Survey will go ahead and replicate research carried out in **Areas 1 and 2** (from Sorel to La Pulente), whilst expanding to **Area 3** (from La Pulente to St Aubin) to survey it for the first time.

Many species of conservation interest (see list below) have not been included in past surveys due to the difficulty of monitoring the breeding pairs. It would be desirable to include them in the 2015 Breeding Birds Survey, perhaps with the help of visiting students or researchers that could dedicate the time to find and monitor breeding pairs in detail.

The following is a list of the species that we believe need to be included in further surveys:

- <u>Shelduck:</u> This coastal breeder is only found near the north end of St Ouen's Bay, and the breeding population is down to one or sometimes two breeding pairs. No breeding success could be confirmed in 2014.

- <u>Atlantic puffin</u>: It is believed that 2-4 breeding pairs were present on the north coast in 2014; however, productivity was very difficult to measure due to the difficult terrain and secretive habits of the species.
- <u>Sand martin</u>: Jersey holds the only regularly breeding colony of sand martin in the Channel Islands, at Simon's Sandpits. The management of the sandpit is sympathetic to the breeding colony; however, the number of pairs has decreased over the last decade. A second breeding site offered at the newly created Wetland Centre would provide a boost to the population.
- <u>Bearded tit</u>: The small Jersey population, comprising 2-4 breeding pairs found only by St Ouen's Pond, is highly mobile, disappearing for weeks at time in which they are believed to be in the continent, mainly during high summer and again in winter.
- <u>Sedge warbler</u>: Believed to be extinct as a local breeder, in 2014 two pairs with offspring were found and monitored near Eddie's Hide. It is likely that they have been there, undetected, for some summers. This particular nest-site is vulnerable to being trampled by grazing cows and predated by cats or ferrets. The landowners have been advised on how to best reduce such threats to the site.
- <u>Cetti's' warbler</u>: With the only currently known breeding population near St Ouen's Pond, it is possible that other pairs might have gone undetected across the Island. In 2014 a singing male was heard in Grouville Marsh. Other individuals were also observed there but no young could be found during the breeding season.
- <u>Common starling</u>: Both in the UK and in Jersey this species has suffered a loss of more than 50% of its population (including breeding population). In some part of the UK the decline is as severe as 90%. This population crash prompted the launch of a research study in 2012 by the RSPB to find out the causes for the UK decline. It is paramount to keep monitoring the starlings of Jersey and to investigate the causes behind the decline of the population at the local level.
- <u>Reed bunting</u>: Like the yellowhammer, this species was lost as a resident in Jersey, but unlike the latter, which hasn't been seen since 2005, between 50-100 reed buntings come to Jersey to winter every year in the reedbeds of St Ouen's Bay, Longueville Marsh and Grouville Marsh. Enhancing winter feeding grounds and improving nesting habitat is paramount in order to recover this species as a local breeder.

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## **APPENDIX 1**

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## APPENDIX 2

## Scientific names of species in report

Common shelduck	Tadorna tadorna
Marsh harrier	Circus aeruginosus
Common kestrel	Falco tinnunculus
Peregrine falcon	Falco peregrinus
Lapwing	Vanellus vanellus
Atlantic puffin	Fratercula arctica
Stock dove	Columba oenas
Turtle dove	Streptopelia turtur
Jackdaw	Corvus monedula
Carrion crow	Corvus corone
Raven	Corvus corax
Skylark	Alauda arvensis
Sand martin	Riparia riparia
Meadow pipit	Anthus pratensis
Stonechat	Saxicola rubicola
Common whitethroat	Sylvia communis
Dartford warbler	Sylvia undata
Sedge warbler	Achrocephalus schoenobaenus
Cetti's warbler	Cettia cetti
Common starling	Sturnus vulgaris
Bearded tit	Panurus biarmicus
Linnet	Linnaria cannabina
Reed bunting	Emberiza schoeniclus
Yellowhammer	Emberiza citronella
Cirl bunting	Emberiza cirlus