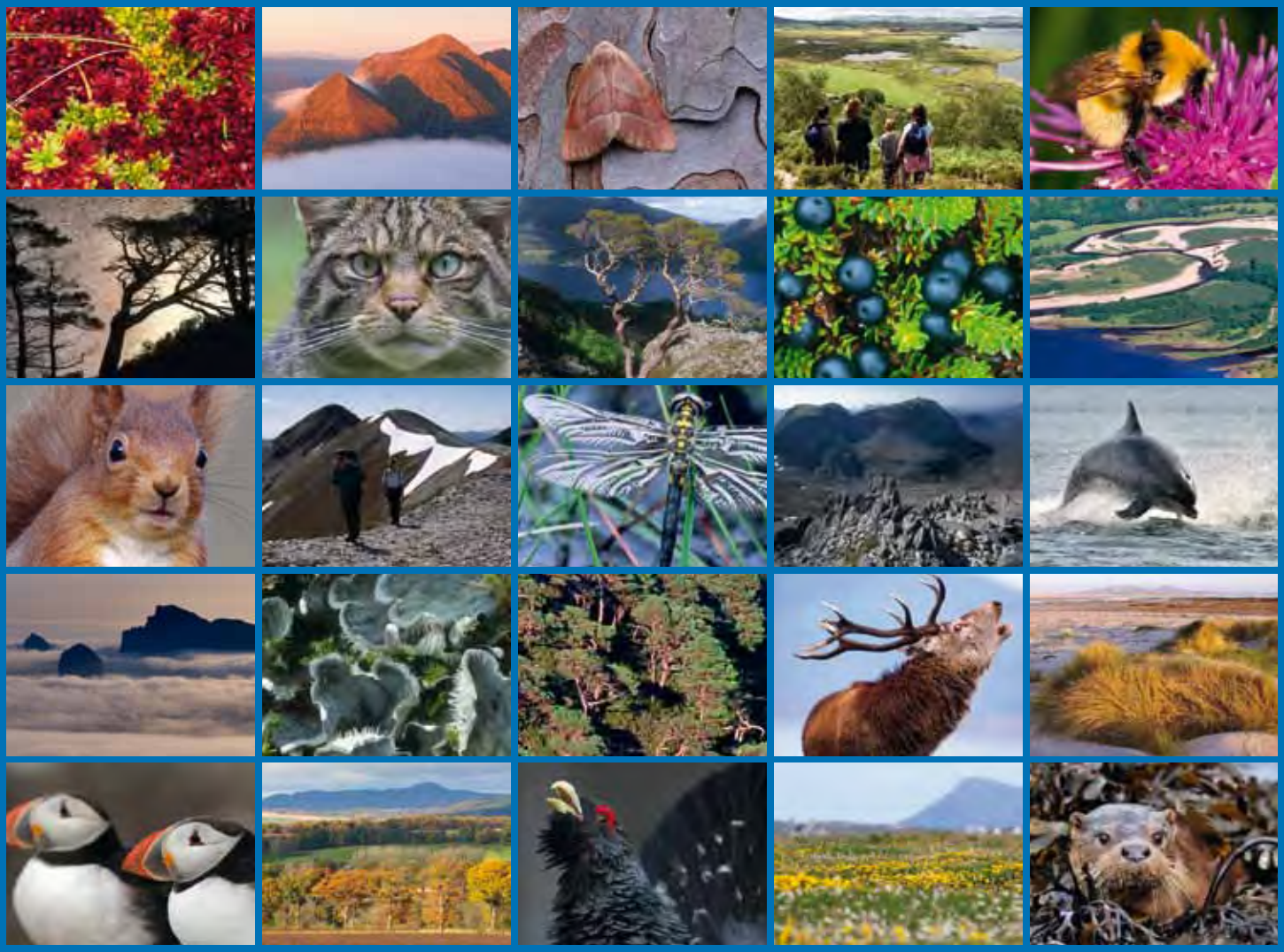
Scottish Natural Heritage
Commissioned Report No. 487

Report on the delivery of a monitoring programme for bean goose on the Slamannan Plateau 2010/11



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COMMISSIONED REPORT

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COMMISSIONED REPORT

Summary

Report on the delivery of a monitoring programme for bean goose on the Slamannan Plateau 2010/2011

Commissioned Report No. 487 (*iBids and Projects ID 10783*)

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Background

This report describes the results of a study undertaken between October 2010 and February 2011, to monitor the population of the wintering flock of bean geese (*Anser fabalis fabalis)*, which uses the Slamannan Plateau area in Central Scotland. In effect, this monitoring work is, in part, a continuation of field research which started in January 1990, as presented in a series of annual reports. This report provides details of the findings of the 2010/2011 formal SNH monitoring programme and was conducted in conjunction with what is termed the 'informal' monitoring programme. As stipulated by the SNH requirements on the basis of a report prepared by WWT, five monthly roost counts and one age assessment count of the flock through field observation were made. The main findings of the monitoring effort are detailed below.

Main findings

- The ageing assessment count determined that c.31% of 155 birds aged were juveniles.

- The five roost counts produced counts on 4 of the 5 occasions when they were conducted which were reasonably representative of the overall situation, (*i.e.*, when compared with counts made on similar dates as part of the informal monitoring programme). However, on one occasion, an unsuccessful roost count visit was made which returned a null count;

- The formal monitoring programme therefore provided some good representative data regarding the age structure of the flock, and its' ongoing use of the Fannyside part of the SSSI/SPA for roosting purposes;

- Conversely, the formal component of the overall monitoring effort provided no substantive data on which parts of the SSSI/SPA and the wider plateau were used in winter 2010/2011 by feeding or loafing bean geese; this data is solely provided by the informal work, which also provides important evidence relating to other key aspects of the birds daily routine in terms of the ongoing protection.

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Also special thanks to Carl Mitchell of The Wildfowl and Wetlands Trust with whom Angus Maciver completed the ageing assessment count, and who also supplied interesting observations relating to the proportion of juveniles within the bean goose flock.

1 INTRODUCTION

1.1 Introduction

This report has been prepared by BCM Environmental Services Limited, (BCMESL), and describes the findings of the taiga bean goose, (*Anser fabalis fabalis*), monitoring work conducted during the 2010/2011 wintering period by Angus Maciver and Brian Minshull.

In part, this work is the continuation of a long-term programme of monitoring of the use of the Slamannan Plateau by bean geese; it continues and formalises the work done by a small group of committed amateur ornithologists since 1988/1989. This work is reported in a series of annual reports[1]. Latterly, this work was done on behalf of the Bean Goose Action Group, (BGAG); since winter 1993/1994, this work has been jointly funded by several members of the Group, namely, Scottish Natural Heritage, (SNH), Falkirk Council, (FC), North Lanarkshire Council, (NLC), and the Central Scotland Forest Trust, (CSFT). Other members of the BGAG, who for example, actively use the data the monitoring programme provides, are the Forestry Commission, Forest Enterprise, the Scottish Agricultural College, the Farming and Wildlife Advisory Group, (FWAG), and the Royal Society for the Protection of Birds.

For a variety of reasons, SNH decided after the 2009/2010 wintering season to re-devise the basis upon which the monitoring effort funded by them was conducted. SNH are responsible for the Slamannan Plateau Site of Special Scientific Interest, (SSSI), and Special Protection Area, (SPA), notified in October 2008 and designated in order to provide statutory protection to the core areas used by the wintering geese. As such, SNH have certain statutory obligations to undertake monitoring of the population of Bean Geese utilising the plateau each winter. These include the monitoring and assessing of the SSSI/SPA to ensure that it continues to be in favourable condition for the qualifying feature, (*i.e.*, the bean geese). In addition, good quality survey data would be essential for confirming and/or re-defining the boundaries of the designated site.

As such, this work, (*i.e.*, that reported in this report), can be denoted as the formal monitoring effort.

However, this formal monitoring effort is complemented by other monitoring which is funded by some other members of the BGAG, (namely FC, NLC and CSFT), which, in effect, is part of the ongoing long-term programme of monitoring previously mentioned. For convenience, this element of the overall monitoring of the Slamannan Plateau bean goose population is referred to as the informal monitoring effort, (this is not to infer any lesser relevance or significance of this work; indeed it is largely conducted on behalf of the BGAG by the same individual, namely Angus Maciver, to the same standards).

The monitoring work described in this report was undertaken between 30th September 2010, when the Slamannan Plateau population of bean geese first began to arrive on their favoured wintering grounds from the breeding area, and *c*. the 25th or the 26th February 2011[2], the estimated date of the final departure of birds back to their breeding grounds, on the basis of evidence provided by the informal monitoring effort visits.

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[1] The Annual Reports prepared by Maciver, (2010, 2009, 2008, 2007 and 2006), Simpson and Maciver, (2005, 2004, 2003, 2002, 2001, 2000, 1999, 1998, 1997 and 1996), Smith et al., (1995 and 1994), and Simpson, (1993, 1992, 1991 and 1990), as detailed in the References section.

[2] There was a subsequent record of 32 bean geese roosting on Fannyside Muir on the 2nd March 2011 on Rare Bird Alert, but there is no independent confirmation that this record definitely related to bean geese.

Firstly, however, in order to provide context for the current monitoring work, the monitoring work conducted previously, (and now simultaneously), is initially described here.

1.2 Monitoring Work Prior to 2010/2011

As part of the detailed monitoring of the Slamannan Plateau Bean Geese population carried out on behalf of the BGAG, annual reports are produced, and in these reports the methodology that is used is outlined.

Although the methodology used for the current monitoring work has progressively evolved, (and has been streamlined), the same basic approach is still used.

For example, the Report for winter 1996 /1997 describes this methodology. It indicates that a numbering system for the fields, (plots of land), used by the geese, as established by Smith et al. (1994, 1995) was again adopted, (whereby each field is allocated a number, and newly-used fields are given consecutive numbers).

Monitoring concentrated on recording the distribution of bean geese. Diurnal distribution of bean geese was assessed using a monthly route and routine observations approaches.

The monthly route approach was similar to that used in winters preceding 1996/1997, and involved driving a fixed route and making a single observation of every field in the study area, with the aim of recording the number of bean geese, the number of other geese, and any disturbance factors, (although there was no counting of stock (sheep, cattle, horses)).

All fields not having geese present were recorded. Whenever possible the birds were monitored leaving the roost and located prior to the count commencing at 0900.The route was completed within a three hour period on that day. Normally four teams each visited a quarter of the study area at the same time.

The routine observations approach involved looking for the bean geese, (and other geese), throughout the study area on occasions other than the monthly route approach visits. This occurred on an additional 200 occasions.

In 1996/1997 it was still considered necessary to visit Carron Valley Reservoir from early September to early October to record any bean geese present.

Similarly, the Report for winter 2007/2008, describes the methodology used that winter as follows.

"The numbering system as used by Smith et al. (1994/95) was again adopted although as a result of the implementation of the Natural Care Scheme a number of fields at Grangeneuk, Garbethill, Beam and Tippetcraig have been split into different sections in order that the proposed management prescriptions can be monitored for goose usage. Such fields are numbered 38A, 38B, etc".

The diurnal distribution of bean geese was monitored by using the routine observations approach. Again, this involved looking for the bean geese, (and other geese), throughout the study area, (*i.e.*, the Slamannan Plateau). This occurred during visits which happened several times a week. In winter 2007/2008 this involved approximately 100 visits between late September and early March.

These visits could take place at any time of day with no particular set pattern. Therefore, for example, on some occasions the flock might have been observed leaving the roost area.

The direction in which they departed was noted, and they were then re-located, and the numbers involved and the fields being utilised were recorded. The duration of such visits is generally between two and six hours. In some instances, two separate visits might be made to the plateau during in one day. In such cases, the circumstances involved are carefully recorded, (numbers of geese involved, field numbers utilised), and the visits were differentiated by recording the time periods involved, (*e.g.*, a.m. and p.m.). Again disturbance factors are recorded.

In addition to this routine observations approach roost counts were also conducted in winter 2007/2008, (as in preceding winters). Roost counts can take place at dawn, as the birds are leaving the roost area, or at dusk, as birds are arriving at the roost area. The 2007/2008 Report outlines the roost area at Fannyside Lochs and the nearby Fannyside Muir, and also references the difficulties such counts involve as the birds often leave or arrive when it is dark.

The monitoring described was carried out by a single Bean Goose Monitoring Officer, (Angus Maciver), who used observations at the roost site and his experience of the behaviour of the geese, to determine which parts of the Plateau to monitor each day.

As has already been noted, in effect, this monitoring continues, albeit at a somewhat less intensive frequency of visits and over a less extensive area, owing to access constraints, *etc*..

1.3 Formal Monitoring Effort – 2010/2011

As has been detailed, for a variety of reasons, SNH decided after the 2009/2010 wintering season to re-devise the basis upon which the monitoring effort funded by them was conducted.

Therefore, they commissioned the Wildfowl and Wetlands Trust, (WWT), to undertake research aimed at devising an appropriately configured monitoring programme to satisfy the statutory and other requirements of SNH, and also those of the other BGAG constituent members. The new monitoring programme was therefore devised in relation to both these requirements and also to other factors, including the need for the new approach to be cost-effective, and to be seen as being less intrusive by elements of the local community on the Slamannan Plateau.

Following researches into the existing bean goose and other goose monitoring schemes, *etc*., the work undertaken by the WWT recommended that the formal monitoring programme should involve:

- monitoring abundance through five monthly roost counts; and,
- age assessments of the flock through one field observation.

Subsequently, SNH adopted this new approach, and as has been mentioned, in August 2010, duly commissioned BCMESL to undertake the new monitoring programme in 2010/2011, the first wintering season involving the newly re-devised formal monitoring effort.

1.4 Informal Monitoring Effort – 2010/2011

As was noted in Section 1.2, the monitoring programme implemented in previous years in effect continues, albeit on a slightly curtailed basis. In principle however, the same approaches are still used and therefore this effort produces broadly comparable data to that obtained prior to 2010/2011.

This is of particular relevance here, as the findings of the informal monitoring effort, in effect, complement and supplement those of the formal monitoring effort, and vice versa. For example, counts, (whether field or roost counts), made on consecutive days will often substantiate the overall number of birds present.

Indeed, at the kick-off meeting regarding the implementing and reporting of the formal monitoring effort, the importance of at least cross-referencing the informal monitoring effort report, (and if possible relevant data), in the formal monitoring effort report, and vice versa was emphasised by all involved, and it was subsequently confirmed that this was permissible as far as the other parties involved with the BGAG were concerned.

1.5 Relevant BCMESL Experience

In addition to the high levels of experience and expertise provided by Angus Maciver, BCMESL, has relevant experience in relation to the monitoring work required. For example, the company completed similar monitoring work in relation to the wintering population of Bean Geese on the Slamannan Plateau for the Scotts Company (UK) Limited in winters in 2005/2006 and 2006/2007. In this instance, the survey approach consisted of firstly establishing that Bean Geese did indeed roost on the clients' landholding at Fannyside Muir, and secondly, recording this activity on a regular basis, in terms of the actual numbers of geese using various sites for roosting purposes on a nightly basis. Dawn or dusk counts were undertaken, and feeding birds were also located away from the roost sites during the day in 2005/2006. Survey specific survey sheets were devised and BCMESL liaised closely with both the client team and with others including SNH and the Bean Goose Monitoring Officer, Angus Maciver and his colleagues, and as such utilised the same field number system. 20 – 25 field day visits and 30 half days respectively were involved in the 2 winters. The survey findings were reported on a fortnightly/regular basis, and a report for each winter period was also compiled.

As a result of this previous work relating to Bean Geese on the Slamannan Plateau, BCMESL was contacted by G. L. Hearn in June 2008 on behalf of another client, St. Andrews Homes/Gladedale (East Scotland) Limited, with regard to a requirement for specialist ornithological consultancy expertise concerning the proposed re-development of the former Longriggend Young Offenders Institute, on the Slamannan Plateau near Airdrie, North Lanarkshire. This was required as when SNH were advised of the proposed development by North Lanarkshire Council they had exercised the precautionary principle with regard to the development in a consultation response letter. This, in effect, resulted in the requirement for a detailed document to be prepared so that an appropriate assessment could be undertaken by the unitary authority. BCMESL subsequently provided this, (and also provided pertinent advice and guidance to the project team). Key activities included liaising closely with both the project team and SNH, visiting the site and liaising with the BGAG. BCMESL completed a detailed report which was prepared as the basis for the appropriate assessment which may be required in relation to the Longriggend/Upperton housing development. This development is *c*. 1 km outside the boundaries of the Slamannan Plateau SPA, and as such SNH required to be satisfied that there would be no adverse effect on the qualifying interest of the SPA, *i.e*., the Bean Geese.

In both instances, the work involved detailed examination and interpretation of the data-sets available in the BGAG Annual Reports.

Finally, BCMESL has undertaken survey work relating to geese on other occasions, and has also undertaken survey work of other waterfowl species, including in particular, Wintering Birds Survey, (WeBS),-based low-tide counts on the Sefton coast in winter 2008/2009.

2 EXPLANATION OF SURVEY VISIT APPROACHES

2.1 Introduction

As has been detailed in Section 1.3, findings of the research commissioned by SNH, and the Statement of Requirements, (and therefore the BCMESL bid and the contracted scope of work), require that one age assessment count of the flock through field observation would be undertaken and the BCMESL bid envisaged that this would occur in October/November. Similarly, the research commissioned by SNH, the Statement of Requirements, (and therefore the BCMESL bid and the contracted scope of work), require that five monthly roost counts aimed at monitoring abundance would be undertaken and the BCMESL bid envisaged that these would spread evenly throughout the wintering period undertaken, as follows:

- 1st visit during October;
- 2nd visit during November;
- 3rd visit during December;
- 4th visit during January; and,
- 5th visit during February.

Further, as far as practicable, the actual visit days were planned, (and changed), so that they were undertaken when weather conditions and other factors were considered to be suitable for the visit.

The following sections of this report outline the intended approaches to the ageing assessment count and the roost counts as proposed in the BCMESL bid for the formal monitoring programme.

2.2 Ageing Assessment Count

The BCMESL bid envisaged that the age assessment count of the flock would take place in good viewing conditions in the weeks after arrival on the wintering grounds, for example, when the flock has traditionally favoured the Luckenburn Farm fields, or possibly later in the year when a proportion of the flock has in recent winters favoured the oilseed rape reseedings at Fannyside Mill.

It was noted that the Slamannan Plateau bean geese flock gradually increases in autumn as more and more groups of birds arrive, having completed their migration from their breeding grounds. This is done in small groups comprised of family parties; the juveniles or birds of the year migrate with their parents. On arrival from September onwards therefore, the bean geese flock is comprised of increasing numbers of family parties. Further, at this time of year, the light conditions can often be good, daylight hours are relatively long, and the feeding is good. Thus, by mid-morning many of the birds in the flock are often resting.

Also, at this time of year the birds generally utilise the Luckenburn Farm fields where they can reasonably readily, (and safely), be watched from the roadside.

The bid also indicated that prolonged observations are necessary during which skilled observers can differentiate the adult and juvenile plumages of birds. This is easiest when

the birds are still in family groups, and in flocks which are relatively sedentary, such that ratios of young birds to adults can relatively quickly be assessed.

The bid suggested that this could take several hours, or, indeed, might necessitate a series of visits before the optimal conditions for age assessment are achieved.

Finally, it was explained that once a reasonably accurate ratio has been established, this figure can safely be extrapolated for the whole flock, (*e.g.*, the highest roost counts obtained), with some degree of certainty that the ratio that is found in part of the flock will also apply in the overall flock.

The envisaged approach was indeed that adhered to during 2010/2011. The findings of the ageing assessment count completed in 2010/2011 are described in the following section, and summarised in Table 3.1; where the approach differed slightly from that described here this is detailed in the table.

2.3 Roost Counts

The BCMESL bid indicated that the roost counts were undertaken in the Fannyside Lochs/Fannyside Muir area, (on all five occasions).

It continued that on suitable evenings or mornings, (*i.e.*, when weather and other conditions were considered to be appropriate for good quality recording of numbers, *etc*.), the person/s undertaking the monitoring will travel to the site from which such counts are typically made, (the area of hard-standing associated with the former peat-works at Fannyside Muir), so that he/they were in place either 90 minutes in advance of near darkness, (evening counts), or at least 30 minutes in advance of any daylight, (morning counts). From this location, the observer will both look and listen for arriving, (evening counts), or leaving, (morning counts), geese using binoculars and telescope as necessary.

It suggested that birds would then be either counted or estimated as the they arrived at, or departed from, the three main roost sites in this vicinity, (*i.e.*, West Fannyside Loch, East Fannyside Loch and Fannyside Muir); such movements and the numbers involved would be immediately recorded in an appropriate notebook. The bid indicated that the direction from which birds arrive, or in which birds leave, would also be recorded, together with numbers of birds involved in each group, times, *etc*.. Notes relating to the weather conditions, *etc*., would also be made; for example, the presence of ice at each of the roost sites as this influences how these sites are used. It was also noted that care would taken to differentiate any other species of geese that may also use these roost sites.

It was anticipated that monitoring visits would be conducted over the duration of approximately 90 minutes from arrival in position.

Finally, the BCMESL bid emphasised that, not all, or indeed none, of the birds are necessarily going to arrive at, or leave from, the roost on all such occasions, as all of the birds do not necessarily use these roost sites on all of the available nights.

As with the ageing assessment count, the envisaged approach was indeed that was largely adhered to during 2010/2011. The findings of the roost counts completed in 2010/2011 are described in the following section, and summarised in Table 3.1; where the approach differed slightly from that described here this is detailed in the table.

3 DESCRIPTION OF RESULTS OF 2010/2011 SURVEY VISITS

Table 3.1, Summary of Bean Goose observations – Ageing Assessment Count, provides details of the ageing assessment count, and Table 3.2, Summary of Bean Goose observations – Roost Counts, provides details of roost counts.

For maximum utility the tables include, (where applicable):

1. Date and time of observations;

2. Details of any counts made shortly before the actual count;

3. Details of the actual count;

4. Any additional information, (observers, *etc*.); and,

5. Details of the weather preceding and during the survey visit, *etc*..

As such, these tables concentrate on summarising the key data recorded during the survey visit; subsequent sections examine what this data indicates and make some tentative conclusions and recommendations regarding the same.

Table 3.1, Summary of bean goose observations – ageing assessment count

20th October 2010 – pm – Ageing Assessment Count – Survey Activities and Observations
253 bean geese were counted in the late afternoon in the Luckenburn fields. Of these 155 were aged, and these included 48 juveniles, (*c*. 31%). In addition, in some instances it was possible to count the numbers of juveniles with pairs of adults; families parties involved 4, 3, 3, 3, 2, 2, 2, 2, 2, 2, 1, 1, 1, and 1 juvenile respectively were noted. This computes as a mean number of juveniles with adults of 2.07. This ageing count was conducted by AM in conjunction with Carl Mitchell, Principal Research Officer – Waterbird Monitoring, Wildfowl and Wetlands Trust. The prevailing weather conditions were not formally recorded on this occasion, although the visit was made in what were considered to be ideal conditions for ageing count, including bright sunshine and light winds.

Table 3.2, Summary of bean goose observations – roost counts

28th October 2010 – pm – October Roost Count – Survey Activities and Observations	**Roost count total: 225 birds counted**
225 bean geese were counted in the late afternoon in the Luckenburn fields, (227 were reported there on Rare Bird Alert). Probably exactly this number came in to roost from the Luckenburn area at 18.28, observed by AM and BCM from just NW of the bend in the Garbethill road. They all alighted on Fannyside Muir. The weather was poor with intermittent but persistent rain. Cloud cover was 8/8's. This situation had applied for the hours preceding the roost count. The wind was nil/light by this time, although earlier had been a light south-westerly. According to the BBC Weather website sunset in Falkirk was 17.42. The night involved was very cloudy and so it was dark well before 18.28; the birds came in to roost some ¾ of an hour after sunset, when there was no natural light in the sky and they were only visible against the orange glow of the skyline to the west and north of the observation point.	
24th November 2010 – pm – November Roost Count – Survey Activities and Observations	**Roost count total: 236 birds counted**
At 11.45 on the morning of the 24th November 141 bean geese were counted in the Threaprig fields, (field 285), and later on, at 12.45, 56 were counted in the Luckenburn fields, (field 305). 180 bean geese came in to roost on East Fannyside Loch at 17.05 and 56 bean geese came in to roost on West Fannyside Loch at 17.15, witnessed by AM from just NW of the bend in the Garbethill road. The weather was cold (0^{O}C) but dry. Cloud cover was 4/8's. The wind was northerly force 2. According to the BBC Weather website sunset in Falkirk was 15.53. The night involved was partially cloudy and there was a full moon. Again, the birds came in to roost some 1 - 1½ hours after sunset.	

Table 3.2, (cont.),Summary of bean goose observations – roost counts

22nd December 2010 – pm – December Roost Count – Survey Activities and Observations	**Roost count total: 0 birds counted**
In the late afternoon c.125 birds were counted in the reinstated opencast fields at Threaprig, (139 were reported there on the previous day on RBA). Having located the birds there, AM and BCM travelled to the area of hard-standing associated with the former peat-works at Fannyside Muir and watched for birds arriving. However, AM considered it unlikely that the birds would use the Fannyside roost sites in the prevailing weather conditions. The weather was very cold (-10^{O}C) but dry. Cloud cover was 1-2/8's. There was no wind. The preceding period had been characterised by persistently cold weather throughout some four weeks, during which it frequently snowed, and as such, snow cover remained. According to the BBC Weather website sunset in Falkirk was 15.42. The night involved was largely clear, with some localised mist patches, and there was a full moon. By 17.00, (some 1 ¼ hours after sunset), no birds had arrived at the Fannyside roost sites. It was assumed that, as predicted, the birds had opted to remain *in situ* in their current preferred feeding area, rather than fly to the roost sites at Fannyside. Here both lochs and the peat-working pools were frozen. Indeed, during the afternoon observations it was noted that many of the birds were resting in the snow cover, and in doing so they were creating small clear patches within which they were feeding. It is surmised that flying to the frozen roost sites provides no advantage to the birds on such nights, as any approaching threat can readily be detected due to the snow cover and clear skies. Further, there are probably energy efficiencies involving minimising heat losses/maximising feeding opportunities involved which mean it is better to remain where they are all night. After AM and BCM had decided that no birds were arriving at Fannyside that night, they returned to the area from which the geese had been seen earlier that day, and it was determined that the birds were indeed still there, as they could be heard calling, particularly when car headlights were played across the area.	

Table 3.2, (cont.),Summary of bean goose observations – roost counts

20th January 2011 – am – January Roost Count – Survey Activities and Observations	**Roost count total: 200 birds counted**
A total of *c*.200 bean geese were seen to leave the roost area in various flocks from 08.20 onwards, over a period of c. 10 – 15 minutes. Prior to this both bean and greylag geese could be heard calling in the dark and the early morning mist, which certainly earlier in the visit made for difficult surveying conditions. All the birds departed east, eventually leaving just 17 greylag geese on the ice of the entirely frozen East Fannyside Loch. The majority of the birds appeared to have been roosting on East Fannyside Loch although a small number may have been roosting on Fannyside Muir. The weather was cold (*c*.-3^{O}C) but dry. Cloud cover was 0/8's, but there was patchy early morning mist. The wind was a very light westerly. According to the BBC Weather website sunrise in Falkirk was 08.29. The night which preceded this dawn roost count was partially cloudy and there was a full moon. The birds were seen to leave the roost some minutes before the actual sunrise, although the departure may have been delayed by the misty conditions. Although the birds departed to the east they could not be located subsequently in the areas that they had recently or previously been recorded in this winter, including Threaprig; it is possible that the birds had opted not to land there due to the presence of a large dog fox.	
16th February 2011 – am – February Roost Count – Survey Activities and Observations	**Roost count total: 245 birds counted**
As it was quite light when AM arrived on site he feared he had missed the departure of the birds. However, a total of *c*.245 bean geese were seen to leave the roost area in two flocks at *c*.07.20. 95 birds which had been counted on East Fannyside Loch were seen to depart at around 07.20 and this then encouraged a much larger group of c.150 to depart from Fannyside Muir immediately afterwards. The weather was cool (*c*.2^{O}C) and overcast with slight precipitation. The wind was easterly 1-2. Sunrise in Falkirk was *c*.07.34. The preceding night was cloudy and partly misty. Again, the birds were seen to leave the roost before sunrise. *c*.40 birds flew east towards Threaprig, and indeed 42 were located by AM in field 285 later in the morning. All the rest of the birds flew over Garbethill and were watched until they disappeared beyond the horizon at Lochgreen Plantation. Although a search of the general area was conducted no birds were located; it is presumed that they were in those parts of Tippetcraig or Beam Farms which it is not possible to search.	

4 DISCUSSION OF RESULTS OF 2010/2011 SURVEY VISITS

4.1 Introduction

This section discusses the findings of the 2010/2011 formal monitoring effort, as detailed in the preceding section. Also, where appropriate, this section compares the data obtained with that available from other sources, notably that provided by the informal monitoring effort also conducted by Angus Maciver; at the kick-off meeting regarding the implementing and reporting of the formal monitoring effort it was agreed that it would be sensible to include some discussion about how successful the new approaches had been, (partly by comparing results with other data generated at the same time by the informal monitoring effort at the same sort of time). As far as is considered practicable, this section attempts to provide this.

4.2 Ageing Assessment Count

On the 20th October 2010 an ageing assessment count was conducted by Angus Maciver in conjunction with Carl Mitchell, who is a Principal Research Officer – Waterbird Monitoring, with the WWT. 253 bean geese were counted in the Luckenburn fields. 155 of these birds were aged, and these included 48 juveniles; this corresponds to some 31% of those aged. In addition, in some instances it was possible to count the numbers of juveniles with each pair of adults; families parties of 4, 3, 3, 3, 2, 2, 2, 2, 2, 2, 1, 1, 1, and 1 juvenile respectively were noted. This computes as a mean number of juveniles with each adult pair of 2.07.

This proportion of juveniles compares well with other years. For example, in 2007 25.2% of 103 aged birds were considered to be juvenile. In 2007 the mean number of juveniles with each adult pair was similar, 2.17 compared to 2.07.

Carl Mitchell also provided Angus Maciver with some interesting discussion on the 2010/2011 ageing assessment count.

It was suggested that if, (on the basis of the ageing assessment count), the proportion of which are 'birds of the year', (juveniles), is just under a third of the flock; of the 253 birds counted on the 20th October, approximately 78 birds could be juveniles. Therefore, the remaining 175 birds would be adults. However, this is not readily reconciled with the highest counts of birds made during winter 2009/2010, when far more than 175 birds were recorded. As Carl Mitchell indicated, this raises the question what has happened to the other birds – the difference between 175 adults recorded in early autumn 2010 and the highest count last year?

For example, if some 250 birds had returned to the breeding grounds from the plateau in spring 2010, and the majority of these then formed pairs and attempted breeding, and on average produced just over 2 young each during what was apparently a reasonable breeding season, counts of the total wintering population on the plateau during winter 2010/2011 could reasonably be expected to exceed 300 birds, (*i.e.*, 250 birds could constituent some 100 + breeding pairs, which would produce 200 plus young).

Carl Mitchell speculated that there are several possible explanations for this apparent discrepancy.

Firstly, it was suggested that more birds could arrive in the weeks following the ageing assessment count, such that the winter flock size would increase to over 300 birds because there has been a good breeding season.

Secondly, it was indicated that if the winter maximum count continues at around 250 birds,

then this could be indicative of high mortality amongst this flock, (presumably on migration), such that a reasonable breeding season, (*i.e.*, producing >20% young), only just compensates for mortality. However, it was considered that this was unlikely as the flock has been increasing in recent years.

Thirdly, it was speculated that although what could be termed traditional birds are returning from the breeding grounds to the Slamannan Plateau each wintering season, and bring their young, possibly some of the 'missing' adults are wintering elsewhere on the Continent. Further, it was noted that this explanation has been suggested for the decline in the winter flock size numbers of the population of bean geese wintering in Norfolk. Here, despite appropriate habitat management and an absence of disturbance, this flock has dwindled to less than 100 birds over recent winters, (even during a very cold winter like that experienced during 2009/2010).

After the 20th October, the flock size did indeed increase; during the informal monitoring effort Angus Maciver recorded 267 birds on the 1st November. However, this was a relatively minor increase from the count of 253 made during the ageing assessment count. Therefore, it could be speculated that the flock may well be subject to 'losses' due to both high mortality and also a proportion of adults remaining on the Continent rather than migrating to Central Scotland.

Finally, it was proposed during the kick-off meeting regarding the implementing and reporting of the formal monitoring effort it would be sensible to cross-reference any ageing counts data made concurrently by the WWT. In effect, this is what was achieved; indeed, as has been suggested, the count itself was made in conjunction with Carl Mitchell.

4.3 Roost Counts

As detailed in section 3, five roost counts were completed during winter 2010/2011.

Each of these counts is discussed individually and then collectively below.

4.3.1 *October Roost Count*

The roost count of 225 made on the 28th October was reasonably representative of what was the known wintering population size at that stage of the wintering period. For example, on the 23rd October 186 birds and on the 1st November 267 birds were recorded during field counts made as part of the informal monitoring effort. However, it should though be noted that the count total given was largely based on supposition, as the birds came into roost some ¾ of an hour after sunset, when there was no natural light in the sky and they were only briefly visible against the orange glow of the skyline to the west and north of the observation point. Therefore, as a few hours prior to the roost count a good count of 225 had been obtained at the Luckenburn fields and the birds that eventually arrived at the roost site arrived from that direction, it was assumed that the arriving birds represented one and the same.

4.3.2 *November Roost Count*

A total of 236 bean geese came in to roost on the Fannyside Lochs on the 24th November. Again, this could be considered reasonably representative of what was the known wintering population size at that stage of the wintering period. For example, although the flock had moved away from Luckenburn and begun to break up into smaller sub-flocks by this time, on the 19th November 173 and 23 birds were recorded during field counts made as part of the

informal monitoring effort, whilst on the 17th November 250 birds were estimated during a roost count made as part of the same effort. In addition, it should be noted that the count total given was again representative of the numbers recorded earlier on the day of the roost count visit.

4.3.3 *December Roost Count*

During the first part of December the prevailing weather conditions deteriorated dramatically, as the UK in general, and Central Scotland in particular, experienced some severe wintry weather. This impacted on the potential days upon which the plateau could safely be accessed, and continued throughout much of the month, and as such a roost count wasn't made until the 22nd December.

However, as a result of visits to the plateau as part of the informal monitoring effort the birds it was already known that, despite the prevailing weather conditions, the majority of the birds had not deserted the plateau due to it being no longer able to provide suitable feeding areas due to snow cover, as had originally been suspected. Even so, no birds were observed coming into roost at Fannyside on the evening of the 22nd December; as described in Table 3.2, c.125 birds remained in the fields where they had earlier been seen resting and feeding, long after dusk, and presumably roosted there overnight.

4.3.4 *January Roost Count*

The count of some 200 birds made at dawn on the 20th January was somewhat hampered by the misty conditions on the morning involved, although otherwise conditions were very good, and a more accurate count may have been possible in the pre-dawn light as the majority of the birds were roosting on the frozen surface of East Fannyside Loch. The most recent informal count involved just 61 birds coming into roost at East Fannyside Loch on the 17th January. Therefore, the count total arrived at on the 20th was not influenced by that obtained on previous visits, (or earlier that day). However, subsequently no birds could be readily located in the fields in which feeding flocks had recently or previously been recorded, (the birds could not be located at Threaprig, where they had been in the days preceding the count, or elsewhere), immediately after they had departed to roost area; coincidentally or not 198 birds were present at Threaprig on the 21st January.

4.3.5 *February Roost Count*

Soon after dawn on the 16th February a count of 245 was made. Although only 130 birds were counted during a roost count visit made as part of the informal monitoring effort on the 10th February, Angus Maciver made a further roost count visit as part of his ongoing informal monitoring work on the 20th February. On this occasion he recorded *c*.214 bean geese using the pools on Fannyside Muir, (and also 180 pink-footed geese and 61 greylag geese). Therefore, it would appear that most of the wintering population (relative to the winter peak count estimate of 267 birds), was still present on the plateau in mid-February.

4.3.6 *All Roost Counts*

Overall, the five roost counts produced data of a representative quality, (compared to the informal monitoring effort, and the monitoring that was undertaken in previous years). Four of the five counts were successful in terms of producing an estimate of the numbers of birds roosting in the Fannyside area on the occasion the roost count visit occurred. In the instance of the other visit, no birds arrived to roost at Fannyside during the roost count visit. This scenario had been anticipated during discussions prior to the monitoring programme

starting; although the visit dates/times were broadly selected in advance and fine-tuned to take into account factors such as weather, *etc*., it was realised on the basis of prior experience, some visits could coincide with nights when the birds opted not to use the Fannyside roosts.

This also re-emphasises the importance of carefully recording the prevailing weather conditions and other extenuating circumstances on each and every monitoring visit; such data is essential in terms of improving the understanding of when and why the geese chose to use the roost area or specific parts of it, (*i.e*., why they chose not to use the roost area at all on some occasions, and why they chose to use either West Fannyside Loch, East Fannyside Loch or Fannyside Muir is only partially understood).

The five roost counts produced an average count of 181, (*i.e*., 225 + 236 + 0 + 200 + 245/5). The standard deviation for all 5 roost count visits is 102.69, which reflects skewed sample caused by the null count. Conversely, if the null count is disregarded, the successful roost count visits produced an average count of 226.5, for which the standard deviation is just 19.46. This demonstrates, if nothing else, the importance, in terms of any subsequent statistical analysis, of achieving successful roost count visits.

Finally, as was discussed and agreed during the kick-off meeting regarding the implementing and reporting of the formal monitoring effort, it would be entirely sensible, where possible, to cross-reference other counts made around about the time of each roost count visit, to indicate the efficacy of the formal monitoring approach. Further, it was agreed that some initial discussion of the same in this report would be sensible.

For example, for the reasons outlined, if the December roost count was conducted and reported in isolation, (without the knowledge gained during other, previous and concurrent, 'informal' visits to the plateau), this report could potentially include a null count, (or even a series of null counts), without any explanation.

Therefore, the following section discusses in more detail how the findings of the formal monitoring effort relate to those of the informal one, and *vice versa*, and discusses what the findings of the formal monitoring programme can be used to indicate, and, perhaps even more importantly, what they can't.

4.4 Findings in the Context of the Informal Survey Data

Figure 4.4, provides a graph illustrating data gathered during formal roost counts, (red columns), compared to that gathered from all informal counts, (blue columns).

All five formal roost counts can be seen, (although that for December is evident only as a small red dot denoted 0). The informal counts, (whether relating to feeding flocks located during the day, or to roosting flocks recorded in the Fannyside roost area close to dawn or dusk), are obviously much more numerous, but are, broadly, in a similar range, (taking into consideration that not all of the birds might be recorded during the day, as once the flock begins to break up after the feeding almost exclusively in the Luckenburn fields for the first few weeks of the wintering period, not all sub-flocks or indeed no birds might be located on some visits, especially when birds are using feeding areas that are accessible/viewable). Conversely, a good roost count might involve counting or estimating 'all' of the bean geese present on the plateau as they arrive or leave the roost area, (hence the October and November formal roost counts producing totals in excess of the informal counts conducted at similar times).

In addition to showing the variation in count totals achieved on the many informal and few formal visits to the roost and/or plateau that were completed throughout the winter, (both in

terms of variation in terms of the number of birds successfully located and counted and/or estimated, and also, possibly, in terms of actual changes in the number of birds present of the Plateau), the graph also demonstrates the:

- Large difference in survey effort deployed in terms of the informal survey effort compared to the formal one, both overall, and indeed, each month; and,

- *c*. 2 week gap in successful visits that occurred during the middle of the winter when weather and road conditions meant that the plateau could not be safely or easily visited, due to persistent snow and ice on the roads. As a result, although the data indicates that no birds were recorded during this period, this does not necessarily denote a complete absence of birds from the Plateau; it is not known whether they remained in the area throughout this time, (or used the Fannyside roost sites).

Finally, in addition to providing an outline of the information the new, formal monitoring does provide, it is considered at least equally as important, (in terms of assessing the utility of the new approach), to examine what information this doesn't provide.

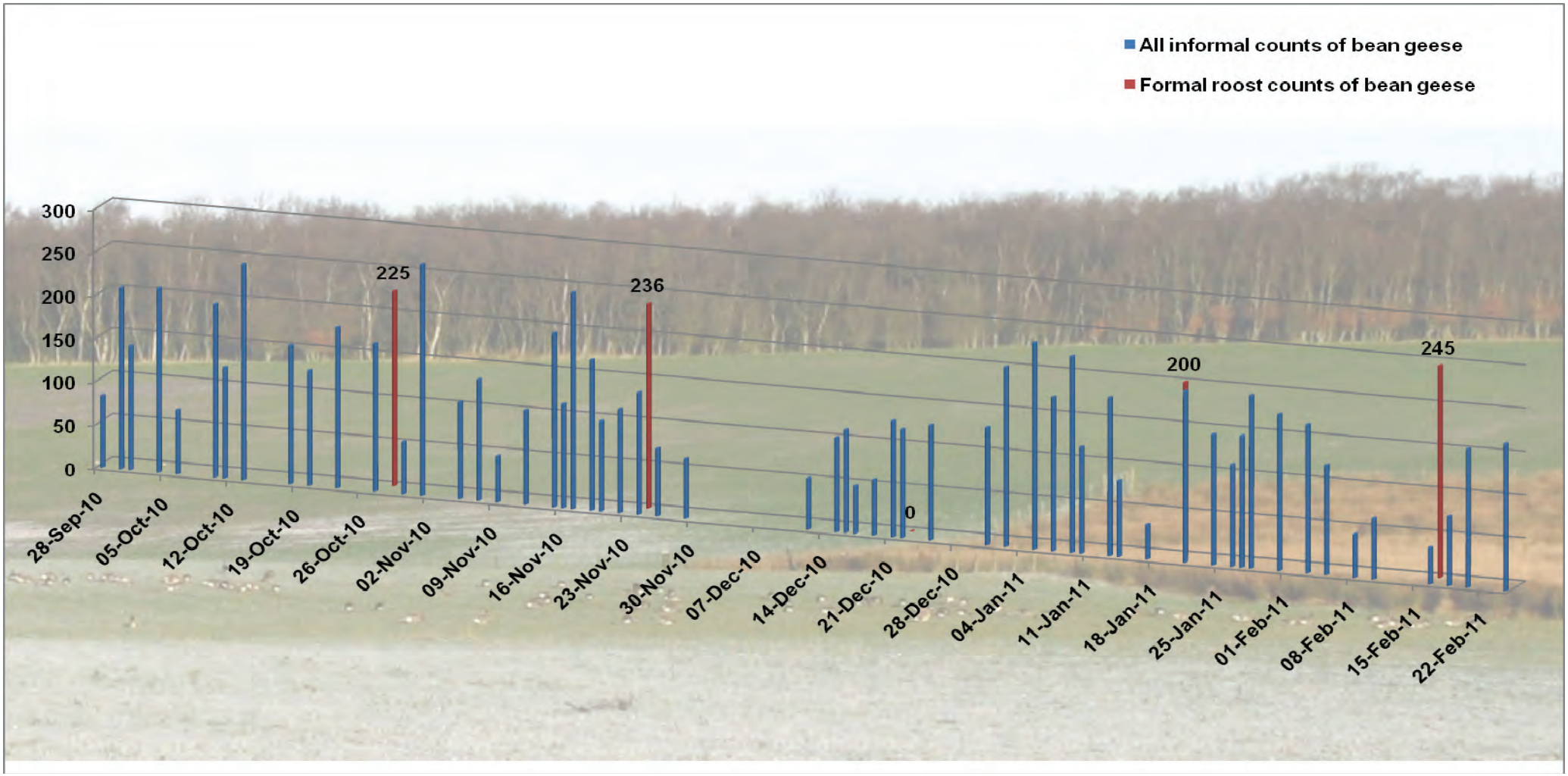
The formal monitoring programme is closely targeted at providing an ageing assessment count, and at providing a limited sample of roost counts. It primarily concentrates on a specific aspect of the birds use of the plateau during each winter, that is, the use of the Fannyside sites for roosting.

As such, the formal monitoring provides very little information about the wider use of the plateau, (and therefore for much of the Slamannan Plateau SSSI/SPA), beyond this localised area within the designated site. Largely, this is confined to that obtained during the ageing assessment counts, (*i*.*e*., in this instance relating to the presence of the birds in the Luckenburn fields), and the very restricted information that can be gleaned from the directions from, or in, which birds arrive, or leave, the Fannyside roosts.

Therefore, the patterns of usage of fields by feeding birds during the day is not revealed by formal monitoring work. That is, although the roost counts provide some evidence of the distribution of birds in time, (*i*.*e*., on 5 roughly evenly spaced roost counts spread throughout the wintering period), each night on which the counts were conducted commences or finishes, they provide very little information on the whereabouts of the birds during the day; the distribution of birds in space is not revealed by the formal monitoring programme, (beyond sampling their almost nightly and highly concentrated presence at the roost site).

As a result, where the birds are when not roosting at Fannyside Lochs and/or Muir and when they are feeding is only known due to the informal monitoring effort. This component of the overall monitoring effort is therefore crucial in terms of understanding which fields on the plateau, (and in the SSSI/SPA), are being used each winter, (and therefore, potentially, how this may change in the future).

Further, it is only due to the informal monitoring effort that there is any information on other important factors relating to the status of bean geese on the plateau. This includes the dates the wintering population arrive and leave, any records of other goose species such as greylag geese and pink-footed geese on the plateau, (unless such records were made during the formal roost counts), or disturbance, (unless it happened to take place at the roost sites, *e*.*g*., as used to happen around Bonfire Night when the site of the former peat-works building was often used as a place for setting off fireworks). Otherwise, such information is only provided by the informal monitoring programme.



Note: the December roost count returned a null count and as such does not appear as a red column.

Figure 4.4, Graph illustrating data gathered during formal roost counts compared to that gathered from all informal counts

4.5 Other Data

In addition to the data available as a result of the informal monitoring effort, as a result of the wider interest in the Slamannan Plateau population of bean geese data is available from readily available resources such as specialist e-groups and websites. Sightings are regularly reported on such media, as birdwatchers are keen to see what is a rare species in Scotland and the UK and are reliant on good, contemporary reports. These specialist e-groups and websites attempt to provide this service, and so birders both provide information to, and use information from, such sources. In addition, developers, seeking to achieve planning permission for development schemes may be required to undertake surveys of bean geese usage of the area involved, and as the bird surveyors involved are often keen birders, the sightings they make are often reported in the same way.

Although, as correctly noted by Angus Maciver, "*all that is reported is not necessarily accurate*", (for example, goose identification can be very difficult for the inexperienced observer, especially in the circumstances involved on the Slamannan Plateau and any geese on the Plateau are not necessarily bean geese), this can, with cognisance of such caveats, also provide a useful additional source of supplementary data.

Whilst such information is available via a wealth of such media, it is largely pooled and/or plagiarised. Therefore, Appendix A: Other Data – Rare Bird Alert reports of Taiga Bean Geese on the Slamanan Plateau during Winter 2010/2011, summarises the sightings of bean geese on the Slamannan Plateau during the 2010/2011 as reported on one of the best such sites, Rare Bird Alert.

It is not proposed to include any further discussion of the data provided by this source, rather, the data is included in this report as further back-up to both the formal and informal counts.

5 CONCLUSIONS AND RECOMMENDATIONS

The preceding sections of this report describe the current formal and previous and current informal bean goose monitoring efforts, indicate the actual approaches used during the survey visits, and provide details of the results obtained during these, including some discussion of the same. This section attempts to summarise the key conclusions and recommendations relating to these results.

As has been indicated previously, at the kick-off meeting regarding the implementing and reporting of the formal monitoring effort it was agreed that it would be sensible to include some discussion about how successful the new approaches had been, (partly by comparing results with other data generated at the same time by the informal monitoring effort at the same sort of time).

As such, it is considered that the new, formal monitoring effort provides reasonably representative data in relation to the wintering population size and structure.

In particular, the efficacy of the ageing assessment counts compared to those made previously is considered to be very high largely as the two approaches, (*i.e.*, those used prior to and following the re-devised formal monitoring effort), are identical. Therefore, it is recommended that this count should be continued using this same approach, and wherever practicable it should continue to be made in conjunction with the WWT one if at all possible.

However, in terms of the efficacy of new survey roost counts, the situation is somewhat less straightforward. For example, as was indicated, the number of birds counted, (or estimated), during the October roost count is only known because of a field count at Luckenburn earlier that day. If roost counts alone were relied on this could potentially only provide less than 5 counts each winter, some of which might only be rough estimates, as the circumstances on each roost count visit varies in terms of weather, *etc*., and with it the accuracy of the count obtained, if indeed birds are recorded.

In addition, as was known when determining how the new approach should be designed and implemented, the new, formal monitoring effort provides little or no data in relation to the distribution of this population during the daytime, *i.e*., where the birds are during the daytime, and what they are doing is largely unknown, (or is only known as a result of the informal monitoring effort). Whether this situation is appropriate given the significance of the Slamannan Plateau bean goose population, and the importance of understanding how the designated site is performing, is for others to decide.

Finally, given the apparent ‘flux’ in the structure and size of the wintering population of bean geese on the Slamannan Plateau indicated by the age assessment count as discussed in Section 4.2 of this report, Carl Mitchell commented that the next few years will be really interesting in terms of how such changes continue to manifest themselves. For example, long-term, the Slamannan flock could ultimately become effectively extinct if it continues to decline for such reasons despite decent breeding successes, which would, for example, reverse the previous biodiversity gains of North Lanarkshire and Falkirk Councils. This makes the intended catching and GPS-tracking of a sample of the population all the more important.

Planned marking and/or tracking studies may determine much more about the origins and movements of the Slamannan Plateau population of bean geese when they are not on the plateau, as well as potentially providing invaluable data about their movements within it during the wintering period.

6 REFERENCES

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The various annual bean goose monitoring reports, here presented sequentially, (from most recent to least recent), rather than alphabetically:

Winter 2009/2010

Maciver, A. 2010. *Population and Distribution of Bean Geese in the Slamannan Area 2009 /2010,* The Bean Goose Action Group.

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Winter 1990/1991

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Winter 1989/1990

Simpson, J., 1990, *Bean Geese Winter Reports.* Unpublished. (Not entitled as such but assumed to relate to 1989/1990).

7 APPENDICES

7.1 Appendix A: Other Data - Rare Bird Alert Reports of Taiga Bean Geese on the Slamanan Plateau during Winter 2010/2011

All reports for Clyde area, (*i.e.*, within North Lanarkshire Council boundaries), during winter 2010/2011

Taiga Bean Goose		Sent: Wed 2-Mar-11, 6:52pm
32	Fannyside Muir, (Clyde) refers to : Wed 2-Mar-11 6:25pm	Clyde 32.Taiga Bean Geese c3mls SE of Cumbernauld roosted on Fannyside Muir at 6.25pm

Taiga Bean Goose		Sent: Wed 23-Feb-11, 2:09pm
1	Fannyside Lochs, (Clyde) refers to : Wed 23-Feb-11 1:30pm	Clyde Taiga Bean Geese flew over Fannyside Lochs at 1.30pm

Taiga Bean Goose		Sent: Fri 11-Feb-11, 7:06pm
200	Fannyside Lochs, (Clyde) refers to : Fri 11-Feb-11 5:55pm	Clyde 200.Taiga Bean Geese Fannyside Lochs at 5.55pm

Taiga Bean Goose		Sent: Mon 7-Feb-11, 6:12pm
12	Fannyside Muir, (Clyde) refers to : Mon 7-Feb-11 5:42pm	Clyde 12.Taiga Bean Geese SE of Cumbernauld on Fannyside Muir at 5.42pm

Taiga Bean Goose		Sent: Sun 6-Feb-11, 10:14pm
120	Fannyside Muir, (Clyde) refers to : Sun 6-Feb-11 2:30pm	Clyde 120.Taiga Bean Geese Fannyside Muir at 2.30pm

Taiga Bean Goose		Sent: Thu 20-Jan-11, 9:29pm
200	Fannyside Lochs, (Clyde) refers to : Thu 20-Jan-11	Clyde c200.Taiga Bean Geese Fannyside Lochs at dawn

Taiga Bean Goose		Sent: Wed 24-Nov-10, 9:39pm
79	Fannyside Lochs, (Clyde) refers to : Wed 24-Nov-10	Clyde 79.Taiga Bean Geese still 1.5mls SE of Fannyside Lochs in field just north of B803 opposite Luckenburn Farm. Park carefully NS.823.723

Taiga Bean Goose		Sent: Mon 15-Nov-10, 1:42pm
113	Fannyside Lochs, (Clyde) refers to : Mon 15-Nov-10	Clyde 113.Taiga Bean Geese still 1.5mls SE of Fannyside Lochs in field just north of B803 opposite Luckenburn Farm (+ad.Greenland White-fronted Geese still). Park carefully NS.823.723

Taiga Bean Goose		Sent: Sat 13-Nov-10, 8:15am
85	Fannyside Lochs, (Clyde) refers to : Sat 13-Nov-10	Clyde 85+Taiga Bean Geese still 1.5mls SE of Fannyside Lochs in field just north of B803 opposite Luckenburn Farm (+ad.Greenland White-fronted Geese still). Park carefully NS.823.723

Taiga Bean Goose		Sent: Thu 11-Nov-10, 4:59pm
146	Fannyside Lochs, (Clyde) refers to : Thu 11-Nov-10 "In Evening"	Clyde 146.Taiga Bean Geese still 1.5mls SE of Fannyside Lochs in field just north of B803 opposite Luckenburn Farm this evng (+ad.Greenland White-fronted Geese). Park carefully NS.823.723

Taiga Bean Goose		Sent: Wed 10-Nov-10, 1:22pm
200	Fannyside Lochs, (Clyde) refers to : Wed 10-Nov-10 "In Morning"	Clyde 200+Taiga Bean Geese still 1.5mls SE of Fannyside Lochs in field just north of B803 opposite Luckenburn Farm this morning. Park carefully NS.823.723

Taiga Bean Goose		Sent: Fri 5-Nov-10, 4:41pm
89	Fannyside Lochs, (Clyde) refers to : Fri 5-Nov-10 "In Morning"	Clyde 89.Taiga Bean Geese still 1.5mls SE of Fannyside Lochs in field just north of B803 opposite Luckenburn Farm this morning. Park carefully NS.823.723

Taiga Bean Goose		Sent: Tue 2-Nov-10, 9:19am
226	Fannyside Lochs, (Clyde) refers to : Tue 2-Nov-10	Clyde 226+Taiga Bean Geese still 1.5mls SE of Fannyside Lochs in field just north of B803 opposite Luckenburn Farm. Park carefully NS.823.723

Taiga Bean Goose		Sent: Sun 31-Oct-10, 7:40am
77	Fannyside Lochs, (Clyde) refers to : Sat 30-Oct-10	Clyde 77+Taiga Bean Geese y'day still 1.5mls SE of Fannyside Lochs in field just north of B803 opposite Luckenburn Farm. Park carefully NS.823.723

Taiga Bean Goose		Sent: Thu 28-Oct-10, 10:55pm
227	Fannyside Lochs, (Clyde) refers to : Thu 28-Oct-10	Clyde 227.Taiga Bean Geese still 1.5mls SE of Fannyside Lochs in field just north of B803 opposite Luckenburn Farm. Park carefully NS.823.723

Taiga Bean Goose		Sent: Tue 26-Oct-10, 10:32pm
150	Fannyside Lochs, (Clyde) refers to : Tue 26-Oct-10 2:00pm	Clyde c150.Taiga Bean Geese still 1.5mls SE of Fannyside Lochs in field just north of B803 opposite Luckenburn Farm at 2pm. Park carefully NS.823.723

Taiga Bean Goose		Sent: Wed 20-Oct-10, 8:39pm
223	Fannyside Lochs, (Clyde) refers to : Wed 20-Oct-10 "In Morning"	Clyde 223.Taiga Bean Geese still 1.5mls SE of Fannyside Lochs in field just north of B803 opposite Luckenburn Farm this morning. Park carefully NS.823.723

Taiga Bean Goose		Sent: Tue 19-Oct-10, 10:28pm
200	Fannyside Lochs, (Clyde) refers to : Tue 19-Oct-10 "In Afternoon"	Clyde c200.Taiga Bean Geese Fannyside Muir at Fannyside Mill this a'noon NS.812.730

Taiga Bean Goose		Sent: Sun 17-Oct-10, 10:25pm
168	Fannyside Lochs, (Clyde) refers to : Sun 17-Oct-10	Clyde 168+Taiga Bean Geese still 1.5mls SE of Fannyside Lochs in field just north of B803 opposite Luckenburn Farm +2.Tundra Bean Geese still. Park carefully NS.823.723

Taiga Bean Goose		Sent: Sat 16-Oct-10, 12:25pm
261	Fannyside Lochs, (Clyde) refers to : Sat 16-Oct-10	Clyde 261.Taiga Bean Geese 1.5mls SE of Fannyside Lochs in field just north of B803 opposite Luckenburn Farm +2.Tundra Bean Geese. Park carefully NS.823.723

Taiga Bean Goose		Sent: Thu 14-Oct-10, 5:05pm
238	Fannyside Lochs, (Clyde) refers to : Thu 14-Oct-10 "In Morning"	Clyde 238.Taiga Bean Geese 1.5mls SE of Fannyside Lochs in field just north of B803 opposite Luckenburn Farm this morning (+6.Barnacle Geese briefly). Park carefully NS.823.723

Taiga Bean Goose		Sent: Sat 9-Oct-10, 10:45am
225	Fannyside Lochs, (Clyde) refers to : Sat 9-Oct-10	Clyde Tundra Bean Geese ad 1.5mls SE of Fannyside Lochs in field just north of B803 opposite Luckenburn Farm at 10.40am with 225.Taiga Bean Geese (+13.Pink-footed Geese). Park carefully NS.823.723

Taiga Bean Goose		Sent: Fri 8-Oct-10, 12:22pm
100	Fannyside Lochs, (Clyde) refers to : Thu 7-Oct-10 2:30pm	Clyde c100.Taiga Bean Geese y'day 1.5mls SE of Fannyside Lochs in field just north of B803 opposite Luckenburn Farm at 2.30pm. Park carefully NS.823.723

Taiga Bean Goose		Sent: Wed 6-Oct-10, 4:28pm
50	Fannyside Lochs, (Clyde) refers to : Wed 6-Oct-10	Clyde 50.Taiga Bean Geese 1.5mls SE of Fannyside Lochs still in field just north of B803 opposite Luckenburn Farm. Park carefully NS.823.723

Taiga Bean Goose		Sent: Sun 3-Oct-10, 9:29pm
198	Fannyside Lochs, (Clyde) refers to : Sun 3-Oct-10	Clyde 198.Taiga Bean Geese 1.5mls SE of Fannyside Lochs still in field just north of B803 opposite Luckenburn Farm. Park carefully NS.823.723

Taiga Bean Goose		Sent: Sat 2-Oct-10, 8:13pm
200	Fannyside Lochs, (Clyde) refers to : Sat 2-Oct-10 12:00pm	Clyde c200.Taiga Bean Geese 1.5mls SE of Fannyside Lochs in field just north of B803 opposite Luckenburn Farm at midday. Park carefully NS.823.723

Taiga Bean Goose		Sent: Fri 1-Oct-10, 1:17pm
176	Fannyside Lochs, (Clyde) refers to : Fri 1-Oct-10	Clyde 176+Taiga Bean Geese 1.5mls SE of Fannyside Lochs in field just north of B803 opposite Luckenburn Farm. Park carefully NS.823.723

Taiga Bean Goose		Sent: Thu 30-Sep-10, 3:30pm
198	Fannyside Lochs, (Clyde) refers to : Thu 30-Sep-10 "Late Morning"	Clyde 198.Taiga Bean Geese 1.5mls SE of Fannyside Lochs in field just north of B803 opposite Luckenburn Farm late morning. Park carefully NS.823.723

All reports for Forth area, (*i.e.*, within North Lanarkshire Council boundaries), during winter 2010/2011

Taiga Bean Goose		Sent: Wed 2-Mar-11, 6:52pm
32	Fannyside Muir, (Clyde) refers to : Wed 2-Mar-11 6:15pm	Clyde 32.Taiga Bean Geese c3mls SE of Cumbernauld roosted on Fannyside Muir at 6.15pm
Taiga Bean Goose		Sent: Wed 23-Feb-11, 2:09pm
1	Fannyside Lochs, (Clyde) refers to : Wed 23-Feb-11 1:30pm	Clyde Taiga Bean Geese flew over Fannyside Lochs at 1.30pm
Taiga Bean Goose		Sent: Fri 11-Feb-11, 7:06pm
200	Fannyside Lochs, (Clyde) refers to : Fri 11-Feb-11 5:55pm	Clyde 200.Taiga Bean Geese Fannyside Lochs a 5.55pm
Taiga Bean Goose		Sent: Mon 7-Feb-11, 6:12pm
12	Fannyside Muir, (Clyde) refers to : Mon 7-Feb-11 5:42pm	Clyde 12.Taiga Bean Geese SE of Cumbernauld on Fannyside Muir at 5.42pm
Taiga Bean Goose		Sent: Sun 6-Feb-11, 10:14pm
120	Fannyside Muir, (Clyde) refers to : Sun 6-Feb-11 2:30pm	Clyde 120.Taiga Bean Geese Fannyside Muir at 2.30pm
Taiga Bean Goose		Sent: Thu 20-Jan-11, 9:29pm
200	Fannyside Lochs, (Clyde) refers to : Thu 20-Jan-11	Clyde c200.Taiga Bean Geese Fannyside Lochs at dawn
Taiga Bean Goose		Sent: Wed 24-Nov-10, 9:39pm
79	Fannyside Lochs, (Clyde) refers to : Wed 24-Nov-10	Clyde 79.Taiga Bean Geese still 1.5mls SE of Fannyside Lochs in field just north of B803 opposite Luckenburn Farm. Park carefully NS.823.723
Taiga Bean Goose		Sent: Mon 15-Nov-10, 1:42pm
113	Fannyside Lochs, (Clyde) refers to : Mon 15-Nov-10	Clyde 113.Taiga Bean Geese still 1.5mls SE of Fannyside Lochs in field just north of B803 opposite Luckenburn Farm (+ad.Greenland White-fronted Geese still). Park carefully NS.823.723
Taiga Bean Goose		Sent: Sat 13-Nov-10, 8:15am
85	Fannyside Lochs, (Clyde) refers to : Sat 13-Nov-10	Clyde 85+Taiga Bean Geese still 1.5mls SE of Fannyside Lochs in field just north of B803 opposite Luckenburn Farm (+ad.Greenland White-fronted Geese still). Park carefully NS.823.723
Taiga Bean Goose		Sent: Thu 11-Nov-10, 4:59pm
146	Fannyside Lochs, (Clyde) refers to : Thu 11-Nov-10 "In Evening"	Clyde 146.Taiga Bean Geese still 1.5mls SE of Fannyside Lochs in field just north of B803 opposite Luckenburn Farm this evng (+ad.Greenland White-fronted Geese). Park carefully NS.823.723
Taiga Bean Goose		Sent: Wed 10-Nov-10, 1:22pm
200	Fannyside Lochs, (Clyde) refers to : Wed 10-Nov-10 "In Morning"	Clyde 200+Taiga Bean Geese still 1.5mls SE of Fannyside Lochs in field just north of B803 opposite Luckenburn Farm this morning. Park carefully NS.823.723
Taiga Bean Goose		Sent: Fri 5-Nov-10, 4:41pm
89	Fannyside Lochs, (Clyde) refers to : Fri 5-Nov-10 "In Morning"	Clyde 89.Taiga Bean Geese still 1.5mls SE of Fannyside Lochs in field just north of B803 opposite Luckenburn Farm this morning. Park carefully NS.823.723
Taiga Bean Goose		Sent: Tue 2-Nov-10, 9:19am
226	Fannyside Lochs, (Clyde) refers to : Tue 2-Nov-10	Clyde 226+Taiga Bean Geese still 1.5mls SE of Fannyside Lochs in field just north of B803 opposite Luckenburn Farm. Park carefully NS.823.723

Taiga Bean Goose		Sent: Sun 31-Oct-10, 7:40am
77	Fannyside Lochs, (Clyde) refers to : Sat 30-Oct-10	Clyde 77+Taiga Bean Geese y'day still 1.5mls SE of Fannyside Lochs in field just north of B803 opposite Luckenburn Farm. Park carefully NS.823.725

Taiga Bean Goose		Sent: Thu 28-Oct-10, 10:55pm
227	Fannyside Lochs, (Clyde) refers to : Thu 28-Oct-10	Clyde 227.Taiga Bean Geese still 1.5mls SE of Fannyside Lochs in field just north of B803 opposite Luckenburn Farm. Park carefully NS.823.725

Taiga Bean Goose		Sent: Tue 26-Oct-10, 10:32pm
150	Fannyside Lochs, (Clyde) refers to : Tue 26-Oct-10 2:00pm	Clyde c150.Taiga Bean Geese still 1.5mls SE of Fannyside Lochs in field just north of B803 opposite Luckenburn Farm at 2pm. Park carefully NS.823.725

Taiga Bean Goose		Sent: Wed 20-Oct-10, 8:39pm
223	Fannyside Lochs, (Clyde) refers to : Wed 20-Oct-10 "In Morning"	Clyde 223.Taiga Bean Geese still 1.5mls SE of Fannyside Lochs in field just north of B803 opposite Luckenburn Farm this morning. Park carefully NS.823.725

Taiga Bean Goose		Sent: Tue 19-Oct-10, 10:28pm
200	Fannyside Lochs, (Clyde) refers to : Tue 19-Oct-10 "In Afternoon"	Clyde c200.Taiga Bean Geese Fannyside Muir at Fannyside Mill this a'noon NS.812.730

Taiga Bean Goose		Sent: Sun 17-Oct-10, 10:25pm
168	Fannyside Lochs, (Clyde) refers to : Sun 17-Oct-10	Clyde 168+Taiga Bean Geese still 1.5mls SE of Fannyside Lochs in field just north of B803 opposite Luckenburn Farm +2.Tundra Bean Geese still. Park carefully NS.823.725

Taiga Bean Goose		Sent: Sat 16-Oct-10, 12:25pm
261	Fannyside Lochs, (Clyde) refers to : Sat 16-Oct-10	Clyde 261.Taiga Bean Geese 1.5mls SE of Fannyside Lochs in field just north of B803 opposite Luckenburn Farm +2.Tundra Bean Geese. Park carefully NS.823.725

Taiga Bean Goose		Sent: Thu 14-Oct-10, 5:05pm
238	Fannyside Lochs, (Clyde) refers to : Thu 14-Oct-10 "In Morning"	Clyde 238.Taiga Bean Geese 1.5mls SE of Fannyside Lochs in field just north of B803 opposite Luckenburn Farm this morning (+6.Barnacle Geese briefly). Park carefully NS.823.725

Taiga Bean Goose		Sent: Sat 9-Oct-10, 10:45am
225	Fannyside Lochs, (Clyde) refers to : Sat 9-Oct-10	Clyde Tundra Bean Geese ad 1.5mls SE of Fannyside Lochs in field just north of B803 opposite Luckenburn Farm at 10.40am with 225.Taiga Bean Geese (+13.Pink-footed Geese). Park carefully NS.823.725

Taiga Bean Goose		Sent: Fri 8-Oct-10, 12:22pm
100	Fannyside Lochs, (Clyde) refers to : Thu 7-Oct-10 2:30pm	Clyde c100.Taiga Bean Geese y'day 1.5mls SE of Fannyside Lochs in field just north of B803 opposite Luckenburn Farm at 2.30pm. Park carefully NS.823.725

Taiga Bean Goose		Sent: Wed 6-Oct-10, 4:28pm
50	Fannyside Lochs, (Clyde) refers to : Wed 6-Oct-10	Clyde 50.Taiga Bean Geese 1.5mls SE of Fannyside Lochs still in field just north of B803 opposite Luckenburn Farm. Park carefully NS.823.725

Taiga Bean Goose		Sent: Sun 3-Oct-10, 9:29pm
198	Fannyside Lochs, (Clyde) refers to : Sun 3-Oct-10	Clyde 198.Taiga Bean Geese 1.5mls SE of Fannyside Lochs still in field just north of B803 opposite Luckenburn Farm. Park carefully NS.823.725

Taiga Bean Goose		Sent: Sat 2-Oct-10, 8:13pm
200	Fannyside Lochs, (Clyde) refers to : Sat 2-Oct-10 12:00pm	Clyde c200.Taiga Bean Geese 1.5mls SE of Fannyside Lochs in field just north of B803 opposite Luckenburn Farm at midday. Park carefully NS.823.725

Taiga Bean Goose		Sent: Fri 1-Oct-10, 1:17pm
176	Fannyside Lochs, (Clyde) refers to : Fri 1-Oct-10	Clyde 176+Taiga Bean Geese 1.5mls SE of Fannyside Lochs in field just north of B803 opposite Luckenburn Farm. Park carefully NS.823.725

Taiga Bean Goose		Sent: Fri 1-Oct-10, 1:17pm
176	Fannyside Lochs, (Clyde) refers to : Fri 1-Oct-10	Clyde 176+Taiga Bean Geese 1.5mls SE of Fannyside Lochs in field just north of B803 opposite Luckenburn Farm. Park carefully NS.823.723

Taiga Bean Goose		Sent: Thu 30-Sep-10, 3:30pm
198	Fannyside Lochs, (Clyde) refers to : Thu 30-Sep-10 "Late Morning"	Clyde 198.Taiga Bean Geese 1.5mls SE of Fannyside Lochs in field just north of B803 opposite Luckenburn Farm late morning. Park carefully NS.823.723

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