

Islay Sustainable Goose Management Strategy

Baseline information – summary document

1. Introduction

This document sets out a short summary of the baseline data that will be used to inform decisions on the implementation of the Islay Sustainable Goose Management Strategy and to measure the effectiveness of the management that will be implemented in delivering the national goose policy objectives. More detail and/or references for all of the data referred to below is available on request to SNH.

The Strategy aims to deliver the 3 national goose policy objectives on Islay which are to:

- Meet the UK's nature conservation obligations for geese, within the context of wider biodiversity objectives.
- Minimise economic losses experienced by farmers and crofters as a result of the presence of geese.
- Maximise the value for money of public expenditure.

The main mechanism for delivery of the Strategy will be through the existing goose management scheme structure; the reduction of Greenland barnacle goose numbers through additional shooting; and the development and implementation of positive management actions for Greenland white-fronted geese through agri-environment programmes.

2. Islay goose populations 2014 – 15

The international counts for winter 2014/15 recorded the average number of barnacle geese as 37,758 and the average number of Greenland white-fronts as 4,545. Both populations are lower than the previous season and white-fronts are at their lowest level since the early 1980s. Figure 1 shows the average number of each species per season since 1987.

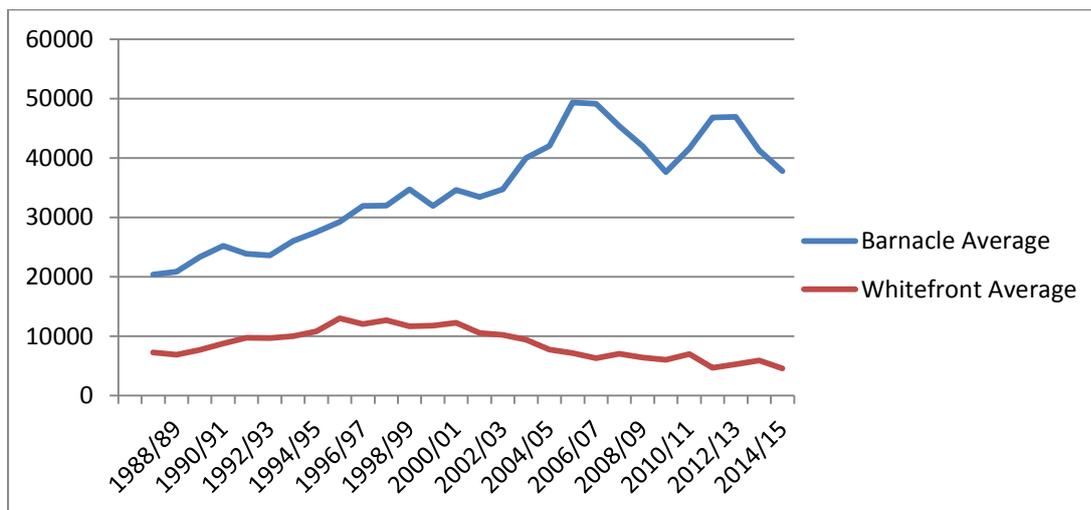


Figure 1. Average number of geese on Islay per winter (International counts)

The barnacle population has declined by c.9,000 geese since the project started in 2013. This is thought to be due to low productivity with the data in Figure 2 indicating that the fluctuations in Islay barnacle goose numbers roughly follow the fluctuations in productivity. It should be noted that Arctic breeding geese are subject to wide fluctuations in productivity and considerations on increased bag limits should take this into account. The most recent age data from 2014/15 is contained in a report from Malcolm Ogilvie. Condition of geese is also monitored through body condition profiling. Baseline data was collected in 2013 and 2014 and an initial report prepared by Jessica Shaw.

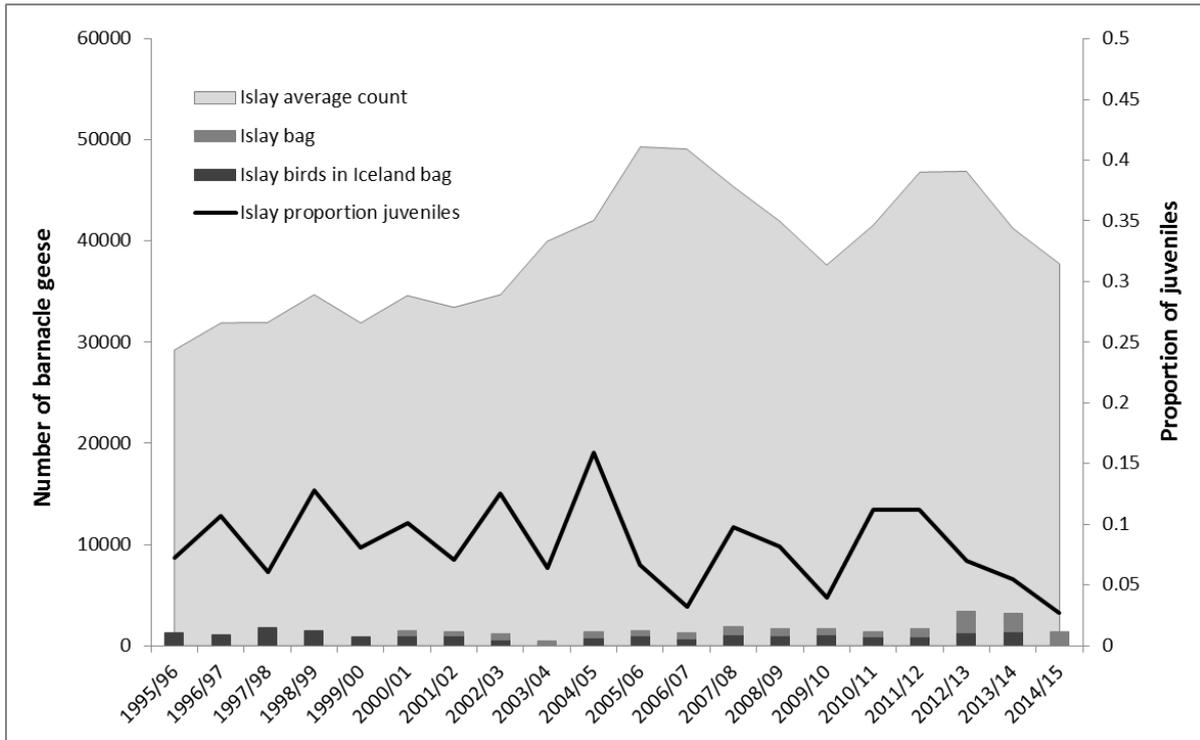


Figure 2. Islay barnacle goose season average population counts, proportion juveniles and number of birds shot (assuming that 66% of autumn Iceland bag are Islay birds as per Trinder (2014)). Note no Iceland bag information available for 2003/4 or yet for 2014/15.

Table 1. Islay season average Greenland barnacle goose counts and numbers shot (SNH records, Islay)

Year	Islay average count	Islay bag
2000/01	34620	564
2001/02	33452	473
2002/03	34708	534
2003/04	39985	491
2004/05	42047	589
2005/06	49318	490
2006/07	49104	584
2007/08	45381	851
2008/09	41950	658
2009/10	37637	616
2010/11	41580	423
2011/12	46826	767
2012/13	46903	2062

2013/14	41259	1778
2014/15	37758	1395

Action 1. Continue to monitor goose numbers, condition and productivity on Islay on an annual basis and feed this data into the 2 yearly Strategy review process.

The Strategy also proposes to monitor greylag goose numbers and any influx of Canada geese. A greylag count has been carried out in the autumn since 2005. These counts record, as near as possible, the peak numbers, which currently sit at around 2000 individuals. The greylag counts on Islay since 2006 are shown in Figure 3. During the winter counts the numbers of greylags reduce to around 500 individuals. A few individual Canada geese have been reported.

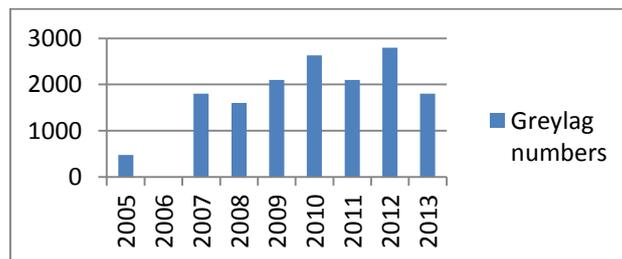


Figure 3. Greylag counts on Islay (no data for 2006 and 2014 data not yet available)

Action 2. Continue to collect greylag goose data and feed this into the 2 yearly Strategy review process. Monitor Canada goose reports.

3. Nature conservation obligations

To meet the nature conservation obligations we must comply with the European Birds Directive, the European Habitats Directive and any UK or Scots Law legislation that applies in the context of goose management on Islay.

The Habitats Directive requires member states to maintain the populations in favourable conservation status and the Birds Directive requires us to ensure that there is no effect on the integrity of individual SPAs.

There are 5 Special Protection Areas (SPAs) on Islay which include Greenland white-fronted geese, barnacle geese or both species as classified features of the site. Any plan or project likely to have a significant effect on a SPA must undergo an Appropriate Assessment to determine the effects on the Conservation Objectives for that site. An Appropriate Assessment of the effects of the Strategy on all SPAs on Islay and across the barnacle goose range has been completed and the recommendations from that have been included within the Strategy document. The current Appropriate Assessment, was completed in late 2014.

Action 3. The Appropriate Assessment must be revised if adaptive management decisions taken at the 2 yearly Strategy review are likely to have a significant effect on a SPA. Any new recommendations from future Appropriate Assessments should be incorporated into the Strategy and scheme delivery.

We are obliged to maintain the features of individual SPAs in favourable condition and to prevent deterioration and disturbance of features. The SNH Site Condition Monitoring (SCM) programme, which began in 1999, assesses the condition of site features on an approximate 5 yearly cycle. Data from this monitoring is held in the SCM database. The current condition of the goose features on individual Islay SPAs recorded in the SCM database is set out in Table 2.

Information on usage of SPAs and movements of barnacle geese has been collected as part of work carried out in 2013/14. This provides us with a basis on which to link roosting areas with feeding areas and a means of calculating proportions of geese using individual sites. This data can feed into the methodology for SCM assessments as well as informing bag limit calculations on a site by site basis.

Table 2. Site condition monitoring data (from SCM database)

SPA	Species	Number of geese at classification	Number of geese required for Favourable Condition	Number of geese (SCM Cycle 3 - 2013)	Current condition assessment (SCM Cycle 3)
Gruinart Flats, Islay	Greenland barnacle goose	20,000 (autumn passage) <i>8600 (seasonal average)</i>	10,000	21,478	Favourable maintained
Gruinart Flats, Islay	Greenland white-fronted goose	500	250	683	Favourable declining
Laggan, Islay	Greenland barnacle goose	1,800	900	5,050	Favourable maintained
Laggan, Islay	Greenland white-fronted goose	300	150	273	Favourable maintained
Rinns of Islay	Greenland white-fronted goose	1820	910	1,694	Favourable maintained
Eilean na Muice Duibhe	Greenland white-fronted goose	600	300	530	Favourable declining
Bridgend Flats, Islay	Greenland barnacle goose	6,700	3,350	14,502	Favourable maintained

Action 4. Continue SCM monitoring of SPAs as part the agreed cycle and update this table as new data is collated. If actions are required as a result of features falling into unfavourable condition this should be addressed through the Strategy review process.

We propose to use the provisions set out in Article 9 of the Bird Directive to reduce the barnacle population. To do this we propose to issue licences to shoot barnacle geese in certain locations. Licences will only be issued if a number of tests are satisfied and the reduction in goose numbers is only carried out in proportion to the damage alleviation needed. To satisfy these requirements we need to demonstrate that:

- Serious damage is being, or likely to be, caused by geese at the site
- All other reasonable non-lethal scaring measures have either been tried and found to be ineffective; or are impracticable or are unlikely to work at the site
- It is reasonable to consider that shooting geese will reduce, or prevent from increasing, the level of damage (whether through scaring or direct reduction of numbers).

Section 6.6 of the Strategy outlines the work that has been carried out on Islay and elsewhere that demonstrates goose grazing in high densities can cause serious damage to crops. This work tried to identify the economic impacts on farming and it sets out many of the elements included within the current payment calculation. It has been accepted for a long period of time that goose grazing on Islay in high densities results in serious damage. Some of the elements that can be measured are reseeding frequency, delayed turnout and delayed barley sowing and these elements are addressed in the current calculation of compensation payments. Whilst factors other than just geese can have an impact on these elements, we may be able to identify trends over a period of time. Reseeding frequency data since 2000 has been collected as part of the scheme.

From 2001 – 2007 the average percentage of 1st year reseeds within rotational grass across a sample of farms on Islay was 13%. This increased to 16% over the period 2008 – 2014 as the average number of geese present increased. We might expect to see this percentage reduce as goose numbers reduce.

In 2014 we began to collect data on turnout dates, barley sowing dates and earliest silage cutting dates. We can begin to look at trends over time and examine relationships with goose numbers as we build up this dataset. Within the Islay payment calculation, turnout dates are assumed to be 6 weeks later than normal and barley sowing dates 4 weeks later due to goose damage. The data collected is included below in Figures 4, 5 and 6.

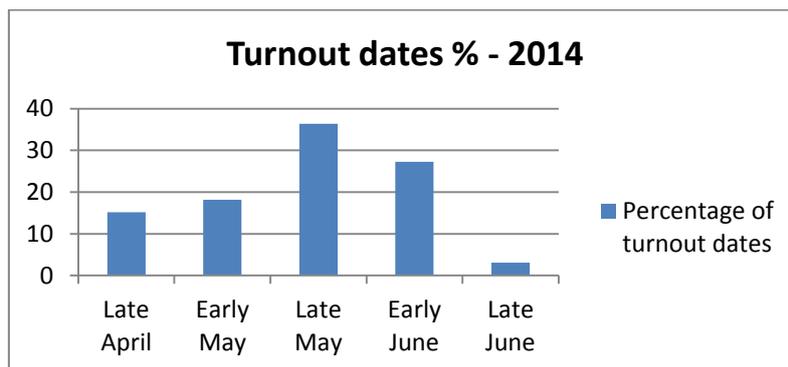


Figure 4. Turnout dates 2014

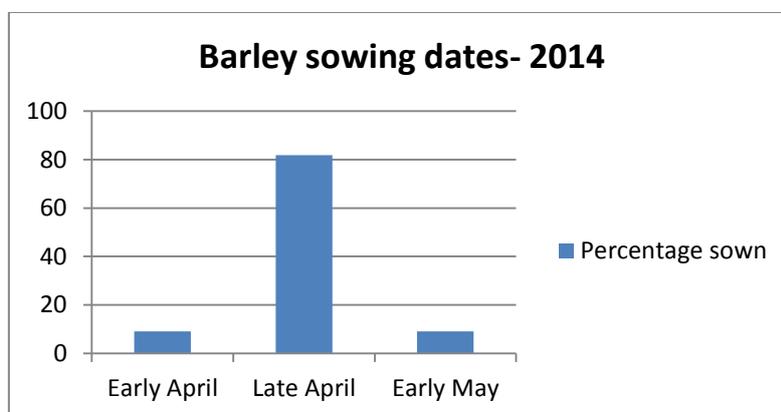


Figure 5. Barley sowing dates 2014

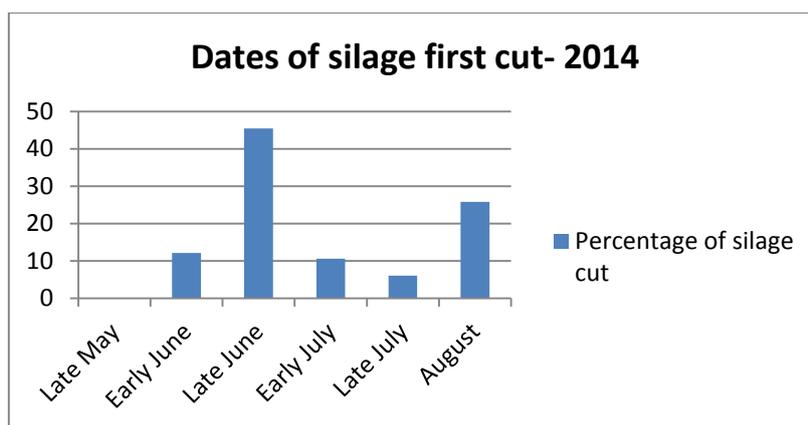


Figure 6. Silage cutting dates (first cut) 2014 (N.B. August cutting dates are mainly due to constraints from Agri-environment scheme participation)

Action 5. Continue to collect data on the elements of the scheme that the payment calculation addresses and examine differences over time in relation to goose numbers. Feed this data into the 2 yearly Strategy review.

To satisfy the requirement that all other reasonable non-lethal scaring measures have been tried we can refer to section 5 of the Strategy. This section sets out all the techniques tried to date and reviews possible future options. As further work is carried out on existing techniques or new techniques are developed on Islay or elsewhere, we should review the efficacy of these. In 2013/14 we began trials of crop protection netting. This work needs to be developed further over the next few years but at present it does not appear to provide a practical or cost effective option. In 2014/15 we trialled a liquid deterrent. We are still awaiting final results of this trial but initial reports suggest that it has not been effective in deterring geese.

Action 6. Review new scaring techniques that are developed and consider implications for their use at every 2 yearly Strategy review.

In order to look at the effectiveness of reducing damage by shooting geese we have set up a 10 year grass damage measurement project. This will include taking measurements of grass quality and dry matter on a sample of fields to determine the level of damage caused by goose grazing. A baseline will be set from measurements taken in 2015 and we will compare the levels of damage now to that in future years. It is hoped that we can link damage reduction to a reduced number of geese through this work.

The 2015 field work was completed in May and the analysis of the baseline data will be completed by the end of summer 2015. A summary of the 2015 analysis will be added to this document once completed.

N.B. If the scaring and shooting effort is increased it is possible that this damage monitoring work may show an initial increase in damage to 3rd year leys as a result of that increased scaring effort on 1st and 2nd year grass. However, in the longer term we expect to see a reduction in damage on the sample fields. This means that we should be wary of making management decisions in reaction to any initial increase in damage.

Action 7. Continue damage monitoring project and input data and conclusions into the 2 yearly Strategy review.

The Strategy proposes to maintain and, if possible, increase white-fronted geese numbers over the next 10 years. We wish to ensure that management actions for other goose species do not contribute to a significant increase in disturbance to white-fronts. A 2 year research project has looked at distribution of white-fronts and current levels of disturbance and will report its findings in September 2015. A summary of this report and recommendations for future monitoring will be included within this document once completed.

Action 8. Complete baseline report on white-front distribution, movements and disturbance and include summary within this paper.

It is also proposed that we develop improved management techniques for white-fronted geese over the next 10 years which might include diversionary feeding and better management of rush pasture. Some of these techniques may well be included in future agri-environment schemes. Initial research has been carried out into the use of habitats and crops managed for the benefit of white-fronts. Data collected has not yet been analysed but a summary of the results will be added to this document by the end of 2015.

Action 9. Complete data analysis and work up further trials of habitat management and development of agri-environment options to benefit white-fronted geese.

4. Minimise economic losses

The strategy proposes to minimise economic losses to farmers by reducing damage caused by grazing barnacle geese. The aim is to reduce the levels of damage by 25-35% by reducing barnacle goose numbers. At the beginning of the strategy the barnacle goose population was 41,250 but this had declined by c.3,500 to 37,700 over the winter 2014/15. This decline followed a drop of c.5,600 the previous year. It is estimated that to reduce damage by the amount expected that barnacle goose numbers need to be reduced to 28,000 to 31,000 over a 10 year period. This reduction in numbers over the past 2 years is greater than has been proposed within the strategy.

Any managed reduction in numbers required will be gradual and bag limits will be informed by current demographic data and the recent population viability analysis (Trinder 2014). A paper which considers bag limits for 2015/16 has been prepared by Jessica Shaw (attached). The paper stresses that any bag limits must be able to be reassessed once we have information on the number of returning birds each winter following the autumn international counts.

The paper does not set out a scenario relating to increased goose numbers but should numbers confirmed by autumn counts increase significantly then consideration will be given to increasing the bag limit.

Action 10. Consider the paper setting out possible bag limits for 2015/16 and agree the approach to be taken.

The Strategy also recognises that damage will continue with a barnacle goose population of around 30,000 geese being maintained so it supports ongoing compensation payments to farmers for losses incurred due to geese. Payments have recently been reviewed and a payment offer has been made

to the Islay scheme. The payment calculation has also been revised to ensure available funds are targeted at the most appropriate management.

Many of the factors which demonstrate serious damage by geese also relate to economic losses and are factors in the current payment calculation e.g. delayed turnout, late cutting and late barley sowing. Monitoring these factors for reductions in damage may also lead to an ability to demonstrate a reduction in economic losses over time. Significant changes in these factors over time should be considered at any payment review stage.

Action 11. Review changes in factors relating to current payment calculations at any payment review stage.

5. Value for money

The final national policy objective will be addressed through the operation of the scheme and monitored through the scheme annual reports.

Annex 1: Actions required to inform adaptive management process

Actions	
1	Continue to monitor goose numbers body condition and productivity on Islay on an annual basis and feed this data into the 2 yearly Strategy review process.
2	Continue to collect greylag goose data and feed this into the 2 yearly Strategy review process. Monitor Canada goose reports.
3	The Appropriate Assessment must be revised if adaptive management decisions taken at the 2 yearly Strategy review are likely to have a significant effect on any SPA. Any new recommendations from future Appropriate Assessments should be incorporated into the Strategy and scheme delivery.
4	Continue SCM monitoring of SPAs as part the agreed cycle and update this table as new data is collated. If actions are required as a result of features falling into unfavourable condition this should be addressed through the Strategy review process.
5	Continue to collect data on the elements of the scheme that the payment calculation addresses and examine differences over time in relation to goose numbers. Feed this data into the 2 yearly Strategy review.
6	Review new scaring techniques that are developed and consider implications for their use at every 2 yearly Strategy review.
7	Continue damage monitoring project and input data and conclusions into the 2 yearly Strategy review.
8	Complete baseline report on white-front distribution, movements and disturbance and include summary within this paper.
9	Complete data analysis and work up further trials of habitat management and development of agri-environment options to benefit white-fronts.
10	Consider the paper setting out possible bag limits for 2015/16 and agree the approach to be taken.
11	Review changes in factors relating to current payment calculations at any payment review stage.