

Response to Commission Queries on the Goose Schemes State Aid Pre-notification

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Response

None of the current SRDP options offer support for goose management.

To date, the combination of a very flexible approach to annual variation in uptake (allowing annual variation in the total size and location of the participating land parcels), combined with the non-competitive aspect of applying to join goose schemes has worked well to secure the pattern of uptake required for effective management of goose populations. Whilst the Scottish Government has been working towards incorporating goose schemes into the SRDP by standardising the way in which management options are described and monitored, the differences between the SRDP and SNH's Goose Schemes in their approach to annual variation to individuals' contracts does not lend itself to incorporation within the current SRDP. Goose Schemes would still present anomalies which would have to be explained and addressed by a set of additional rules nested within the current SRDP. We felt it best to avoid this level of complexity and potential confusion for applicants and to offer a discrete programme of support for goose management through SNH's Goose Schemes. We are working towards incorporating support for goose management into the next SRDP Programme.

High participation by farmers is essential for management to be effective; Co-ordination of management is essential for it to be effective;

For all of the goose schemes, high participation is required within the core eligible areas. To facilitate goose management, all key properties within core goose feeding areas need to participate to provide contiguous areas of undisturbed land that the geese can feed from without disturbance. The SRDP is a competitive scheme. A competitive approach doesn't facilitate the co-operative pattern of uptake required to deliver goose schemes. Goose schemes were not considered a priority under the Environmental Co-operation Action Fund.

Flexibility is required for crop rotations, allowing farmers to move their crops and their goose management from year to year, and for Scheme uptake to respond to changes in goose utilisation of the fields.

Unlike approaches to stabilising populations of bird species in order to retain population numbers, the goose schemes aim to manage bird populations in order to reduce crop damage and the unique location of the birds on the holding becomes the determinant for which land will be accepted into the scheme and which will not. This cannot be predetermined at the start of the contract and we need to apply a flexible approach and to allow for significant variation in the location and quantity of eligible land entered into goose schemes from year to year. We have done this in the previous goose schemes and it enables beneficiaries to enter the land that supports the greatest number of geese (and meets the Schemes' eligibility criteria).

Whilst Article 47(1) of Regulation 1305/2013 allows for the number of hectares under commitment to vary from year to year, the Rural Development (Scotland) Regulations 2015 do not.

The SRDP allows for annual rotation of certain annual recurrent options, making payments for an agreed minimum number of hectares each year and allowing beneficiaries to make minor adjustments to the number of hectares entered each year. This approach could provide a partial solution for goose schemes to be delivered through the SRDP, enabling the flexibility to move participating hectares within the holding on an annual basis, and to make minor adjustments to the number of hectares entered each year. However, a greater degree of flexibility is required; the Scottish Government would need to change the domestic rules for entry to the SRDP to permit annual variation to the number of hectares of grassland entered into the SRDP and to allow for a much greater degree of variation (increasing it from 5% to 100% of the total area first entered). This would allow a beneficiary with a small croft on Islay which reseeds all of their fields in one year to move from the feeding permanent pasture option to the feeding rotational pasture option.

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Response

Appropriate checks are in place to ensure there is no overlap with support provided under Scotland's Rural Development Programme.

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Response

Schemes aim to maintain sustainable populations of wintering geese. Each Scheme targets particular species of geese and all of these geese are classified features associated with neighboring SPAs.

Goose Schemes sustain wintering geese by supporting land managers to provide suitable feeding habitat; crops in a condition that is attractive to geese (mostly grassland that is short and very productive). They also ensure that geese are left undisturbed (no lethal or non-lethal scaring to protect the crops) over a proportion of this area. This is an environmental benefit.

Without the Goose Schemes, geese might still find crops to feed from, but with the Schemes the provision of suitable crops is guaranteed and they are able to focus their feeding on particular refuge fields. This is beneficial to both geese and farmers. Geese are not disturbed as much as they otherwise would be and farmers suffer less widespread damage and can focus their goose scaring activity over a smaller proportion of their holding. This is both an environmental and agricultural benefit.

Without the Goose Schemes, goose distribution might be more widespread and more sporadic and with pressure on farmers' crops over more fields and a potentially greater area.

We have carefully considered any potential for negative impacts associated with Goose Schemes. For each Scheme we have undertaken a Habitat Regulation Assessment and an Appropriate Assessment under EC Directive 92/43/EEC (European Council Directive on the conservation of natural habitats and of wild fauna and flora). We are satisfied that none of the Schemes have any adverse effect on the site integrity of associated Special Protection Areas.

All of the holdings participating in the Goose Schemes are subject to the full range of legislation that applies to agricultural businesses and the Goose Schemes do not exempt them from any of their existing responsibilities.

[Redacted]

Response

Please see Annex 1

[Redacted]

Response

The scheme has been amended so that the duration of contracts is 5 years.

[Redacted]

Response

The scheme payment rates are annual and are presented in €/ha in the table below. The three payment rates highlighted in red exceed the €450/ha per annum maximum rate allowed for other land use in the Guidelines. These rates are justified on the basis that the income foregone/ actual costs of complying with the goose scheme management requirements (as determined by Scottish Government agricultural specialists and detailed in the spreadsheets included within the pre-notification submission) exceed €450/ha per annum. The goose schemes are targeted at the management of key wintering goose populations and are voluntary in nature. Failure to reflect the full costs incurred in undertaking the management required risks the schemes becoming ineffective through lack of uptake.

Scheme	Zone	Payment Rate EUR/ha per annum (April 17 exchange rate of £0.8618/EUR)	
Solway	Feeding Area	460	
	Buffer Area	124	
	Buffer Area – adjacent to NNR	253	
South Walls	Feeding Area	311	
Strathbeg	Feeding Area	132	
Kintyre	Feeding Area	455	
Islay	Feeding Area		
	Rotational pasture	507	
	Permanent pasture	356	
	Grass let – Rotational pasture	343	
	Grass let – Permanent pasture	217	
	Barley	165	
	Root Crops	169	
	Buffer Area		
	Rotational pasture	450	
Permanent pasture	316		
	Minimum activity payment	116 payment per annum	

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Response

All of the payment rates under the Islay Scheme are adjusted for the density of geese that the land has supported during the Scheme period (birds per hectare from October to April). Participants receive a proportion of the full payment rate (listed above) calculated on a pro rata basis according to the goose density that the land has supported during the last 7 years: full payment is awarded to land that supports an average of 15 geese per hectare (both Greenland White-fronted geese and Greenland Barnacle geese).

For example, the payment rate for 1 hectare of permanent feeding area that has supported an average goose density of 15 geese/ha from October to April during the last 7 years would be €356/ha. The payment rate for 1 hectare of permanent feeding area that has supported an average goose density of 5 geese/ha from October to April during the last 7 years would be $€356 * (5/15) = €118.67$.

Each year a total of 15 goose counts are made on each farm; these are used to calculate the average goose density. This means that in a given year payments are targeted to the land that supports the highest number of geese. It is a flexible system which is central to the effective operation of the scheme.

For Kintyre, the same pro rata adjustment is made to the feeding area payment but here the average goose density is based on a 6-year average and the full payment rate is awarded to land that supports 10 geese or more per ha (Greenland White-fronted geese). So fields with a 6-year average density of 10 geese or more per hectare receive the full payment rate. If geese graze at lower densities the payment will be adjusted pro rata down to a minimum of 1 goose/ha.

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Response

As noted in the submission (Scheme outline document) we apply a 100% intervention rate to the individual aid associated with the Kintyre Scheme because it supports a species of higher conservation concern. Intervention rates that apply to the other Schemes have been determined by the available budget (£1.2m per annum). The budget that government considers affordable is £1.2m per annum. Negotiations with Local Goose Management Groups determined the proportion of this budget that was awarded to each Scheme. Most were awarded approximately 60% of the estimated income foregone/ additional cost incurred by Scheme participants.

Intervention rates were not reduced to this degree for the Solway and Strathbeg Schemes. On the Solway, goose distribution is changing; goose numbers are increasing and new areas are beginning to experience goose damage. Against this background of a growing goose-agriculture conflict the Local Goose Management Group did not feel it could run a viable goose management scheme if it reduced its payment rates below 100%. Government recognises this as a valid argument for the Solway at the current time. For the Strathbeg Scheme, again the Local Goose Management Group's advice has been taken when setting the intervention rate. The Local Goose Management Group advised that it could reduce the rate no lower than 78% without compromising the uptake to the Scheme. Notwithstanding these arguments, the payment rates for all Schemes may be reduced on an annual basis for budget management purposes – for example, where goose distribution alters or goose numbers increase to extend the area of land eligible for the scheme, payment rates may be reduced to ensure scheme costs remain within agreed budgets.

[Redacted]

Response

The associated costs referred to are those related to scheme verification and monitoring. These are costs incurred directly by Scottish Natural Heritage in administering the scheme covering staff time, consultants , volunteer costs and vehicle costs. No payments relating to these costs are made to scheme participants and they gain no benefit from them.

[Redacted]

Response

The information will be made available on the Goose Management Schemes pages of Scottish Natural Heritage's website: <http://www.snh.gov.uk/land-and-sea/managing-wildlife/managing-geese/goose-schemes/state-aid/>

The answers to these questions draw from information set out in the Islay Sustainable Goose Management Strategy which can be accessed at <http://www.snh.gov.uk/docs/A1434517.pdf>

[Redacted]

We have looked at a number of ways to set population levels on Islay. At the lower end of the scale we have calculated a minimum safe population from a biological perspective, and we have also considered how many geese we might need to meet our legal obligations. At the higher end of the scale, we have considered our legal obligations before concluding the barnacle population should not be allowed to increase beyond current numbers. These considerations are discussed further below (section numbers are taken from the Strategy).

Section 6.14 of the Islay Strategy document sets out the steps that have been considered in relation to the lower range of the population:

“6.14.2 Biological perspective

To inform discussion on a possible lower limit for the Islay barnacle goose population, SNH ornithologists have used the current PVA to calculate that the minimum safe population where the population is not at risk of serious decline is 23,100 (Urquhart 2014). Allowing 10% either side for count variation, this translates to a safe range of 20,790-25,410 birds. However, this biological lower limit is too low to meet our legal obligations

6.14.3 Natura perspective

We are obliged to consider our international obligations when setting a minimum population limit. The Islay barnacle goose population at the time of SPA classification on Islay was c. 20,000 in 1988. The expectation at the time of classification was that the numbers would be allowed to rise as a result of the additional protection afforded to geese.”

No guidance has been published which states the numbers of barnacle geese needed at individual SPA level, Islay level or international range level. The range proposed by the Strategy is 28,000 – 31,000 Barnacle geese. This is the lowest range at which we consider there to be no adverse effect on Natura site integrity. It will ensure Barnacle goose numbers on Islay remain significantly higher (8,000 – 11,000 geese more) than 1988 levels.

[Redacted]

To date, we have explored two approaches to addressing goose damage; scaring geese from agricultural crops and compensation payments. Both approaches benefit Islay farmers to a degree but neither approach offers a satisfactory solution to reducing goose damage; the scaring devices that we have tested are only partially effective in reducing goose damage. When suffering goose damage farmers incur additional crop losses and additional costs. Compensation payments (offered through the SNH Goose Schemes) provide partial recompense for crop losses (profit foregone) and additional cost associated with farming with geese (e.g. for additional fertiliser application applications, more frequent reseeding grass pastures). These compensation payments make a contribution towards farmers’ additional costs. Even if they met 100% of the costs, compensation payments can only mitigate the impacts; they do not stop the goose damage. Our reading of guidance on this area is that a ‘satisfactory solution’ must stop the impact (goose damage). The Strategy makes clear that its objective is damage (not population) reduction, and confirms that there is ample evidence that geese cause agricultural damage and the link between goose numbers and goose damage is well established.

Further details are provided below:

Scaring geese:

Section 5.1 of the Strategy sets out the range of scaring devices and techniques which have been tried on Islay since 2000. A number of different types of scaring techniques and devices have been used on Islay to scare wintering geese from grass crops. The effectiveness of these has never been fully monitored and evaluated on Islay, but there is a significant amount of feedback from experienced farmers and goose scarers which is captured in Table 5 of the Strategy. Since 2000, from experience on Islay, we have found that none of the scaring devices that we have tested offers a fully effective means to scare geese from crops and to reduce the impact on agriculture; we have found some are partially effective. Shooting, in combination with non-lethal scaring, may increase the effectiveness of scaring effort.

Bishop et al. (2003) review literature regarding research into the effectiveness of bird scaring techniques and include a critique of some of the scaring methods used on Islay. That paper broadly supports the anecdotal evidence available on Islay.

Islay farmers will continue to use these scaring devices in conjunction with the population reduction proposed in the Islay Strategy. In addition, SNH and the Islay farmers will continue to test the effectiveness of new scaring devices in the search for effective methods for reducing crop damage.

The link between goose numbers and goose damage:

A literature review (Kirby, et al 1999), carried out to inform Scottish Government's goose management review process, looked at a large number of studies of damage caused by various species of geese, including some studies on Islay, which had been carried out between the mid-1960s and the late-1990s. This noted that geese can be responsible for crop damage, usually as a result of consumption of crops and subsequent loss of crop yields, but may also inflict physical damage to the crop, and sometimes to surface-soil structure, through trampling. The main problem with goose grazing in late winter and early spring is that grazing removes a significant proportion of the sward leaf area. This leads to a loss in photosynthetic ability and hence grass yield (either as early bite or silage) is significantly reduced. The review concluded that there is considerable evidence, including studies carried out on spring grass and silage production on Islay, that goose grazing sometimes causes a significant loss of yields. It does note some studies that have not detected yield loss, perhaps due to relatively mild winters, but suggests that there are weaknesses in these studies.

Links between goose numbers and the amount of damage that they cause are illustrated in American and Dutch case studies. Research in the United States (Nichols 2014) on damage caused by Canada geese on wild rice demonstrated that reducing goose numbers reduces damage to plants. The management plan for greater snow geese (*Chen caerulescens atlantica*) in the Atlantic flyway also advocates that reducing the population of snow geese will reduce damage to crops (Atlantic Flyway Gamebird Technical Section, 2009). It cites evidence from Delaware that the area and value of damage to crops was reduced, but variable, following liberalisation of hunting regulations. The Dutch also aim to develop sustainable management of the Dutch geese populations by finding a balance between the size of the naturally occurring populations and the associated risks (Wadden Sea Forum, 2013).

Compensation

Compensation available to farmers for damage caused does not meet the costs of supporting the current goose population. Money mitigates the effects of the damage to some extent, but it does

not address the cumulative impact on farm businesses over many years and their ability to produce grass or carry profitable levels of stock. Neither does it minimise the damage. Detailed references can be found within the Strategy document.

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The previous bag limits were calculated to maintain the population at the level it was at the point the modelling was done. The modelling was based on a detailed population viability analysis (PVA). (Trinder, M. (2014). Status and Population Viability of Greenland Barnacle Geese on Islay. Scottish Natural Heritage Commissioned Report No. 568).

To reduce the damage to crops by 25-35% further modelling was done, using the same PVA that calculated bag limits. The size of the annual cull is calculated to gradually reduce goose numbers towards the overall lower range over a 10 year period. The method for calculating the annual goose cull is based on a population viability analysis and the model we use is described in Annex 1 by illustrating how the bag limit was set for winter 2015/16. This calculation is revised annually and adjusted mid-winter to take into account the numbers of geese present in any particular winter.

The relationship between goose numbers and damage is not necessarily linear but will be monitored throughout the Strategy period to examine that relationship. If damage reduction targets are reached, i.e. a 25-35% reduction in damage, before the population is reduced to the lower range then population reduction will cease.

[Redacted]

The Islay Strategy and all of the Goose Schemes have been subject to a Habitats Regulations Appraisal (HRA) and the process is briefly described below.

Both the Strategy and the Goose Schemes (that deliver the Strategy) are considered to be a plans or projects, as described in Regulation 48 of The Conservation (Natural Habitats & c.) Regulations 1994 (as amended) (the Habitats Regulations). As such, they were subject to a HRA for any of the Natura sites they may affect. Both were considered likely to have a significant effect on the qualifying interests of Natura sites and therefore the Appraisal included an 'appropriate assessment' of the potential effects of the Strategy or Scheme on Natura sites. Under the terms of Article 3(4) of the Habitats Regulations SNH is the competent authority in this case, and SNH therefore conducted the HRA.

For each HRA the appraisal considered the potential impacts of the Strategy/Scheme on qualifying interest of any SACs and SPAs and whether it might affect their conservation objectives which are:

- To avoid deterioration of the habitats of the qualifying species or significant disturbance to the qualifying species, thus ensuring that the integrity of the site is maintained; and
- To ensure for the qualifying species that the following are maintained in the long term:
 - Population of the species as a viable component of the site
 - Distribution of the species within site
 - Distribution and extent of habitats supporting the species
 - Structure, function and supporting processes of habitats supporting the species
 - No significant disturbance of the species

Both Greenland White-fronted geese and Greenland Barnacle geese are qualifying interests of SPAs in Scotland and Ireland. The HRA identifies the additional shooting activity (to reduce the size of the Greenland Barnacle goose population on Islay) that is proposed in the Strategy is likely to have a significant effect on both Greenland White-fronted geese and Greenland Barnacle geese; both could suffer from potential disturbance, displacement and loss of condition and Greenland Barnacle goose population could be affected by increased mortality.

The Appropriate Assessment (AA) then considers the possible impact of the Strategy on these two species in more detail. It considers the possible impacts on SPAs in three groups; Ireland, Islay and other Scottish sites. It concludes that Barnacle geese on Ireland and the other Scottish sites will not be affected by the shooting activity proposed under the Strategy because the additional shooting of Barnacle geese in Gruinart, Islay takes place after birds have moved through the Gruinart staging area on Islay and dispersed to other sites. It concludes Greenland White-fronted geese at sites outwith Islay will not be affected by the additional shooting activity on Islay because the species is considered to be relatively site faithful with only occasional movement between the Islay population and populations at other SPAs. This is not considered to be a significant ecological link. The AA therefore focuses on the possible impacts the Strategy might have for Greenland White-fronted geese and Greenland Barnacle geese associated with SPAs on Islay.

For Greenland White-fronted geese the AA for the Islay Strategy concluded that the proposed increase in lethal shooting (of Greenland Barnacle geese) would not undermine the following conservation objectives:

- Population of the species as a viable component of the site
- Distribution of the species within site
- Distribution and extent of habitats supporting the species
- Structure, function and supporting processes of habitats supporting the species

The AA for the Islay Strategy considered the possible disturbance impacts of the Strategy to Greenland White-fronted geese and concluded that the proposed increase in lethal scaring (of Greenland Barnacle geese) would not increase disturbance to Greenland White-fronted geese because

- it will not be carried out when Greenland White-fronted geese are present
- it will not be carried out on habitats preferred by Greenland White-fronted geese and
- the Islay Goose Management Scheme will continue to provide undisturbed areas comprising; at least 70% of the available grassland habitats on Islay; and a minimum of 60% of the improved and permanent grassland on individual farms on which geese feed.
- also, no goose scaring will take place over rough grazings, saltmarsh, goose roost areas or RSPB reserves.

Therefore the overall conclusion from the HRA is that the conservation objectives for the Greenland White-fronted geese will still be met if the level of lethal shooting is increased as proposed in the Islay Strategy, and there will be no adverse effect on site integrity.

The AA for the Islay Strategy considered the potential impacts of increasing lethal scaring on the conservation objectives for **Greenland Barnacle geese**:

- Population of the species as a viable component of the site

The Strategy will gradually reduce the size of the Greenland Barnacle population overwintering on Islay, with a minimum range of 28,000 to 31,000 birds.

This minimum range is significantly higher than the total number at classification of SPAs on Islay in 1988 (8,000 – 11,000 geese more), and the minimum safe population for Islay (where the population is not at risk of serious decline) calculated using the current PVA and count data (23,000 birds). To ensure the conservation objective is met at an individual SPA level, bag limits for each SPA are based on the proportion of the total island population that it holds; all the SPA populations will be reduced by the same proportion as the reduction to the total Islay population. The model we use is described in Annex 1 of the Strategy by illustrating how the bag limit was set for winter 2015/16.

Bag limits will be reviewed on an annual basis to take account of between-year variation in the number of geese returning to Islay.

The HRA concludes this conservation objective regarding population viability is met.

- Distribution of the species within site

Scaring management restricts access to certain crops; mostly first- and second-year grassland reseeded and it has been undertaken for years under the Islay Goose Management Scheme. Its continuation is not expected to result in any long term changes to the distribution of Greenland Barnacle geese within SPAs, based on data collected over 14 years of managing geese on Islay. Therefore the HRA concludes this conservation objective is met.

- No significant disturbance of the species

The Strategy proposes an increase in the annual bag limit for Barnacle geese. Whilst the area of undisturbed grassland on Islay will be retained (70% of the available grassland habitats on Islay on which geese feed), the HRA considered whether shooting additional numbers of Greenland Barnacle geese over the scaring area could displace birds to neighbouring islands or to mainland Scotland; or decrease their body condition. The HRA found no evidence to suggest that this was the case at pre-Strategy levels of Barnacle goose shooting and this was not expected to change if the Strategy were implemented. Therefore the HRA concludes this conservation objective is met.

The HRA for the Islay Strategy considered the level of lethal scaring proposed in the Strategy was not likely to have any significant effect on the following conservation objectives:

- Distribution and extent of habitats supporting the species
- Structure, function and supporting processes of habitats supporting the species

The conclusion from the HRA is that the conservation objectives for the Greenland Barnacle geese will still be met if the level of lethal shooting is increased as proposed in the Islay Strategy, and there will be no adverse effect on site integrity.

Finally, the overall conclusion from the HRA is that increasing the level of lethal shooting as proposed in the Strategy would have no adverse effect on site integrity for any of the SPAs classified for Greenland Barnacle geese or Greenland White-fronted geese in Scotland or in Ireland.

In order to help demonstrate the measures being taken will not have an adverse effect on site, and to improve future management integrity, SNH will collect data about goose distribution, goose movements and abdominal profiling whilst the Strategy is being delivered and will analyse this data at 2-year intervals throughout the Strategy's delivery. This data will also provide an early signal to SNH to adjust goose management in response to any unexpected events which might affect the condition or behaviour of Greenland White-fronted and Greenland Barnacle geese on Islay in order to continue to ensure there will be no adverse effect on site integrity.

A further Habitats Regulations Appraisal was then undertaken for the Islay Goose Management Scheme which is the mechanism through which the actions contained within the Strategy are delivered. It follows the same process as that set out above for the Strategy HRA and includes the mitigation proposed within the HRA for the Strategy.