

A Greylag Goose is shown in profile, standing in shallow water. The goose has a long, orange beak and a grey head and neck. Its body is covered in grey and white feathers, with a white underbelly. The background consists of green reeds and water. The title 'Changes in Greylag Goose population management in the Faroe Islands' is overlaid on the lower half of the image in a large, white, sans-serif font.

Changes in Greylag Goose population management in the Faroe Islands

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Recently the conservation and legal status of the Greylag Goose in the Faroe Islands has changed. Formerly protected all year around, Greylag Geese can now be shot on agricultural land. But why have the changes been implemented and what effects might they have on the recently restored Faroese Greylag Goose population?

The original Faroese breeding Greylag Goose population became extinct in the 19th century (Müller 1862, Olsen 1994). It is not known what caused the rapid decline of this population; however, some sources claim that in the 18th and 19th century, hunting pressure increased considerably, especially during the moulting periods (Svabo 1783, Landt 1800).

The geographical location of the Faroe Islands places them in the middle of the flyway of the Iceland Greylag Goose population. For this reason, it was not uncommon to see Greylag Geese in the spring or

autumn on migration; however, breeding birds were not reported again until the mid- 20th century. At that time, Greylag Geese were being bred in captivity in Tórshavn and these geese started to spread around the town with and without human help.

In 1977, goslings were released outside Tórshavn, at Eiðisvatn, and again in 1986, 1987 and 1989 at both Eiðisvatn and Fjallavatn, lakes on the islands of Eysturoy and Vágoy. This new Faroese Greylag Goose population increased slowly and, in 1981, it was estimated that only 2–10 breeding pairs were present

in the Faroe Islands, outside Tórshavn (Bloch & Sørensen 1984). By 1989, the population was estimated to consist of 20–30 pairs (Jensen *et al.* 1989) and in 2005 it was estimated to have increased to around 300 pairs (Jensen 2005).

This successful re-establishment has, however, given rise to some conflict with Faroese agriculture, as many farmers state that goose grazing resulting from this increase in numbers has adversely affected the hay yield. This conflict mirrors that experienced elsewhere in Europe, since Greylag Goose populations have been increasing all over Europe since the middle of the 20th century and seem to adjust well to feeding on agricultural land wherever they occur (e.g. Tombre *et al.* 2005).

During the re-colonisation of the Faroe Islands, efforts to track changes in the distribution and population size of the geese were minimal. No annual counts were organised by the responsible government departments or the Faroese Museum of Natural History and no birds were ringed since the release of the goslings in 1980s (a total of 85 birds; Hammer *et al.* 2014). Thus, knowledge about this population is sparse and it is difficult to estimate how much damage these geese are causing on agricultural land.

In 2014, a MSc project (involving cooperation between Aarhus University, the Museum of Natural History and The Faroese Agricultural Centre) investigated the effects of Greylag Geese on Faroese agriculture. By comparing plots grazed by geese with plots where goose grazing was prevented using exclosures, it was concluded that the geese contributed to some reductions in hay yield. However, these results were based only on a one year study and did not take into account annual variation in environmental variables (Vang 2014). The MSc thesis

underlined the importance of deriving an annual assessment of population size and reproductive success as well as understanding the movement and possible migration patterns of these geese. Without this information, it is difficult to see how the population can be effectively managed and the effects of management actions on between year changes in population size (Vang 2014). Moreover, it is clear that a management plan for the Faroese Greylag Goose population is required to effectively achieve the maintenance of a sustainable population whilst minimizing the adverse effects on agriculture.

Despite these recommendations, in 2014 the Faroese Parliament accepted a change in the Faroese bird hunting law which changed the legal status of the Greylag Goose on the Faroe Islands. This change entitles every commercial agricultural landowner to apply for written consent to shoot geese on their cultivated land. This law is implemented by the Faroese Agricultural Centre and it is stated that this consent will only be granted if adverse effects of goose grazing can be demonstrated. The law does not, however, state explicitly how adverse effects will be demonstrated and it is, therefore, up to the Faroese Agricultural Centre to evaluate this for each application. Consent to kill geese can be granted at any time of the year, making it possible for Faroese farmers to control geese on their land, both during pre-nesting time in spring and during the flightless moult in late summer. This new hunting law was enacted from 1 June 2014 and will run until at least 1 June 2017. In 2014, 47 geese were officially reported shot in Faroe Islands under consent from the Faroese Agriculture Centre.

Whether this change in legislation will be beneficial to the goose-agricultural conflict is open for debate. Studies elsewhere have shown that uncoordinated





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shooting and scaring can be at best ineffective and in other cases devastating for goose populations (Middleton *et al.* 1993). Active management schemes where alternative feeding sites have been combined with other strategies (e.g. coordinated scaring and shooting) have been shown to be much more effective, because the geese will prefer sacrificial crops with less disturbance over an agricultural site subject to intensive scaring (Percival 1993, Kristiansen *et al.* 2005).

In the absence of information about the population size, trends, survival rates and reproductive success of Faroese Greylag Geese, it is impossible to assess the effectiveness of shooting geese in reducing the extent of agricultural losses. Furthermore, it is worrying that the law does not include any seasonal restrictions, instead allowing hunting throughout the year, during both the nesting and moulting periods (which goes against the Bern Convention which requires protection of birds in the breeding season). The law also does not require that farmers and landowners take account of other similar goose species that occur on the Faroes, running the risk that other goose species that are passing through during migration times will be shot (e.g. Pink-footed Geese).

A management plan for the Faroese Greylag Goose, that combines the aims of maintaining a sustainable goose population and minimizing adverse effects on agriculture, is long overdue.

In 2017, when the hunting law will be reviewed in the Faroese parliament, the assessment and recommendations will hopefully demand that a Faroese Greylag Goose Management Plan is developed. This will require collection of data on annual population size, reproductive success and migration patterns, and the individual marking of geese, to provide information on annual survival, reproductive success, migration and distribution. If studies of movements indicate that this population migrates to other countries at any point in their annual cycle then

there may be a need to develop an internationally coordinated approach to Greylag Goose management over a wider area. There is also a need for the plan to provide information to farmers and landowners to help guide their activities to make their fields less attractive to geese and thus to minimize conflict as much as possible.

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