

XXX. THE MANAGEMENT OF A PROTECTED SPECIES BRANTA B. BERNICLA IN RELATION TO THE POPULATION SIZE, HABITAT LOSS AND FIELD FEEDING HABIT

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Introduction

The increasing number of geese of many species wintering in Europe makes it useful to examine the management of one subspecies which requires no further increase in numbers nor spread in distribution to assure its survival. In this context, management means a more finely tuned reaction to changes in a goose population than imposing complete or near complete protection. Such protection was the major theme of the recommendations set out in *Smart* (1979) for *Branta b. bernicla*. However, the following three examples perhaps suggest that we need to look beyond some of these recommendations to define a more practical set of management principles.

Wadden Sea

In recent years, the reclamation of coastal habitat in the Wadden Sea of the Federal Republic of Germany has been a matter of great concern (*Prokosch and St. Joseph*, 1976; and *Prokosch*, 1977). Approximately 15 000 *B. b. bernicla* are likely to be displaced from the coastal saltmarsh and this will inevitably increase the goose grazing pressure on the offshore islands (Halligen) where the farmers will certainly consider the birds surplus to their requirements and are already applying for permission to shoot the geese in spring (*P. Prokosch*, pers. comm.).

While appreciating the farmers' predicament, it is hardly good conservation to reclaim the semi-natural saltmarsh and then subject the displaced geese to spring hunting because they move into conflict with agriculture. If the island farmers are successful in scaring by shooting, then feeding on arable crops inside the seawall might follow. The damage from that would clearly be the outcome of a failure to integrate the geese into the system of land management in an area whose nature conservation value is both identified and widely recognised.

South and east England

Along the coasts of south and east England up to 40 000 *B. b. bernicla* have fed inland on arable crops and pasture, and yield reductions due to the geese have occurred. Damage prevention is time consuming and exasperating, and farmers do not see why they should bear the cost of what everyone else sees as a desirable increase in numbers. They too would like to shoot *B. bernicla* to stop them feeding on their land, but all that will do is move the flock to a neighbour's field.

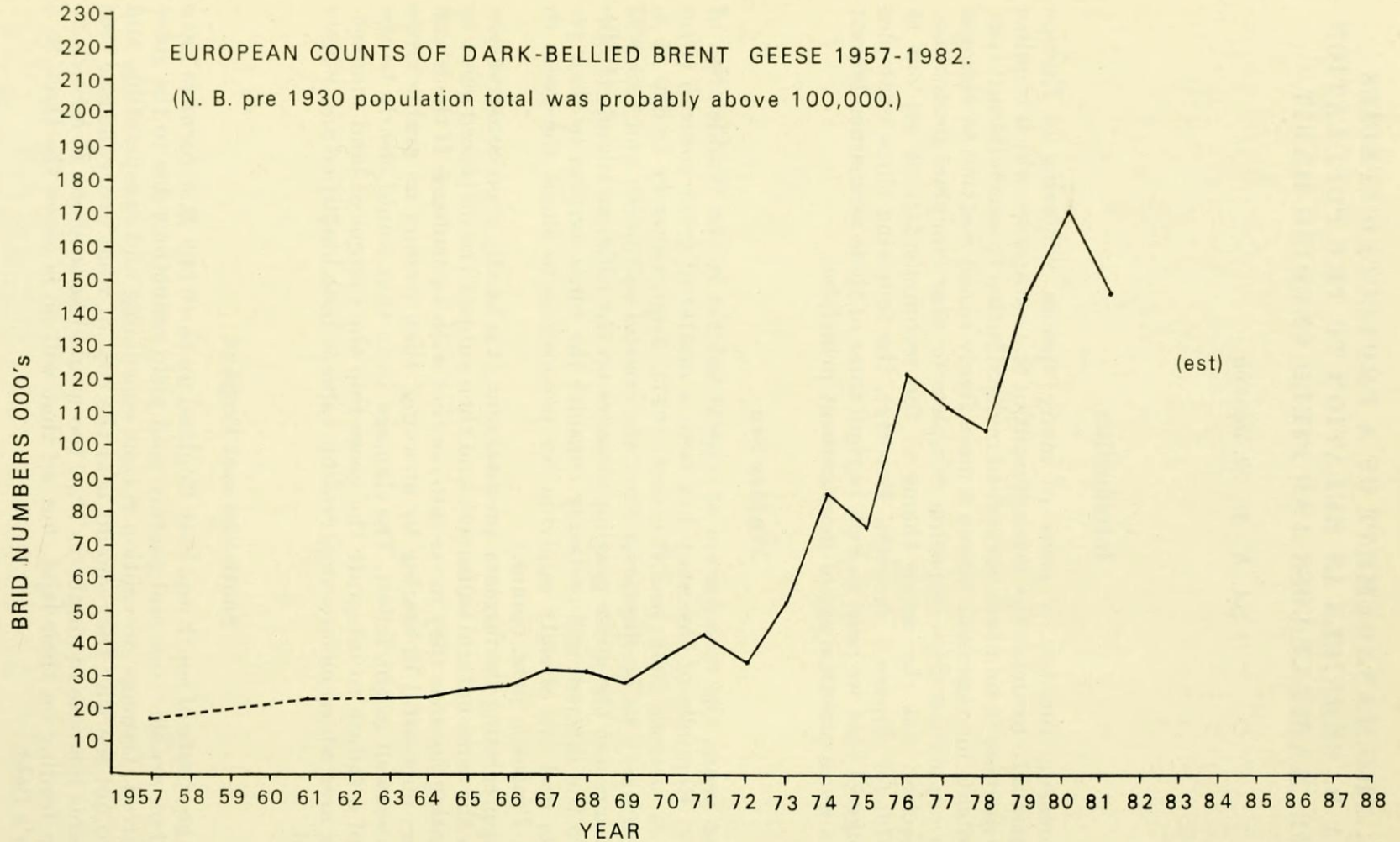


Figure XXX/1: The management of a protected species

Hunting

Considering the increasing number of birds in this population (Fig. 1) and assuming that the decline due to the breeding failures of 1980 and 1981 are not part of a continuing downward trend, could not more hunting be allowed in addition to the present short season in the Federal Republic of Germany? Other goose populations of comparable size are widely hunted. However they are less prone to the dramatic fluctuations in numbers found in all the *B. bernicla* subspecies.

Conclusions

In the Federal Republic of Germany it appears wrong to introduce spring shooting because of pressures brought about by habitat loss. In England shooting for scaring will not, by itself, reduce the incidence of inland feeding on arable crops. There is insufficient control of hunting, bearing in mind that the recovery in numbers is very recent and breeding success so varied, to make it possible to monitor a re-opened season.

Need for international management

The present lack of a management system appears to be due to our inability to agree on and implement a European strategy, not to failure to assess the right course of action. So unless we plan carefully we could see the population continue to increase because no course of action other than near complete protection can be agreed. This is doubly curious to farmers because most birdwatchers appear to them to be more interested in a bird the rarer it is.

How can we use the different national situations of land and conservation management to build an overall plan? Only by having the simplest international agreement on which each nation can build a policy based on its own laws and relating to its particular situation. As far as *B. b. bernicla* is concerned, such a policy need have just four clauses relating to population size, habitat loss, agricultural damage and hunting pressure.

Firstly, there is population size. There appears to be no satisfactory basis for deciding how many geese we "need" to assure the population's survival, let alone how many we would like to see around the coasts of West Europe. What is certain is that the former number would almost certainly be considerably less than the latter and both figures would be extremely artificial.

Since management would be by control of human pressure on the goose population, there is no point in having more than the simplest statement about the acceptable number of geese.

The population level will always fluctuate widely. On one summer (1975) numbers increased by about 45 000 birds (*Ogilvie and St. Joseph, 1976*). The holding capacity of the natural feeding area is also important (*Rogers, 1977*) because until it is reached there seems to be no need to do other than leave the population alone. Surveys in a number of countries (*Schwarz and Rüger, 1979; Pfeiffer, 1979; and St. Joseph, 1979*) show that inland feeding on farmland occurs significantly in two out of the five main wintering countries at an overall population level of 100 000 birds.

This population should be recognized as the one to be maintained and it should be accepted that above it management other than complete protection is needed because of the problem created by local inland feeding flocks.

Secondly there is the reclamation of semi-natural habitat. Pressures of land use are very great in West Europe. The opposition to the reclamation plans in the Wadden Sea has helped reduce the size of the planned schemes but they will still be carried out. Farming on the halligs is subsidised at a higher level than on the mainland in Federal Republic of Germany because, although it is less economic, it is considered right and proper to maintain the island communities. Actual agricultural production is therefore of less importance and if wild geese can be included among the natural but manageable hazards of hallig farming (EEC Council Directive 75/268/EEC) there is only need for an administrative agreement within the appropriate department of agriculture. This may not be easy, as the idea may appear too vulnerable to wide exploitation for nature conservation.

Thus instead of outright opposition to the reclamation of semi-natural habitats, a quid pro quo solution should permit the geese to use offshore islands to a greater extent by helping subsidize the farmers.

Thirdly there is the possibility of agricultural damage. Inland feeding has been the main focus for discussion of *B. b. bernicla* management in England. Four separate damage prevention systems have been proposed.

Culling would be technically feasible, with the aim to catch and dispose of up to 12 000 geese in a single winter. However politically unrealistic this might seem, the real drawback is cost. A full-time, all-weather catching team could cost more than £20 000 a year and there are better and cheaper ways of managing a goose problem.

The development of a system of refuges on which the geese should be held (Owen, 1979) is possible. Again the main objection is cost which would probably exceed any likely level of crop damage. Big refuges are also known to exacerbate problems in the surrounding farmland by attracting more geese than there were before.

Reliance on shooting and other scaring techniques depends on the farmer's ability to maintain scaring pressure. However, the geese simply move to another farm. Eventually, the result is that the flocks extend their range, requiring more farms to develop a scaring programme or face economic loss. Such a programme might fragment the flocks and so spread their impact, but experience suggests this is only so when shooting pressure is very high.

The development of alternative feeding sites could be accompanied by licensed shooting over vulnerable crops. The flocks then have somewhere within their home range to be scared to, such as permanent pasture along the coast. Because such fields are widely scattered and small, there is not the same risk of encouraging recruitment as with the larger refuges. Costs too are low, such fields can be incorporated into an existing farm system by application of fertiliser in the autumn and giving up winter stocking. Alternatively they may be paid for by a variety of organisations. Thus the Chichester Harbour Authority arranged payment for mowing grass on a redundant coastal airfield (Thorney Island) to improve the sward. In another case the provision of grazed saltmarsh has been linked with the need to sheep-graze the coastal seawalls to make them more resistant to wave damage.

Because in these ways one can give a proportion of the geese somewhere to

go, it is reasonable to put the onus of scaring onto the farmer coupled with shooting under licence. This dual approach of improved scaring and alternative feeding sites are not to be eaten out too soon.

Elsewhere, a return to hunting would involve protracted legal negotiation through the EEC. But in any case it is reasonable to state that *B. b. bernicla* should only be hunted in a country which can adjust season length and bag limit each season and publish adequate kill statistics. The two countries where most *B. b. bernicla* winter (UK and France) have yet to prove that they can do this.

Summary

1. It is reasonable to accept a population level fluctuating around 100 000. This number can be sustained on the natural coastal habitat in the areas where they winter.

2. The protection of natural coastal habitats is of the utmost importance and any geese displaced by development should be included in the agricultural support system if they move onto farm land.

3. Crop losses should be minimised by providing alternative feeding sites, the onus of effective scaring being placed on the farming community with licensed shooting.

4. Hunting can take place at a higher population level (say 150 000) but only in those countries where season length and bag limit can be annually varied to match productivity and where there is no impact on other species. It should not be allowed to reduce the population below 100 000 birds.

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