

# Recoveries of Gannets (*Morus bassanus*) ringed in the Faroe Islands

Fráboðanir um súlur (*Morus bassanus*) merktar í Føroyum

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## Úrtak

Einasta staðið í Føroyum, har súla eigur, er í Mykinesi og Mykineshólmi. Fyrstu ringmerkingar av súluni í Føroyum vóru í 1931. Síðani tá, eru 909 súlur merktar, og av teimum hava 30 afturmeldingar verið. Úrslitini frá afturmeldingunum vísa, at ferðamynstrið hjá føroysku súluni er líkt tí hjá øðrum norðurevropskum súlum. Tó kann ikki staðfestast frá hesum data, um tær yngru súlurnar flyta longur burtur frá reiðurplássunum enn tær gomlu.

## Abstract

The only breeding places for Gannets in the Faroe Islands is on the island of Mykines, and in Mykineshólmi, an islet just west of Mykines. The first ringing of Gannets in the Faroe Islands was done in 1931. Since then 909 Gannets have been ringed with 30 recoveries. The results from the recoveries show, that the migratory pattern of the Faroese Gannet is similar to that of other Northern Gannets. It was not possible to conclude from the recovery data if the younger Gannets migrate farther away from the breeding colony than the old ones.

## Introduction

The only breeding place for Gannets in the Faroe Islands is on the island of Mykines, and on Mykineshólmi, an islet just west of Mykines (Olsen and Permin, 1974) and the breeding population is approx. 2000 birds (Heath and Evans, 2000).

The people of Mykines take about 500 young for consumption each year (Fiskirannsóknarstovan, 2002), and have been doing this for more than 200 years. There is an agreement with the people of Mykines, that they ring some of the chicks that are too small for consumption (Jensen and Olsen, 1999).

The first ringing of Gannets was done 11 June 1931, by B. Thorup, who ringed 22 pullus and 1 adult (Jensen and Olsen, 1999).

Kenneth Williamson, an English officer stationed in the Faroe Islands in 1941-45, ringed 114 pullus of Gannets on Mykines, and got the people of Mykines to continue the ringing from 1941 to 1945 (Hudson, 1963; Jensen and Olsen, 1999).

The aim of this paper is to shed some light on the migration pattern of the Faroese Gannet, based on recovery data, and to compare the results with studies from some other northern European countries.

### Material and methods

Faroese Gannets have been ringed with aluminium rings until 1996. The problem with rings is that the data on them wears off after some time and especially on the aluminium rings (Perdeck and Wassenaar, 1981; Aebischer, 1983; Galbraith and Furness, 1983; Jensen, 1997; Summers and Etheridge, 1998). Since 1998 the Zoological Museum in Copenhagen has delivered steel rings for Gannets (Jensen and Olsen, 1999).

According to Toms and Clark (1998), 11 Gannets, ringed in Britain, were recovered in the Faroe Islands. Records for 1997, from the Zoological Museum in Copenhagen, showed that 12 Gannets ringed abroad, 1 from Ireland and 11 from Scotland, have been recovered in the Faroe Islands, thus

supporting Toms and Clarks statement about the 11 ringed in Britain. So far the Faroese Museum of Natural History has only got 2 recoveries from 1998-2002, of Gannets ringed abroad, making the total number recovered in the Faroe Islands, 14 individuals.

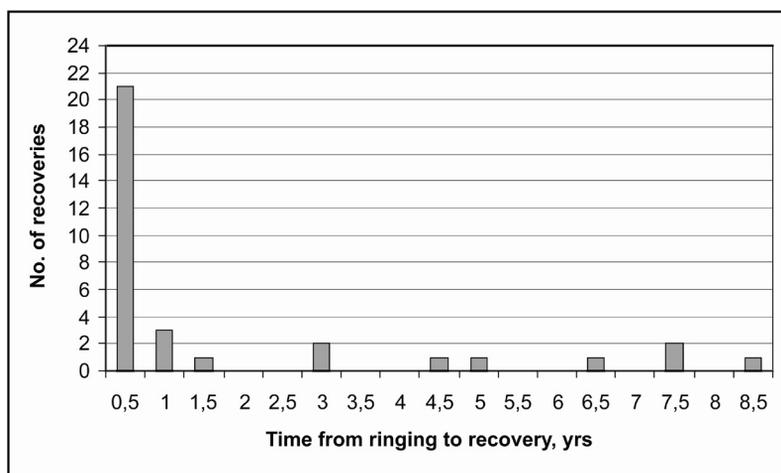
All data used in this paper are from recoveries reported to the Zoological Museum in Copenhagen and from a paper by Hudson (1963).

The total number of Gannets ringed in the Faroe Islands up to 2001 was 909 (Jensen, 2002) with 30 recoveries, 21 of which are from abroad (Fig. 2 and 3). The age of the Gannets was determined as: age when ringed + time from ringing to recovery (Fig. 3).

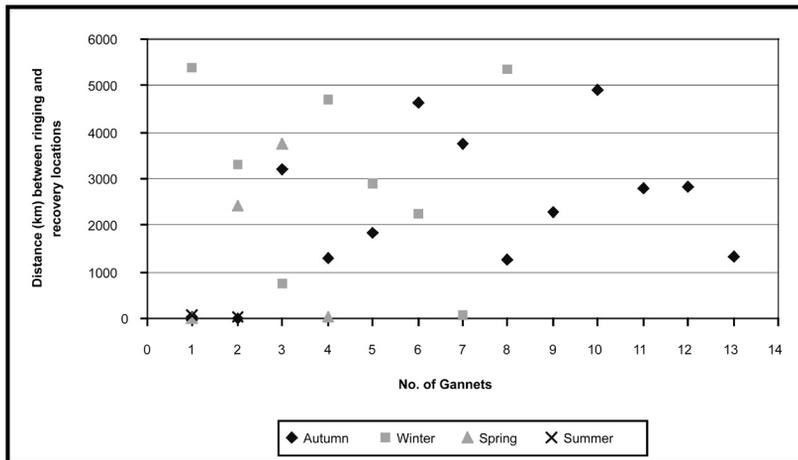
The statistical tests were done with the program SPSS 11.0 for Windows.

### Results

Most recoveries were made relatively shortly after ringing. Approximately 70%



**Fig. 1.** Recoveries against time from ringing to recovery.



*Fig. 2. Distance between ringing and recovery locations according to season, when the Gannets were recaptured.*

of the Gannets were recovered within one year after ringing, while approx. 30% were recovered more than one year after ringing (Fig. 1).

Most recoveries (61%) are from the autumn and winter, while 39% are from spring and summer (Fig 2). The mean distances, between ringing location (Faroe Islands) and the place of recapture, during the various seasons are approx: 2,020 km in autumn (n=13), 3,090 km in winter (n=8), 1,560 km in spring (n=4) and only 20 in summer (n=2).

There is a significant difference in distances between ringing and recovery locations during winter and summer,  $p=0.012$  (ANOVA, Tukey's Post Hoc test).

Most recoveries abroad were during autumn and winter, while the 9 recoveries on the Faroe Islands were evenly distributed over the year, with 3 recoveries during spring, 2 in summer, 2 in autumn and 2 in the winter (Fig. 3). In order to distinguish

between the recoveries from the Faroe Islands these are shown with a colored diagram rather than with overlapping circles. The height of the columns in the diagram indicate number of Gannets.

The younger Gannets (1-2 yr) were recovered a mean distance of approx. 2,190 km from the ringing location, while Gannets 6yr or older were recovered at a mean distance of 1,420 km from the ringing location (Fig. 4). However, the difference is not significant,  $p=0.655$  (ANOVA). Age groups 3yr and 14yr are not included in the statistical test, because n in each group was too low for the test (n=1).

## Discussion

As Fig. 1 shows most birds were recovered within one year after ringing (Fig 1). That most birds are recovered a relatively short time after ringing is a common pattern because the younger birds are more inexperienced than the older ones (Barret, 1988).

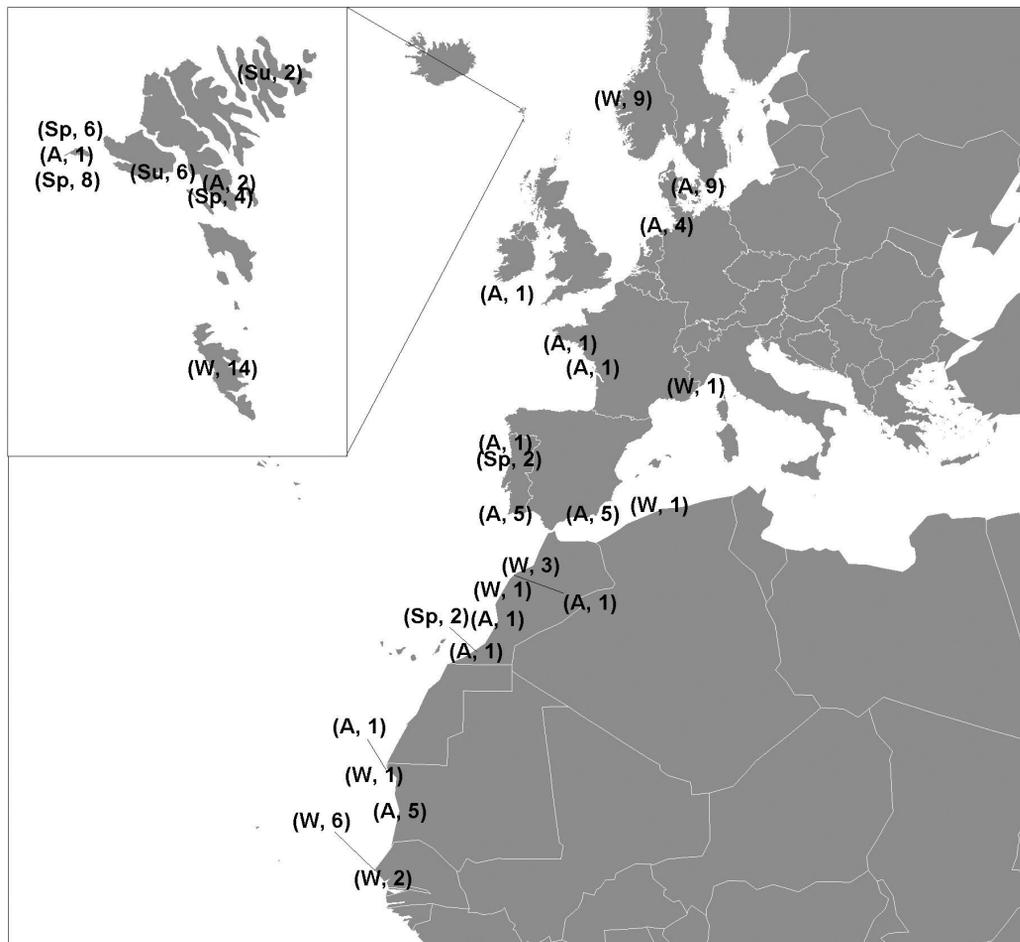


Fig. 3. Recoveries of Gannets ringed in the Faroe Islands. The letters and numbers in the brackets are time of year and age of birds respectively i.e. (Time of year, age of bird). Sp = Spring, Su = Summer, A = Autumn, and W = Winter. (The left corner insert are the Faroe Islands)

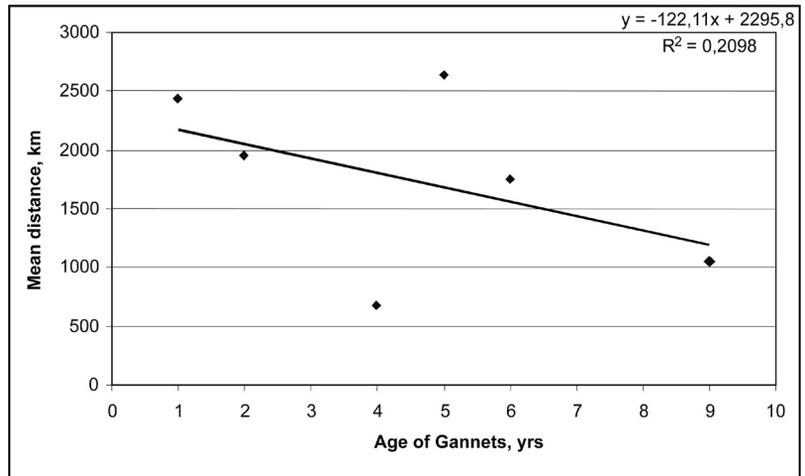
A recovery of birds ringed in Britain have showed that Gannets ringed on Ailsa Craig migrated to the South-West coast of Europe and North-West coast of Africa (Zonfrillo, 1997). This migration pattern is also supported by Nelson's results (1978).

Recoveries of Gannets ringed in Norway show a similar general migration pattern to

that described for British Gannets (Barret, 1988).

Fig. 3 seems to show a similar pattern for the Faroese Gannets, and the statistical analysis also shows, that there is a significant difference between distances, between ringing and recovery locations, during winter and summer ( $p=0.012$ ).

**Fig. 4.** Mean distance between ringing and recovery locations against age of Gannets (age groups 3yr and 14yr are not included).



The distance travelled is calculated as a straight line from the place of ringing to place of recovery. This does not represent the real travelling strategy of the Gannets, since they prefer to fly along the coastline. This means, that the actual distance travelled by birds, recovered in the Mediterranean Sea, is much longer than stated by the data set. However, this does not alter the overall picture, that birds recovered during winter are found farther away from the ringing location than birds recovered during summer, since only 3 birds were recovered in the Mediterranean Sea, and all 3 were recovered during the autumn and winter.

Work done by Nelson (1978), Barret (1988) and Zonfrillo (1997) showed that the younger Gannets migrated longer away from the breeding colony than the older ones.

Figs. 3 and 4 might seem to show such a trend for the Faroese Gannets, but this is not supported statistically (ANOVA:  $P = 0.655$ ).

The fact that there were 18 Gannets in age groups 1yr and 2yr, while there were only 6 Gannets in age groups 6yr or older, probably gives data biased towards the younger birds. This, of course, affects the validity of the statistical tests, and could explain e.g. why no statistical differences were found in mean distance between ringing and recovery locations, and age of the Gannets.

### Conclusion

Although the recovery data of Faroese Gannets are limited, they seem to indicate that the migratory and dispersal patterns of the Faroese Gannets is the same, or very similar to, that of Gannets from other Northern European countries, like Great Britain and Norway.

However, the Faroese data do not support the notion that younger Gannets migrate farther away from the breeding colony than the older ones.

More recovery data are needed in order

to be able to say something more specific about the migratory and dispersal pattern of the Faroese Gannets.

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