

Which influence do ringing schemes, owl protectors, and ringers have on recovery data?

by Ernst Kniprath¹

For any analysis of recovery data KNEIS (1981) had furthered to discriminate between recoveries made by the public and those made by ringers as they resulted in different dispersal distances. He had studied the data of barn owls in the then German Democratic Republic.

During the analysis of barn owl recovery data of the Vogelwarte Helgoland I as well met with these and other influences, which were not linked to the biology of barn owls.

I start with the dispersal distances. Earlier, when ringing mostly had been a technique of the study of bird migration, the own recoveries often have been estimated as worthless and were not reported to the ringing schemes. Indeed, they were refused by these latter ones (FIEDLER in litt.). The expense of registration seemed to be too high. As long as the data of the ringers were registered and processed electronically, there has been a change. The Vogelwarte Helgoland now in fact urgently asks to report those data as well. Figure 1 very clearly demonstrates the effect. Until 1997/98 the part of nearby-recoveries of <5 km was at about 20%, thereafter at about 50%.

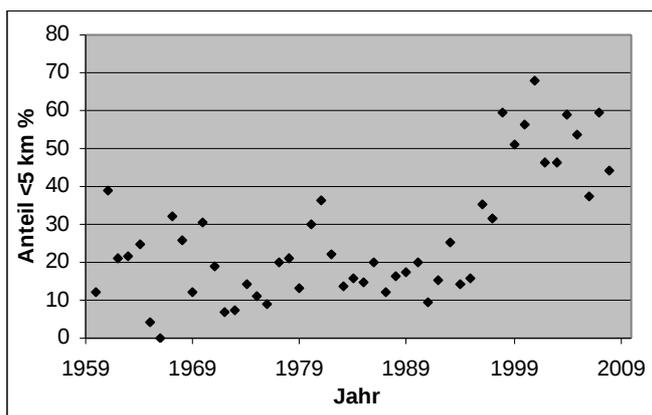


Figure 1: The part of recoveries nearer than 5 km in the barn owls ringed as nestlings in the recovery data of the Vogelwarte Helgoland (n = 4.108) (like all figures taken from KNIPRATH 2012 and KNIPRATH 2013).

Now we shall look at the distance of settlement of the barn owls ringed as nestlings. These are the data of ringing in the Northern German Lowland between the river Ems and the eastern border of Lower Saxony (from the data pool of the Vogelwarte Helgoland). The graph (fig. 2) at the first glance makes us assume that during the time from 1970 till today young barn owls more and more settled nearer to their birth place. However we have severe doubts that we here see a change of behaviour of the birds.

¹ Translation of the original publication: Kniprath E 2012: Welchen Einfluss haben Beringungszentralen, Eulenschützer und Beringer auf die Wiederfunddaten? Eulen-Rundblick 62: 5-7

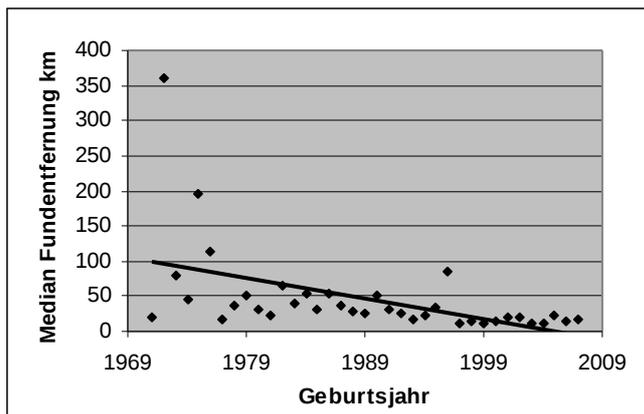


Figure 2: Median values of the recovery distances of settled barn owls ringed as nestlings in the central northern German Lowland (n = 3.026) by year of birth

Much more we can assume that this in part is an effect of barn owl protection. During the study period everywhere protection programmes were induced, which mostly consisted in the posting of nest boxes. The young owl thus had to fly always less to find a safe breeding site.

Certainly it also plays a role that the extensive ringing of only nestlings had been stopped by the German ringing schemes at the end of the 1980-ies. Thereafter only those people were allowed to ring barn owls, which also made efforts to control the adult birds. So more often than before own recruits were found as breeders; the mean settling distances found by recovery data as well diminished.

In the data we found a very convincing confirmation for the influence of those nest box activities. When comparing the dispersal distances of young owls from the area just mentioned, the lowland east of the river Ems, with the region west of it, the Lower Rhine area, we got quite different results: In the Lower Rhine area the dispersal for 50% of the young birds ended within a circle of 32 km, in the lowlands following eastward already of 21,5 km. The suggesting suspicion that this difference could be due to a much lesser number of nest boxes during the times of most ringing activities there in a certain extent is confirmed: The mean year of the respective ringing in the western area was 1985 (median 1989), in the more eastern one in fact 1991 (1993). The data of the western area so originated from years with probably still fewer nest boxes, accordingly lead to greater recovery distances.

As soon as the recoveries made by ringers are eliminated (code in the database: FINDCOND = 8), the effect vanishes. From there we may conclude, the ringers post the majority of the boxes. Or the other way: Who posts many boxes wants to know, where his owls remain and rings and controls. The steady decrease of the recovery distances so on one side may be attributed upon it that for the owls the nearer settling was made possible by the posting of increasing numbers of boxes and also that not to few ringers as well control adult birds. The influence of ringers likewise is augmented by the passion of most of them to cause finders in the public to communicate their recoveries. The comparison with the results of other authors only then is useful, if the data originate from the same period and onto that if it is known, whether the stock of nest boxes is or was about similar.

Similar effects may be found, when analysing the dispersal direction of the young owls, but only if the data do not originate from a too large area. Looking at the dispersal direction of all dispersed owls (omitting those of <2 km) in the lowland east of the Ems (fig. 3) so despite of a certain preference of the directions west to southwest, not much can be seen.

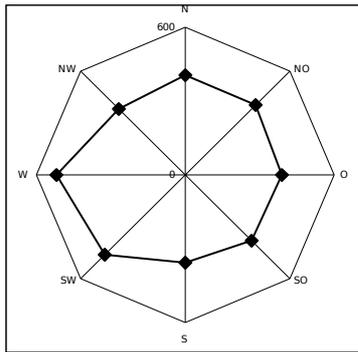


Figure 3: The recovery directions of all owls, ringed as nestlings and found at a greater distance than 2 km, in the lowland between the River Ems and the eastern border of Lower Saxonia (n = 3.284)

But if in contrast a narrower area is selected (as done by BAIRLEIN in his study of the barn owls in southern Germany in 1985), here as an example the region around the town of Peine, the distribution changes obviously (fig. 4, outer curve).

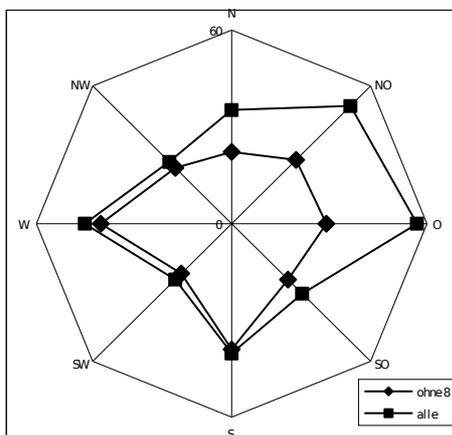


Figure 4: Numbers of recoveries of barn owls ringed as nestlings in the region Peine by direction (squares: all; n = 311; rhombs: similar but without recoveries by ringers; n = 229)

Now the direction North to East is accentuated obviously more and besides the peak direction West there is another one direction South. Following the ask of PETER KNEIS by eliminating the recoveries by ringers, the accentuation of the directions North-East and East totally disappears (fig. 4, inner curve). The explanation given here is that in the ostensible direction of preference there is or was an eager ringer, who also ringed and controlled adult birds. Indeed it simultaneously becomes obvious that the preference of the directions West and South is not such an effect. For this preference we have to find a different explanation.

In contrast it is possible that the graph shows no similar effect, despite we know that in the surroundings of this special region ringers are working (fig. 5). The exact control showed that >50% of the recoveries from this region came from ringers! This region, the working area of the OAG Barnbruch (town of Wolfsburg: HORST SEELER), is itself a region of intensive trapping as the median of the recovery distances of the data collected by ringers is at 9,7 km. So the recoveries mostly originate from the region

itself. On account of this overweight the recoveries from the surrounding areas do not leave distinct traces in the graph.

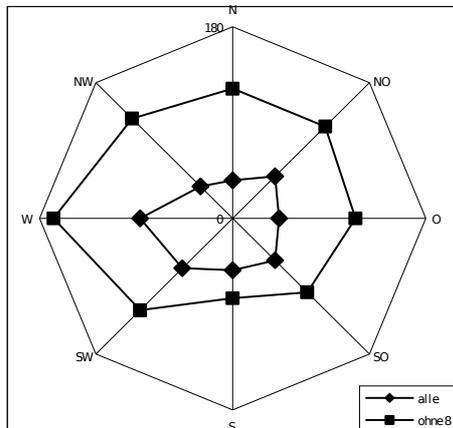


Figure 5: Numbers of recoveries of barn owls ringed as nestlings in the region Wolfburg by direction (squares: all; n = 952; rhombs: similar but without recoveries by ringers; n = 433)

So the request of PETER KNEIS is totally justified and still must be widened. Ringing schemes, owls protectors, and ringers influence the value of recovery data. Before any conclusions in recovery studies this point especially must be regarded.

Summary

The request of KNEIS (1985) to discriminate between recoveries from the public and those made by ringers when studying recovery data has proven to be justified. Instructions of ringing schemes to corresponding classify recovery data, as well as the activities of owl protectors and ringers do have an influence on the data which may be derived from recovery data.

Key words: Barn owl, *Tyto alba*, recovery data

Literature

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