

DANISH REVIEW *of* GAME BIOLOGY

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The Danish Bag Record I

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THE DANISH BAG RECORD I

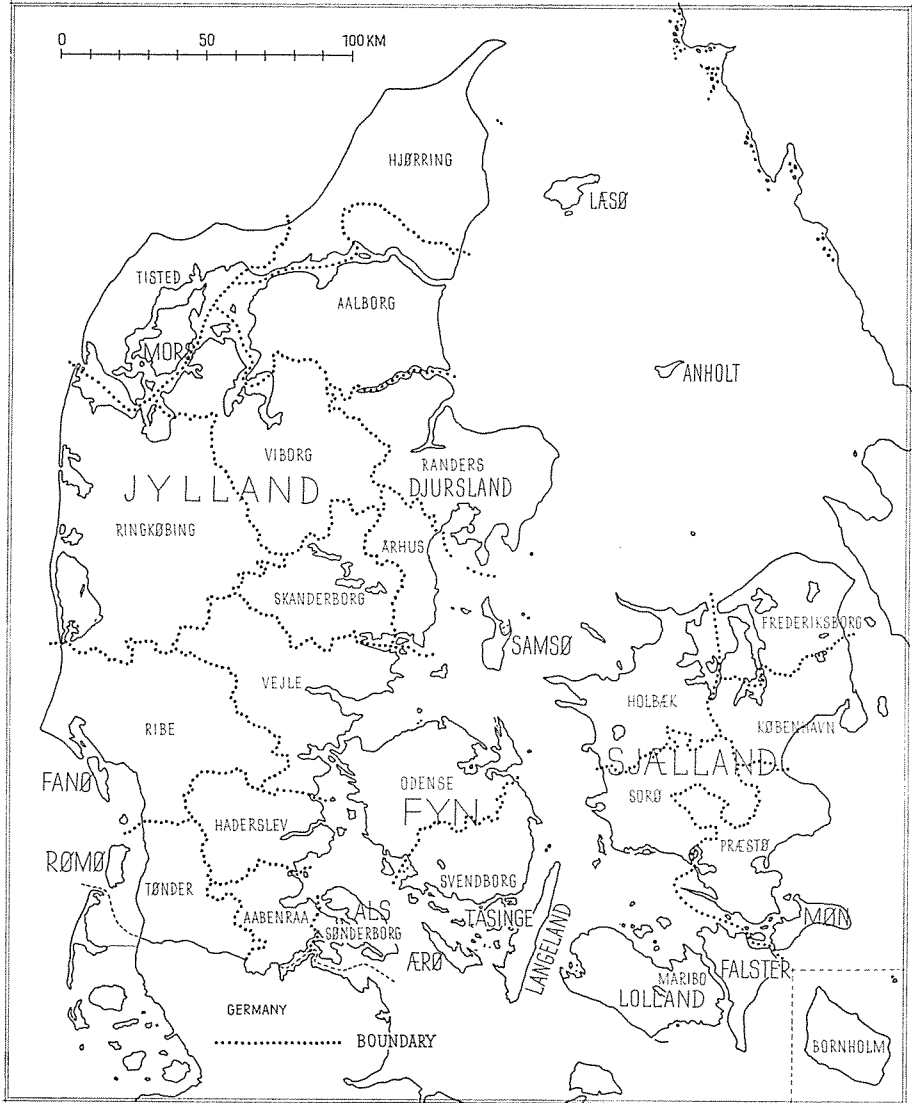
STUDIES IN GAME GEOGRAPHY
BASED ON THE DANISH BAG RECORD
FOR THE YEARS 1956-57 AND 1957-58

BY

H. STRANDGAARD

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Map of Denmark indicating the counties

The primary purpose of this publication is to give a review of the distribution of bag sizes of the more important game species on different parts of the country. Furthermore, I hope that it may also contribute towards the basic research required in order to understand not only the biology of individual game species but also the environmental requirements of game in general.

The obvious approach to a study of this nature must be, first, to concentrate on the quantities of individual game species associated with different parts of the country and as a natural continuation of this, to attempt an isolation of the factors which cause the regional differences. However, a few features of the distribution of game species in Denmark call for attention already now. They have, therefore, been discussed in this publication.

While writing up this work I had the opportunity to discuss various problems with mag. Johs. Andersen, dr. C. Overgaard Nielsen, professor H. M. Thamdrup, and others. Furthermore, professor S. Fredens and professor O. Strange Petersen have gone through the work and given advice as regards the statistical analysis of the data. The valuable support thus received is gratefully acknowledged.

The diagrams and maps illustrating the publication were drawn by Mr. Preben Gross, Århus.

Mrs. L. Jensen, Rønne, has given me invaluable assistance by sorting out the raw data and, finally, it is a great pleasure to thank all the sportsmen who have created the basis for this work by supplying their individual bag records.

Rønne, December 1961.

H. STRANDGAARD

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CONTENTS

I. Foreword	p. 5
II. Introduction	p. 7
III. Historical remarks	p. 8
Notes on the shooting rents paid in 1912	p. 8
Number of licences in 1922	p. 9
The Bag Record	p. 10
IV. The data and their use	p. 11
Collection of the data	p. 11
Preliminary analysis and check of data	p. 11
The reliability of the Bag Record checked through independent data	p. 13
Correcting the data received	p. 17
Police districts as the geographic basis	p. 17
Area	p. 20
V. The Maps	p. 21
Explanation of the maps	p. 21
Special close-season regulations	p. 23
Maps showing bag of individual game species	p. 24
Maps showing total bag per 100 ha	p. 52
Map showing number of licence holders per 100 ha	p. 68
Map showing bag of hares per sportsman	p. 69
Maps showing total bag per licence holder	p. 72
VI. Discussion of maps and underlying data	p. 54
Bag and population size	p. 54
Carrying capacity of habitats	p. 56
The relation between hares and pheasants	p. 61
The relation between hares and foxes	p. 63
Appraisal of releases based on the maps	p. 64
VII. Facts concerning the number of licence holders	p. 67
Number of licence holders per 100 ha	p. 67
Number of sportsmen in relation to total population	p. 67
Bag per sportsman	p. 68
VIII. Summary	p. 74
IX. Literature	p. 77
X. Appendixes	p. 78
1) Bag per 100 ha in individual police districts	p. 78
2) Bag per 100 ha in individual counties	p. 86
3) Bag per 1000 ha in individual counties	p. 88
4) Bag, total and per 100 ha (police districts)	p. 90
5) Bag per sportsman (the police districts indicate home district of sportsman)	p. 92
6) Licence holders in individual police districts	p. 110
7) Area (ha) of police districts (excluding urban land)	p. 112
8) Area (ha) of counties (excluding urban land)	p. 116

I.
FOREWORD

Whether one considers the bag per se—and it is of considerable economic value in this country—or the pleasure which the population derives from game in all its aspects—certainly no less valuable—it remains true that game is more important than currently believed.

The Danish game is a national treasure, and its maintenance and wellbeing deserves our close attention. However, the maintenance of a reasonable game population, suitably balanced against the economical interests of agriculture, forestry, etc., is linked up with a number of problems that will attain increasing weight during the years immediately in front of us. The increasing human population, a raised standard of living, more spare time, increased mobility of the population and its emphasis on out-of-door activities are all factors which will tend to affect the pressure to which the Danish countryside and its game is exposed.

The management of Danish game will have to face more acute problems under these circumstances and, as in all other kinds of administration, the best guide to correct management must be looked for in precise information.

In this connection we are fortunate in having detailed information on the annual game bags obtained in this country since 1942. So far, these data have only been utilized for brief surveys of the bag for individual years. In 1953 the Ministry of Agriculture appointed a Game Record Committee which attempted to scrutinize the possibilities and inherent value of the available data; as part of this activity the Game Research Station, Kalø, undertook a detailed analysis of the data.

The present analysis, carried out by Mr. H. Strandgaard, game biologist at the Station, and partly implemented by mag. Johs. Andersen, is a first contribution to a basic study on the geographic distribution of game bags etc. A detailed study of the factors causing this distribution is not attempted here. This aspect, and the variation between years, will be the subject of future publications.

The body of primary data will not only provide a new means of shedding light on the reliability of the game records but also a basis for a more precise analysis of such features as the artificial game release, close-time regulations,

fluctuations of climate, the use of toxic sprays, the relationships between habitat and population size, and productivity of different game species, etc. Widened Scandinavian and international perspective is provided by the fact that the game records call for attention when an attempt is made to consider our share in the exploitation of migrating game birds.

From what we know already, an effective use of the official, Danish game record seems important to all bodies engaged in the administration of Danish game. It is obvious that the game record, created already in 1939 on the initiative of professor Ø. Winge, has provided us with a tool which should not be underrated.

Kalø, May 1962

H. M. Thamdrup
professor, dr. phil.
Manager of the Station

II. INTRODUCTION

In May 1942 professor *Ø. Winge* wrote in "Dansk Jagttidende":

"The sportsmen must realize that the introduction of the game record, now commenced, is the most important event in Danish game history since we received the latest Game Act, for the first time we are given a means that will enable us to form an opinion on the economical importance of Danish game, and a means that can be used to calculate the fluctuations of game populations between years.

It is desirable that it should also allow us to decide whether the measures taken by the Ministry of Agriculture and the Game Council to promote Danish game populations are sound, but in order to solve this important problem it is necessary, as in all correctly designed experimental work, to make a comparison possible by introducing the measures in some zones and not in others."

With the appearance of this publication the first survey of game bags, and consequently of the distribution of the more important game species throughout Denmark, is presented.

III. HISTORICAL REMARKS

The official, Danish Game Record is best considered as a continuation of the game records kept by several private estates. The only fundamental difference is that whereas the estate records give the amount of game killed within the confines of the estate the official record is based on the bag taken by the individual sportsman.

In some cases the estate records date back to the middle of the previous century, thus a Sjælland estate has unbroken records from 1848 up to the present day.

Notes on the shooting rents paid in 1912.

The first attempt at a Danish bag record dates from 1912. The January issue of "Statistiske Efterretninger" for 1913 contains information on the level of shooting rents in individual counties. This rent (paid by sportsmen to the landowners in return for shooting rights) may to some extent be said to reflect the quality of different parts of the country as a habitat for game.

In connection with a census of acreages the opportunity was taken to extract data on the (economical) yield resulting from shooting and freshwater fishery.

As far as shooting is concerned data were supplied from upwards of 26,000 farms of which Jylland contributed a little less than two thirds. It appears that the shooting rights were let out on about 18,000 farms with a total area of 470,000 ha (120,000 on the islands and 350,000 ha in Jylland).

The annual rent paid for these 470,000 ha was kr. 218,000 or, on an average, kr. 0.46 per ha.

However, the rent varied much between different parts of the country. On the islands an average of kr. 1.— was paid per ha, while in Jylland it was kr. 0.27 per ha. The total range was, of course, wider than indicated by these levels. When recalculating the rents on a county basis it is found that the average rent varied from kr. 1.40 in Præstø to kr. 0.15 in Ringkøbing County.

Table 1. Average annual shooting rent per ha in 1912.

	øre		øre
Præsto County	140	Frederiksborg County	38
Maribo County	125	Randers County	37
Sorø County	97	Hjørring County	32
Svendborg County	97	Thisted County	30
Holbæk County	92	Veile County	27
København County	73	Viborg County	27
Odense County	61	Bornholm County	27
Århus County	40	Ribe County	19
Alborg County	40	Ringkøbing County	15

The counties, which in 1912 had the highest level of shooting rent have even to-day the highest game densities.

Number of licences in 1922.

The Game Act of 1922 had the clause that no person was allowed to shoot game unless he had obtained a licence. The enforcement of this Act provides the first possibility of estimating the number of sportsmen. A total of 64,420 licences were issued in 1922. "Statistisk Departement" analyzed the distribution on professions of these licence holders. The result is shown in Table 2.

Table 2. Number of shooting licences issued in 1922 and their distribution on professions.

	Landowner licences (kr. 2.-)	Ordinary licences (kr. 20.-)	Aliens' licences (kr. 100.-)	Total	%
Farmers.....	23.404	18.822	1	42.227	65.6
Fishermen.....	126	974		1.100	1.7
Workers etc.....	436	6.739	1	7.176	11.1
Trade and industry.....	309	7.695	4	8.008	12.4
Civil servants, veterinaries, doctors, lawyers etc.	86	2.605	4	2.695	4.2
Others.....	159	3.052	3	3.214	5.0
Total...	24.520	39.887	13	64.420	100.0

It is interesting to notice that the highest percentage of sportsmen is found among people living in the country. This seems still to be the case (see the section: Number of licence holders per 100 ha, p. 67).

The Bag Record.

The Act of 3 August 1940 (Business Economy Measures) provided the basis for the Danish Bag Record. According to this Act it was made compulsory for sportsmen to supply data on the number of game bagged.

Attached to the shooting licence for the year 1942/43 was a questionnaire to be filled in by the sportsmen before returning their licences for renewal. Information was requested on the bag taken during this year. Simultaneously, similar data were requested concerning the game bagged during the year 1941/42, and this principle has been followed each year since then.

The information was collected through the police masters. During the period 1941/42-1953/54 the data thus obtained was analyzed by "Statistisk Departement" and briefly summarized in "Statistisk Årbog". This came to an end as from 1953-54. During the next following three years the returned licences were only collected and deposited. In 1958/59 the Game Research Station Kalø resumed the analysis, also for the four years since 1953/54. For all subsequent years the Station has analyzed the data.¹⁾

¹⁾ Data covering the period from the first bag record in 1941 up to the time when the Game Research Station took over will be analyzed in greater detail and published in a later publication.

IV. THE DATA AND THEIR USE

Collection of the data.

As already mentioned, the shooting licence contains a questionnaire (Fig. 1) to facilitate the compilation of a bag record. Under the Ministry of Agriculture Circular of 2 Nov. 1957 this questionnaire is detached from the licence at the end of the fiscal year for which the licence is valid. Duly filled in and signed it is returned to the police office when requesting a new licence. In case a new licence is not desired the questionnaire must be returned before 1 December.

A summary count of the bags rests with the police, and questionnaires and lists are afterwards sent to the Game Research Station.

Preliminary analysis and check of data.

The accuracy and reliability of data obtained in this way are, quite naturally, often considered doubtful.

Among about 100,000 people some are bound to supply incorrect information. Some may be tempted to add to their bag while others may forget part of it. A few sportsmen claim the data cannot be trusted, but as a matter of fact the individual sportsman is not likely to possess much knowledge of the data supplied in other licences than his own. The different attitudes towards the material are, therefore, highly subjective.

On completing the examination of about 175,000 licences underlying the present publication we have the general impression that erroneous data occur on a limited scale.

In all cases where a questionnaire gave reason for doubt the holder was consulted by letter or telephone. The kindness and thoroughness shown by sportsmen on such occasions did certainly not suggest that erroneous data were supplied on purpose.

This check was applied whenever the bag was unusually large or game species with a limited distribution, e.g. red deer, rabbit, or black grouse, had been shot in districts not normally inhabited by the species.

Personal inquiries were made to 553 sportsmen. Replies were received from 540. This corresponds to 98 per cent of the inquiries, and in all cases quite probable explanations were given.

To the licence holder.

At the end of the fiscal year 1957-58 the questionnaire is detached, completed, signed and returned to the police office, not later than 1 December 1958. Also in case renewal of the licence is not wanted it is requested that the questionnaire is completed, signed and handed in to the police office not later than 1 December 1958.

On specifying the distribution of the bag on counties the name of the county is entered. In case the bag derives from more than 3 counties supplementary data are given on a special sheet marked with the serial number of licence, number of the police district, and holder's name and address.

Bag taken by licence holder personally between 1 April 1957 and 31 March 1958.

Fig. 1
Questionnaire attached to the licence.

Game species	Total bag on land	Of which bagged in			On sea, fjords or bays
		county	county	county	
1 Red deer					
2 Fallow deer					
3 Sika deer					
4 Roedeer					
5 Hares					
6 Rabbits					
7 Squirrels					
8 Foxes					
9 Badgers					
10 Otters					
11 Polecats					
12 Stoats					
13 Other martens					
14 Seals					
15 Partridges					
16 Wood pigeons					
17 Black grouse					
18 Pheasants					
19 Surface ducks <small>^{1/8-31}/₈</small>					
Surface ducks <small>^{1/9-31}/₁₂</small>					
20 Eiders					
21 Other diving ducks					
22 Geese					
23 Gulls					
24 Other swimming birds					
25 Woodcocks					
a) <small>^{1/4-7}/₄</small> 1957					
b) <small>^{24/9}/₂</small> 1957 - <small>²⁸/₂</small> 1958					
c) <small>^{1/3-31}/₃</small> 1958					
26 Snipes					
27 Curlews					
28 Herons					
29 Other waders					
30 Crows					
31 Magpies					
32 Rooks					
33 Birds of prey					

Signature

The reliability of the Bag Record checked through independent data.

Through a comparison with data collected in other ways it has been possible to apply various tests to the correctness of the bag records received through the questionnaires.

Questionnaires concerning partridges.

During the years 1949-50 mag. K. Westerskov, on behalf of the Game Research Station, sent a fairly large number of questionnaires to sportsmen and owners of shooting rights in order to get information on their partridge bags during 1949 and the size of the area on which the bag was taken. The area (less woods) was to be given in ha. The following information was compiled from 236 replies from shooting rights covering less than 1000 ha.

An area covering a total of 66,232 ha gave, according to the holders of the shooting rights, 6,911 partridges.

This corresponds to a yield of 10.4 partridges per 100 ha. On calculating the total bag for the country on this basis one arrives at a figure of 396,200 partridges.

According to the Bag Record the total yield of this year was 401,500 or 10.5 partridges per 100 ha.¹⁾

Table 3. Partridges bagged in 1949.

	Total bag	Bag per 100 ha (÷ woods)
Bag according to Bag Record	401,500	10.5
Bag calculated from other sources	396,220	10.4

The information supplied by the holders of shooting rights refers to the bag taken on certain areas whereas the Bag Record is based on the bag taken by individual persons.

As mentioned the two sets of data are entirely independent. The good agreement between the two calculations—the deviation is only about 1 per cent—certainly supports the assumption that the Bag Record is quite reliable.

Private game records concerning hares.

Through a search of private game records kept for personal use by the owners and covering areas in all parts of the country certain data on the bag of hares

¹⁾ Since, as mentioned, the holders of shooting rights were asked not to include woodland in the area, a total of 370,670 ha were deducted prior to this latter calculation, the figure being taken from Statistisk Årbog 1955, p. 55 "Skov- og plantagearealet 1951".

taken in 1948 and 1949 have been obtained. For the two years we have data from 48 areas with a total of 37,337 ha. During the two years 3784 and 3905 hares were shot, respectively.

On calculating the total bag for the country on this basis figures of 423,583, for 1948, and 436,860, for 1949, are arrived at. For the same two years the Game Record says 420,356, and 426,500 hares respectively. (see Table 4).

Table 4. Hares bagged in 1948 and 1949.

	1948		1949	
	Total bag	Bag per 100 ha	Total bag	Bag per 100 ha
Bag calculated from private records.....	423,583	10.1	436,860	10.5
Bag according to official Bag Record.....	420,356	10.1	426,500	10.2

On separating the data from the islands and from Jylland a somewhat different result appears.

It is immediately obvious that the agreement between the two sets of data is now much less close. The reason for this may lie in the fact that the private records from Jylland comprise several records kept by sportsmen's associations while those from the islands all come from individual estates. Little emphasis is often on hares during the estate shoots which usually concentrate on pheasants, hares being only taken when they happen to show up and it is convenient to shoot them.

As an example a Sjælland estate may be mentioned. On the estate, included in the data from the islands, only 0.8 and 1.2 hares were shot per 100 ha during the two years. Were such records excluded the agreement between the two sets of data on the hares bagged on the islands would be much improved.

Fluctuation of the hare population.

In "Studies in Danish Hare-Populations" *Andersen (1957)* compares the fluctuations during the years 1940-52 as they manifest themselves partly in the bag records from 22 large estates and partly in the official Game Record for this period. Close agreement was found between the two curves thus obtained since the percentage increases and decreases are largely the same.

This implies that also the variation between years reflected by the Bag Record agrees with data collected in other ways.

Distribution of bag sizes.

Also analysis of the actual figures can give some idea of the reliability of the material. On theoretical grounds the number of odd and even numbers should be approximately equal since the shooting does not favour any of these.

In order to shed light on this question the data from three police districts were analyzed in detail (police district no. 3, Sdr. Birk; no. 9, Holbæk; and no. 62, Ringkøbing). This analysis comprises a group of sportsmen living in town (København and suburbs), one from Sjælland, and one from W Jylland. The three districts were drawn at random.

The distribution of sportsmen reporting an even or odd number of hares, partridges, and pheasants appear from the accompanying Table 5.

Table 5. Distribution of sportsmen reporting even and odd numbers of game.

Home district	Hares		Partridges		Pheasants	
	even	odd	even	odd	even	odd
	%	%	%	%	%	%
Sdr. Birk (police district 3)	259 53.8	222 46.2	230 62.2	140 37.8	154 48.9	161 51.1
Holbæk (police district 9).	800 52.6	722 47.4	516 54.8	426 45.2	724 53.8	622 46.2
Ringkøbing (police district 62).....	899 50.5	880 49.5	725 54.8	599 45.2	288 42.5	389 57.5

The distribution is seen to be very regular. Only one or two points call for further comments. Among the sportsmen living in police district 3 62 per cent report to have bagged an even number of partridges. This may be due to chance alone, but one cannot exclude the possibility that this figure may have arisen through a number of erroneous bag records. Furthermore only 43 per cent of the sportsmen from police district 62 report an even number of pheasants. This fact is hardly explicable through erroneous data since a natural explanation is easily found. All over the greater part of district 62 the pheasant occurs rather sparsely in most places, a large number of sportsmen will, therefore, only get the opportunity to shoot one pheasant. Accordingly, a more detailed analysis of the problem shows that 35 per cent of the sportsmen who have shot pheasants at all have only taken a single bird.

On plotting bag sizes reported by the sportsmen one would expect a certain regularity in their distribution upon sportsmen. Fig. 2 shows the distribution of sportsmen (from the three police districts) reporting bags of 1, 2, 3, 4 ... etc. hares.

A direct comparison of the three frequency distributions shows the close agreement between them. Furthermore, the curves show that only very few sportsmen shoot a large number of hares. Among the sportsmen who *have* shot hares well above one half (53–66 per cent) only bagged at most four hares and only 5–10 per cent more than 10.

The frequency distribution may also indicate that only relatively few sportsmen keep their own record and that the questionnaires are completed from memory. The justification for this assumption is sought in the fact that the left portion of the curve, i. e. the one representing sportsmen who have bagged the few hares, has an exceedingly regular course whereas the right portion tends to have maxima located at even numbers. This is taken to mean that sportsmen

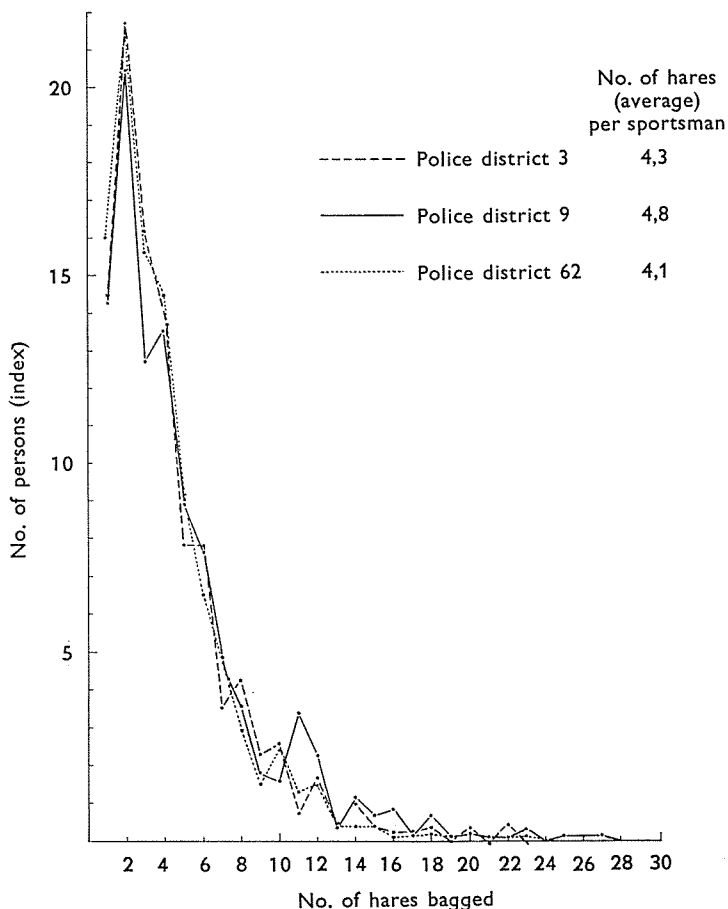


Fig. 2. Frequency distribution of sportsmen reporting different numbers of hares.

who have bagged only a few hares are able to remember the exact number while sportsmen who have taken several hares, e.g. appr. 20, have forgotten the exact number and supply an approximate (and often even) number.

From the above we conclude that although some of the bag sizes reported may be inaccurate the sum of all errors must be too small to affect the value of the material significantly.

Correcting the data received.

Among the questionnaires attached to the licence 83 per cent were returned to the police office. Since, however, this percentage varies considerably between police districts it is necessary to introduce a correction of the material. Within the individual districts the difference between the number of questionnaires issued and returned was used to correct the total bag record to a 100 per cent recovery of questionnaires.

With a view to comparison between police districts this correction seems necessary and since the percentage of questionnaires not returned remains practically constant throughout the period of years covered it seems reasonable to assume that no serious errors are introduced through the procedure.

Appendix 6 (p. 110) shows the number of questionnaires issued and returned for individual police districts.

For the year 1956 no questionnaires are available for the police districts 4 (Roskilde) and 60 (Holstebro). The bag for these two districts were estimated from a comparison of 1956 and 1957 bags of adjoining districts and the 1957 bags of districts 4 and 60. The two bag records for 1956 must, therefore, be interpreted cautiously.

Police districts as the geographic basis.

The administrative subdivision of Denmark comprises 22 counties ("amt", pl. "amter" in Danish) and 69 police districts.¹⁾

The analysis of bag records is best carried out when based on the smallest possible geographical unit. Data based on police districts are, therefore, preferable to county data since the geographic variation will become more clear cut. During the first years of the official Bag Record police districts were used as the geographic unit, but since it became apparent that this caused several errors a county basis was introduced.

In favour of the use of counties may be mentioned that even when shooting outside their home district sportsmen will usually be aware of which county

¹⁾ The highest serial number of a police district is 71. The reason is that a few numbers have disappeared through the amalgamation of two police districts.

they visit since counties are used as a basis for car registrations, special open season regulations etc. whereas the boundaries of police districts are not currently known.

Notwithstanding the fact that the questionnaires are now based on counties it is often possible to analyze the data in such great detail that the distribution of the chief game species can be discussed in terms of police districts. An important reason for this is that the majority of sportsmen take their bag in the immediate vicinity of their homes. An exception from this rule is given by sportsmen living in the large towns (København, Århus, Odense, Esbjerg, and to some extent Ålborg).

To illustrate this three Sjælland police districts were selected for detailed analysis.

Police district 5 (Køge) covers parts of three counties.

Sportsmen living in district 5	
killed in 1956.....	8493 hares
among which.....	8175 hares or 96.3%
within the counties holding the district.	

Police district 11 (Slagelse) covers parts of two counties.

Sportsmen living in district 11	
killed in 1956.....	8476 hares
among which.....	8223 hares or 97.0%
within the counties holding the district.	

Police district 12 (Skelskør) is inside a single county.

Sportsmen living in district 12	
killed in 1956.....	8053 hares
among which.....	7603 hares or 94.4%
within the county holding the district.	

The italicized figures should be noticed. If a considerable number of sportsmen took their bags at greater distance from their homes a greater discrepancy between the three figures should be expected.

It is obvious, however, that whether the district touches one, two, or three counties the percentage of hares shot within the county or counties remain virtually the same.

Further subdivision within police districts seems to confirm this.

Sportsmen living in police district 5 (Køge) killed in 1956:

586 hares in København County = 7.2% of the total bag of hares

1930 hares in Sorø County = 23.2% of the total bag of hares

5659 hares in Præstø County = 69.2% of the total bag of hares

County areas:

København County 5268 ha = 8.4% of police district 5

Sorø County 13095 ha = 20.8% of police district 5

Præstø County 44459 ha = 70.8% of police district 5

It will be seen that the bag contribution of each county is proportionate to their contribution to the area of the police district. This indicates that not only do sportsmen take most of their bag within their home police district but also within their even narrower defined home.

In other words: most sportsmen take the bulk of their bag in the vicinity of their homes.

Exactly the same holds for the other two police districts.

Sportsmen living in police district 11 (Slagelse) killed in 1956:

3436 hares in Holbæk County = 41.8% of the total bag of hares

4787 hares in Sorø County = 58.2% of the total bag of hares

County areas:

Holbæk County 25689 ha = 48.9% of police district 11

Sorø County 26796 ha = 51.1% of police district 11

Sportsmen living in police district 12 (Skelskør) killed in 1956:

7602 hares in Sorø County = 100%

County area:

Sorø County 31211 ha = 100% of police district 12.

However, the figures obtained in this way tend to become too small since the bag taken by sportsmen living outside the police districts in question is disregarded in the calculations.

The procedure implies that the data disregarded are largely the bag taken by sportsmen living in the large towns. In this context it is of interest to trace the distribution of these sportsmen. It will be seen that e.g. the sportsmen from København have taken their bag all over Sjælland and to some extent on Lolland-Falster. Similarly the sportsmen from Odense have taken their bag all over the counties of Fyn. This shows that sportsmen from the large towns take

their bag all over the province whereas sportsmen from small towns and country-districts take 90 per cent of their bag near their home.

The distribution of the København sportsmen on counties appears from Table 6.

Table 6. Distribution of sportsmen from København on different counties.

	City of København	Frederiksberg	Ndr Birk
København County	16.0%	15.5%	16.0%
Frederiksborg County	11.2%	10.7%	10.6%
Holbæk County	14.6%	14.1%	15.5%
Sorø County	12.6%	12.6%	12.5%
Præstø County	16.7%	23.8%	16.5%
Maribo County	7.5%	6.8%	7.2%
Sjælland Lolland-Falster, total	79.5%	83.5%	78.3%
Bornholm County	0.5%	0.5%	0.2%
2 Fyn counties	5.5%	4.8%	5.0%
13 Jylland counties	14.5%	11.2%	16.5%

The distribution is based on the number of persons who have bagged hares in the individual counties.

The factor is, therefore, not likely to affect the value of the material significantly since the same error seems to result in all police districts.

Furthermore, the absolute size of the bag per 100 ha has only secondary interest in this context. The feature which is of prime importance here is the differences between bags in different parts of the country, and they must be considered very real.

To this must be added that sportsmen, as a sector of the population, contribute a much smaller proportion in the large towns than in country districts. For details of this aspect reference is made to the section: Number of licence holders per 100 ha (p. 67).

Area.

The basis for the subdivision into counties and police districts was supplied by "Folkemængden 1. oktober 1955 og Danmarks administrative inddeling".

All areas quoted were also extracted from this publication. Only rural areas were included in the areas quoted since urban land is best considered so densely built up that shooting in the present context is not possible there.

The total area of rural districts amounts to 4,180,474 ha. The area of individual counties and police districts is shown in appendix 7 and 8 (pp. 112 and 116).

V.
THE MAPS

In order to present a clear picture of the distribution of bag sizes in the country maps have been prepared for a large number of important game species.

Since to some extent bag sizes seem to reflect the relative abundance of game species in different parts of the country the maps may also serve the purpose of illustrating the suitability of different parts of the country as a game habitat. This is particularly so for the more stationary game species, e.g. hares and pheasants. As regards species which only occur as migrants or during hibernation the maps merely give an idea of the suitability of different regions during the open season. This applies to e.g. the maps representing the bag of woodcocks.

Explanation of the maps.

For the chief game species, hare, pheasant, partridge, pigeon and surface ducks (and magpie and crow), the police districts were used as the geographic unit, for all others the counties.

The difference is caused by the fact that only the chief game species have been shot in sufficiently large numbers to turn the data from individual police districts into a sufficiently accurate map.

It is added that police districts 1 and 2 (København), 27 (Odense), 41 (Århus) and 64 (Esbjerg) have been left blank on the maps. The reason is that these districts are largely or entirely urban land. For police districts 3 (Sdr. Birk) and 48 (Ålborg) the maps have been filled in, but also these districts appear to be somewhat affected by the relatively large number of sportsmen living within the urban area, hence the map signature as well as the data for these districts represented in appendix 1 must be interpreted cautiously.

In order to represent bag sizes on the map they have been grouped. The intervals used are explained on the individual maps. The exact bag records are set out in the appendixes on pp. 78-91.

Other remarks.

On comparing the 1956 and 1957 bag record with the bag of preceding years (1941-53) the 1956 bag appears to be very small whereas the 1957 bag approaches the average size (hares, pheasants, partridges and others).

Therefore, the maps for 1956 represent a poor year and those for 1957 a medium year.

The bags quoted from individual areas (police districts or counties) are mean bags for the area in question. This implies that each region may comprise sections of varying size where the bag differs from the level shown on the maps. Also islands within the districts are included in the calculated mean, thus Anholt data are included in the calculations for police district 42 (Grenå).

Roedeer, squirrel and various carnivores are not present on all our islands. The mean values shown on the maps are also extended to the larger islands while the absence of a given species from an island has been indicated by a "÷" against the island on the appropriate map.

The accompanying Table 7 summarizes the distribution of roedeer, squirrel, fox, badger, polecat, stoat, pine marten and stone marten on a number of islands.

Table 7. Occurrence of roedeer, squirrel, fox, badger, polecat, stoat, pine marten and stone marten on some small islands.

	Roedeer	Squirrel	Fox	Badger	Polecat	Stoat	Pine marten	Stone marten
Læsø	+	÷	+	÷	÷	÷	÷	÷
Anholt.....	÷	÷	÷	÷	÷	÷	÷	÷
Samsø.....	+	÷	÷	÷	÷	÷	÷	+
Mors.....	+	÷	+	÷	+	+	÷	+
Fanø.....	+	÷	+	÷	÷	+	÷	÷
Rømø.....	+	÷	+	÷	?c)	+	÷	÷
Als.....	+	÷	+	+	+	+	+	+
Ærø.....	÷	÷	÷	÷	÷	+	÷	+
Tåsinge.....	+	+a)	÷b)	+	÷	+	÷	÷
Langeland.....	+	÷	+	+	÷	+	÷	+
Møn.....	+	+	+	÷	÷	+	+	+
Bornholm.....	+	+	+	÷	÷	÷	÷	÷

a) A few.

b) Usually absent, sometimes crossing the ice.

c) The polecat has been recorded from the Rømø dam, now presumably occurring on the island (information supplied by Mr. P. Jacobsen, Game Adviser).

The maps indicate bag per 100 ha (= 1 sq.km). For the maps representing badger, polecat and stoat a unit of 1000 ha (= 10 sq.km) was used in view of the small numbers bagged.

Special close-season regulations.

Since the special close-season regulations are likely to affect some of the bag records they are briefly commented upon here.

They are introduced practically every year for some game species. Many of them affect the entire country and are, therefore, of little importance when the relative abundance of game species in different parts of the country is under study. This applies, e.g. to hen pheasants which were protected throughout the country during October and December of both years.

Additional close-time regulations are operative within an entire county. These regulations mostly concern hare and pheasant, and since in some counties the regulations extend over rather long time they may be assumed to affect the bag.

For the two game species the following special regulations have been operative.

Table 8. County close-time regulations for hare and pheasant in 1956 and 1957 (dates indicating special close-season)

County	Hares	Hen pheasants	Cock pheasants
Åbenrå-Sønderborg ¹⁾	1-14/10	protected ²⁾	1-31/10
Bornholm	1-20/10		
Frederiksborg	1-14/10		1-14/10 and 19-31/12 (only 1956)
Haderslev	1-14/10	protected	1-31/10
Randers		protected	
Ribe		protected	
Ringkøbing		protected	1-14/10 (only 1957)
Skanderborg		protected	
Thisted		protected	
Tønder	1-14/10	protected	1-31/10
Vejle		protected	

¹⁾ Except on island of Als.

²⁾ Close-season thus also covering November.

As it will appear from the Table the special regulations were largely introduced within areas with a sparse population of the species in question. Therefore, the influence on bag size is hardly serious, but on the other hand, it must be viewed in relation to the area covered by the special regulation. There is reason to believe that in certain parts of the country the game population level may be slightly larger than indicated by maps based on bag records. This consideration seems particularly important as regards pheasants within the South Jylland

counties. Here the open season was limited to two months for cocks while the hens were entirely protected.

In addition to the special regulations mentioned, some have been operative on certain small islands which, however, represent too small proportions of the total area of the district (county) to attain importance for the total bag of the district. Exceptions are Ærø and Als which contribute a considerable part of police districts 25 (Rudkøbing), and 69 (Sønderborg), respectively.

On these islands the following special regulations have been operating:

Als:	Ærø:
hares 1/10-31/10	hares 16/11-18/12
hen pheasants 1/11-30/11	cock pheasants 16/11-31/12
cock pheasants 1/10-31/10	

For further information about hunting regulations see p. 76.

Maps showing bag of individual game species.

Fur.

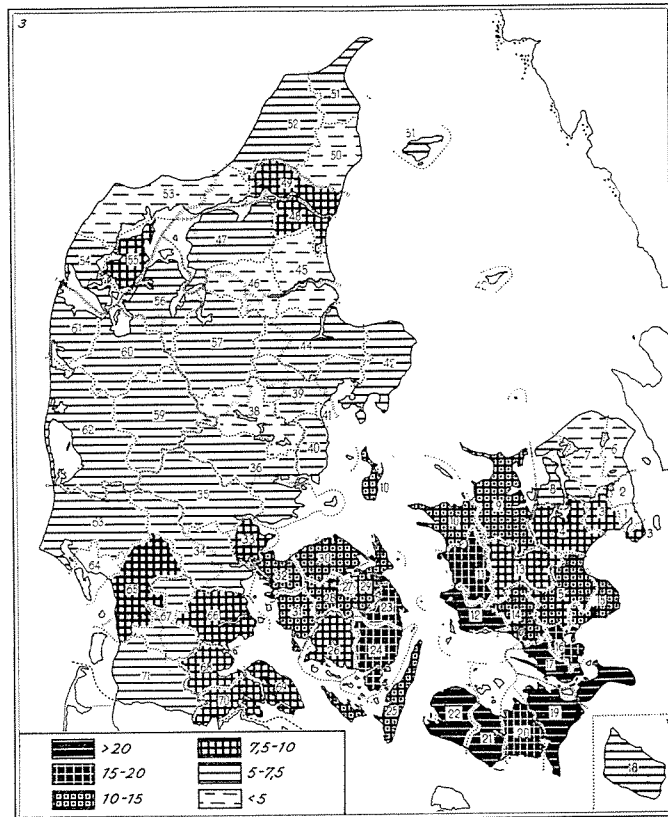
Hares (*Lepus europæus*)—bag per 100 ha.

The number of hares bagged per 100 ha is shown on the two maps Fig. 3 and Plate 1.

It is clearly visible from the maps that the largest bag per unit area is taken in SW Sjælland and on Lolland-Falster. Next in rank follow W and S Sjælland and certain parts of Fyn. Also the remainder of Fyn and Central Sjælland seem to have hare populations slightly above the country mean while the greater part of Jylland yields a somewhat smaller bag per 100 ha. Only the islands Mors and Als seem to possess populations which compare favourably with those inhabiting certain parts of Fyn and Sjælland. Poorest as regards the yield of hares are Thy and NE Sjælland.

Although the total number of hares shot in 1957 is considerably larger than the 1956 bag the two maps show the distribution of bag sizes to be identical in the two years. This seems to indicate that within the limits of variation noticed between years the carrying capacity of different parts of the country remains constant (for further details, see p. 56 and 68).

Fig. 3.
Hares 1956/57.
Bag per 100 ha.



In the counties of S Jylland, in Frederiksborg County and on Bornholm a special close-time regulation was introduced during the first half of October of both years. Since this cannot be excluded to cause a reduced exploitation of the hare population this latter may be slightly larger in these parts than indicated by the maps. However, the reduction of the open season for hares amounts to only appr. two weeks, the protection is, therefore, not likely to affect the bag records to any appreciable extent.

For the two years the total bag for the entire country were:

1956: 384,853 hares, corresponding to an average of 9.2 hares per 100 ha
1957: 440,219 hares, corresponding to an average of 10.5 hares per 100 ha

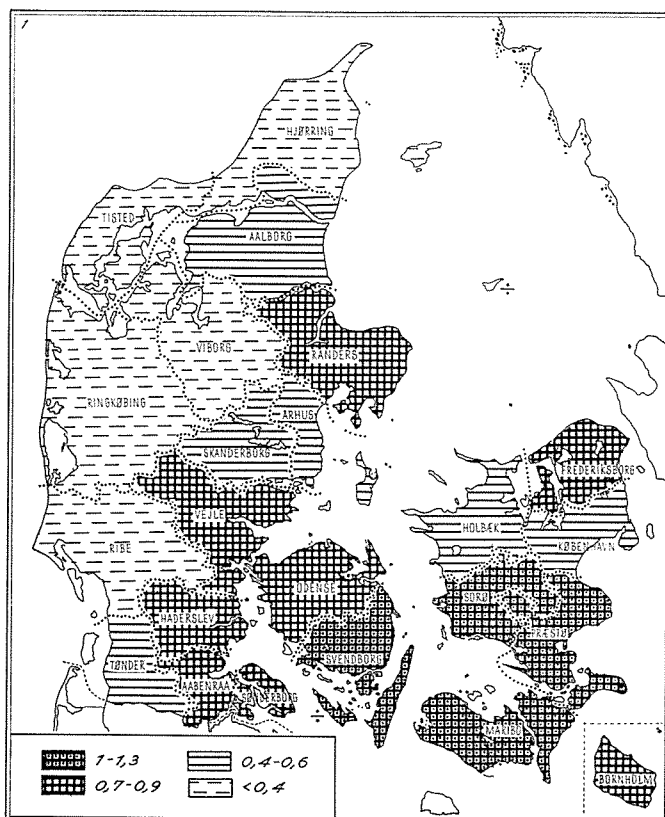


Fig. 4.
Roe deer 1956/57.
Bag per 100 ha.

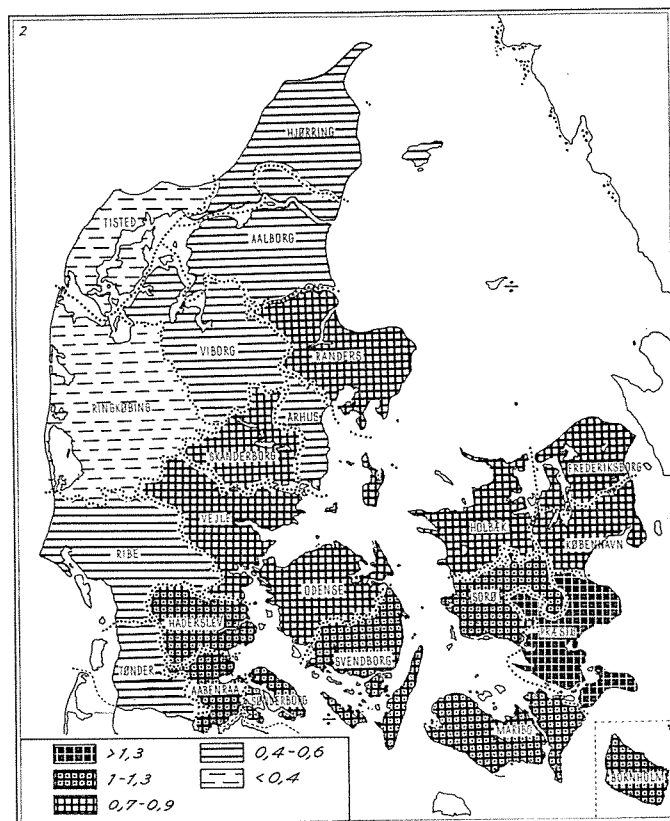
Roe deer (*Capreolus capreolus*)—bag per 100 ha.

The maps, Figs. 4 and 5, illustrate the roe deer population of individual counties expressed as number of individuals bagged. Closer examination of the maps reveals the differences in population density in different parts of the country. The densest population seems to inhabit Præstø County, followed by Sorø, Maribo, Svendborg, Haderslev, and Åbenrå-Sønderborg Counties. Also Bornholm is well stocked with roe deer.

In practice this means that the best roe deer country is in SE Denmark. Next follows the remainder of the islands and E Jylland.

The poorest populations occur in N and W Jylland. Among the larger Danish islands Anholt and Ærø lack roe deer.

Fig. 5.
Roedeer 1957/58.
Bag per 100 ha.



The bag is expressed as individuals bagged per 100 ha of the total area of the individual counties (less urban land).

The variation between years seems to be similar throughout the country. In all cases where differences occur between the two years 1957-58 gave the largest bag.

1956: 24,100 roedeer

1957: 27,600 roedeer

Average bag per 100 ha:

1956: 0.57 roedeer

1957: 0.65 roedeer

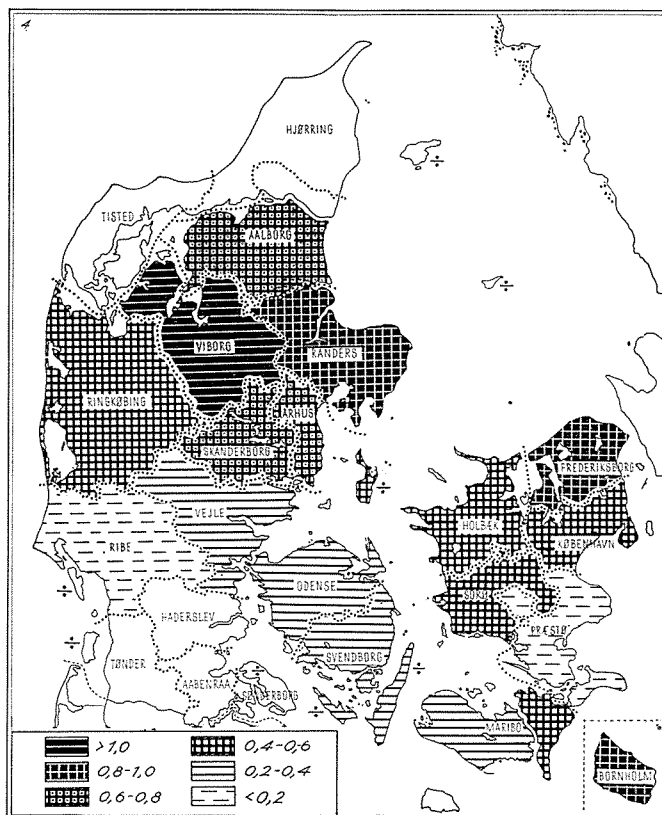


Fig. 6.
Squirrels 1956/57.
Bag per 100 ha.

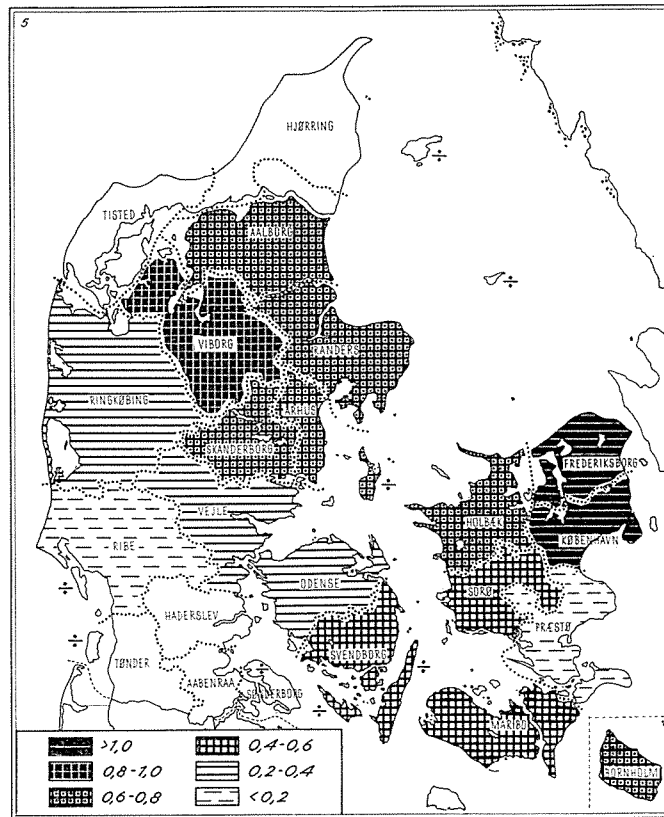
Squirrels (*Sciurus vulgaris*)—bag per 100 ha.

North of Limfjorden squirrels are absent. In the S Jylland counties scattered squirrel populations of small size seem to occur in some places, but since the bag amounts to less than 0.05 squirrels per 100 ha no signature is used for this region on the maps.

N Sjælland, Central and E Jylland, and Bornholm are the regions where the squirrel occurs most plentifully while in the remainder of the country the populations are relatively open.

In contrast with most other game species 1957 seems not to have been the most favourable of the two years. The maps show that the 1956 population was the larger.

Fig. 7.
Squirrels 1957/58.
Bag per 100 ha.



Squirrels do not occur on several islands (see p. 22).

Total bag: 1956/57: 18,416
1957/58: 19,154

Average Bag per 100 ha: 1956/57: 0.44
1957/58: 0.46.

NB. As from 1959 the squirrel has been observed in Thisted County (information supplied by Mr. T. Krogh, forester at Østerild Klitplantage).

Badgers (*Meles meles*) – bag per 1000 ha.

Polecats (*Putorius putorius*) – bag per 1000 ha.

Stoats (*Mustela erminea*) – bag per 1000 ha.

In contrast with the other maps, the ones concerning badgers, polecats, and stoats are based on the bag taken per 1000 ha (10 km²). The only reason for this is the limited size of the bag.

Furthermore, it must be realized that polecats and stoats in particular are not game objects in the usual sense, but that to a large extent they are trapped. Since this technique is used largely by professional hunters, the maps do not present a picture of the relative population sizes, but rather regions where these animals happen to be more or less extensively exploited. It is a characteristic feature of these maps that the largest bag is taken in regions where large estates are particularly common and consequently, where the largest number of professional hunters are concentrated (for details, see section: Bag and population size).

As regards badgers the situation is slightly different.

Badger-hunting centers round the burrow and usually involves dogs, or is conducted from fixed stations when the badgers leave the burrows at dusk or return at dawn.

Since this sport is practiced by a wider selection of sportsmen there is reason to believe that to some extent the maps present a picture of relative population levels, thus being different in nature from the maps concerning polecat and stoat. In view of the small bag involved the results must be interpreted cautiously.

Common to all three game species is the fact that they are absent on several islands, e.g. Bornholm and all islands marked by “÷” on the maps (for details, see p. 22).

Total bag for the three species:

Badgers: 1956/57: 3384, or 0.8 per 1000 ha

1957/58: 2989, or 0.7 per 1000 ha

Polecats: 1956/57: 4377, or 1.0 per 1000 ha

1957/58: 4433, or 1.1 per 1000 ha

Stoats: 1956/57: 4326, or 1.0 per 1000 ha

1957/58: 5947, or 1.4 per 1000 ha

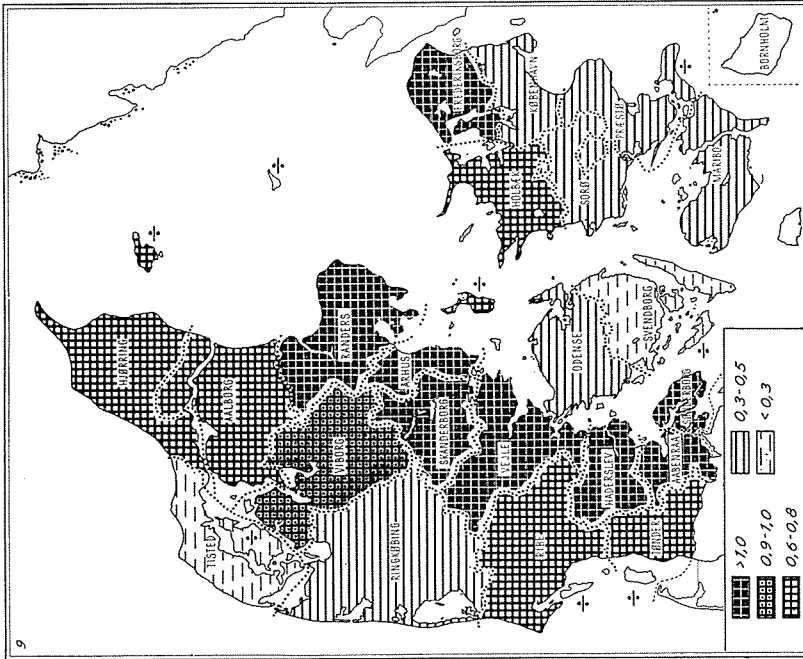


Fig. 11. Badgers 1957/58. Bag per 1000 ha (10 km²).

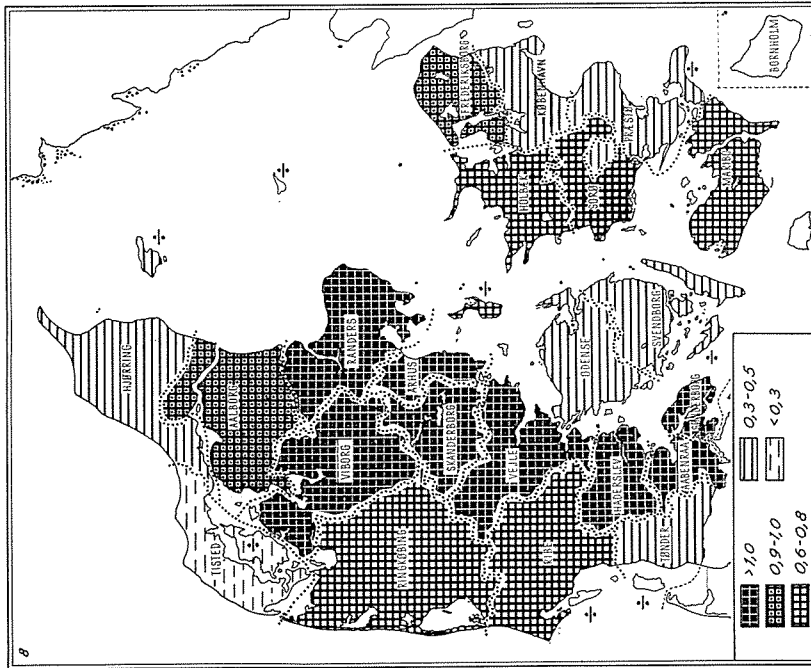


Fig. 10. Badgers 1956/57. Bag per 1000 ha (10 km²).

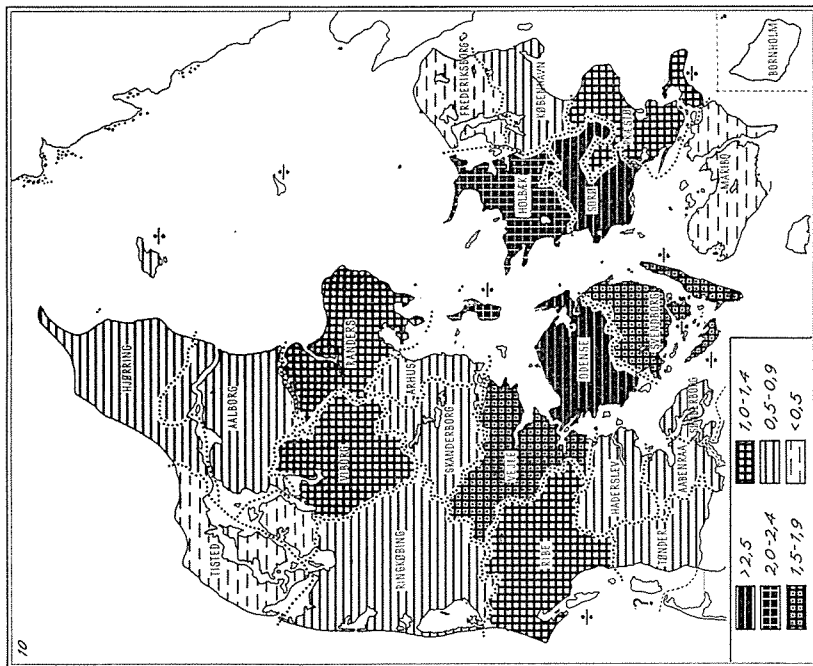
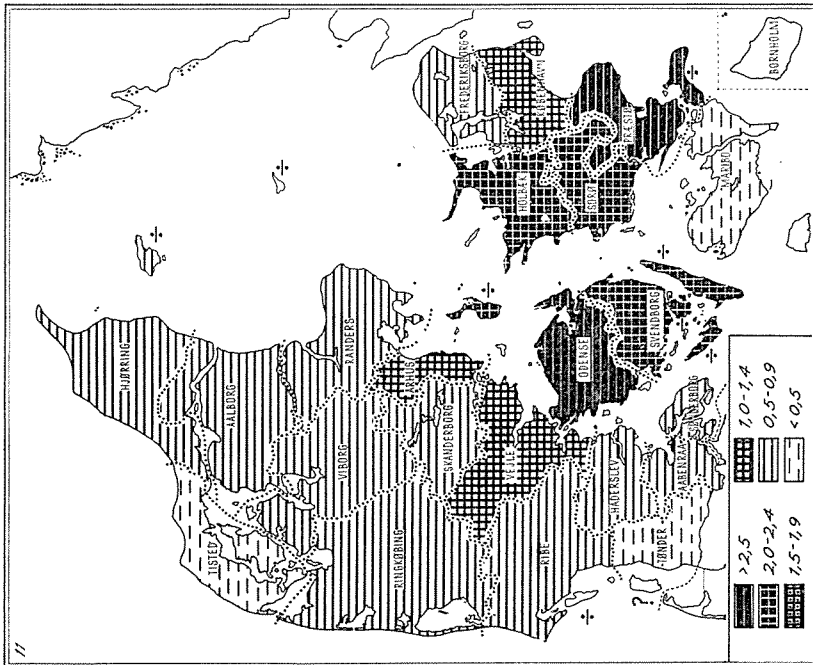


Fig. 13. Polecats 1957/58. Bag per 1000 ha (10 km²).

Fig. 12. Polecats 1956/57. Bag per 1000 ha (10 km²).

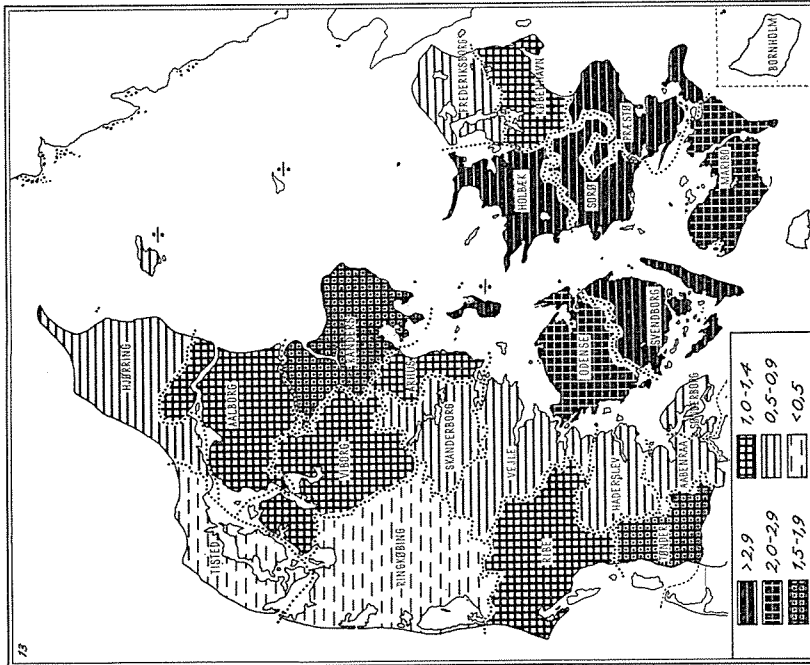


Fig. 15. Stoats 1957/58. Bag per 1000 ha (10 km²).

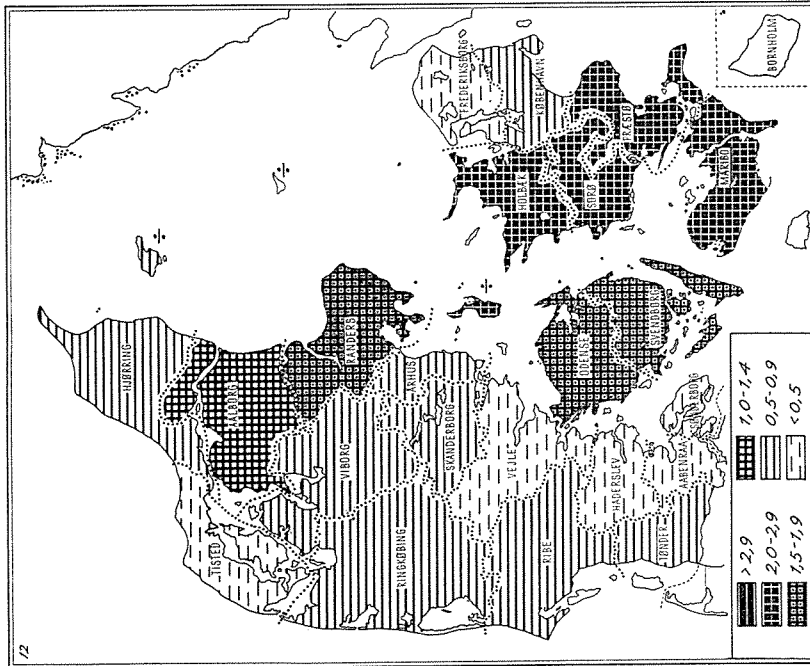


Fig. 14. Stoats 1956/57. Bag per 1000 ha (10 km²).

DANISH REVIEW *of* GAME BIOLOGY

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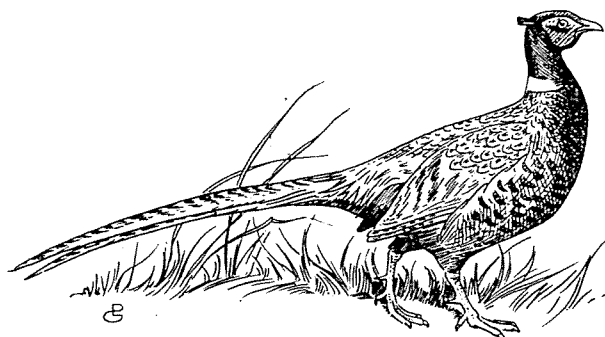
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Vol. 4, Part 2

H. STRANDGAARD
The Danish Bag Record I

Copenhagen 1964
J. H. Schultz, Ltd., Publishers

Feather.



Pheasants (*Phasianus colchicus*)—bag per 100 ha.

As will appear from the maps, Fig. 16 and Plate II the police districts show great differences in the number of pheasants bagged.

Among the provinces S Jylland deserves special attention. Within this region the open season is very short due to special close-time regulations as regards pheasants. During the two years hen pheasants were completely protected and as to cocks the open season extended over the short period 1/11-31/12. In other words, cock pheasants could only be bagged during two months. To this should be added that within this region a large proportion of the shooting is conducted by shooting parties. These two features supposedly cause the shooting pressure to be considerably lower in S Jylland than in the rest of the country, where individual persons are responsible for most of the shooting during a considerably longer open season.

The very small bag taken in S Jylland is, primarily, caused by the relative scarcity of pheasants, but since the factors already mentioned may affect the bag it is reasonable to consider the pheasant population of this region slightly larger than indicated by the bag taken.

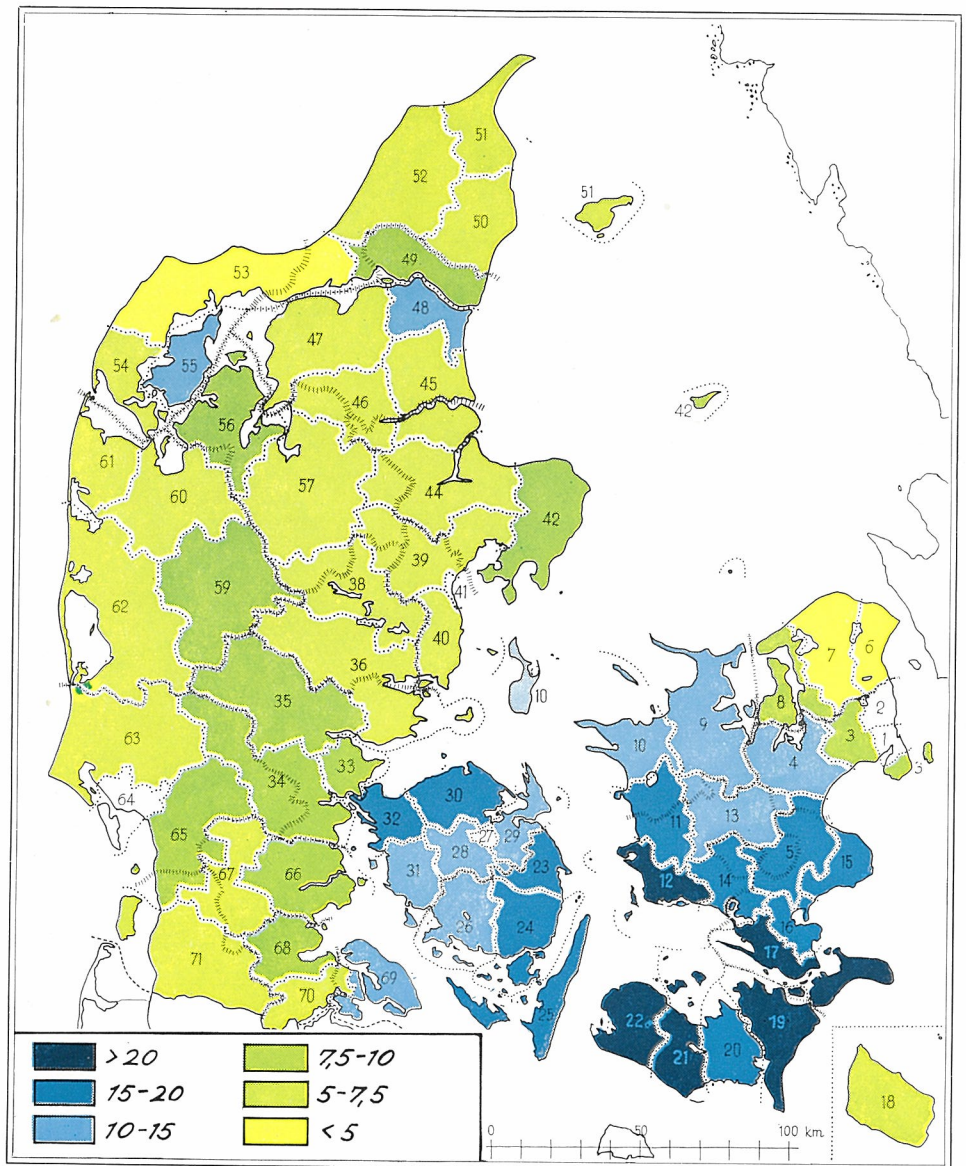


Plate I. Bag of hares per 100 ha in 1957

The map shows the distribution of bag sizes on police districts. The hare population is seen to reach the highest density towards SE while the greater part of Jylland as well as N Sjælland and Bornholm have sparse populations.

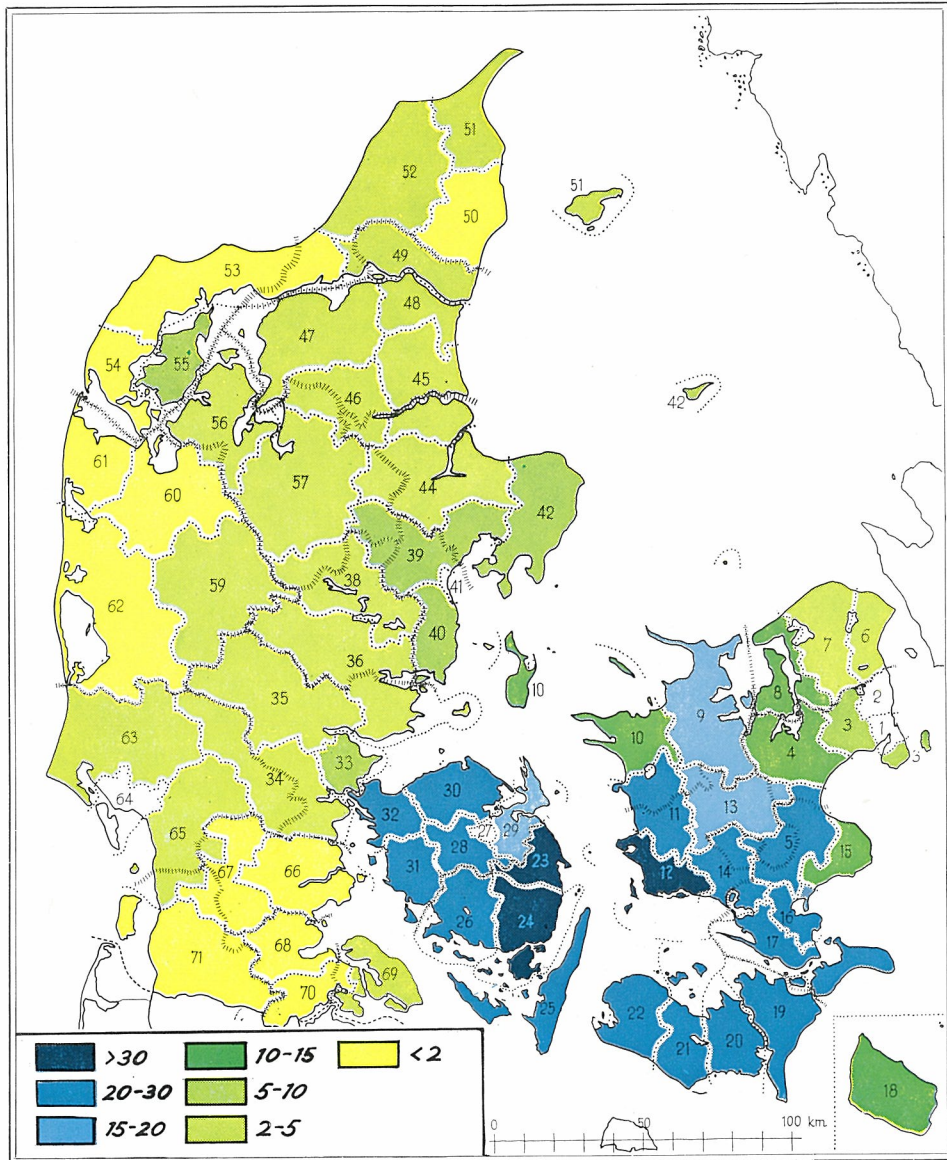
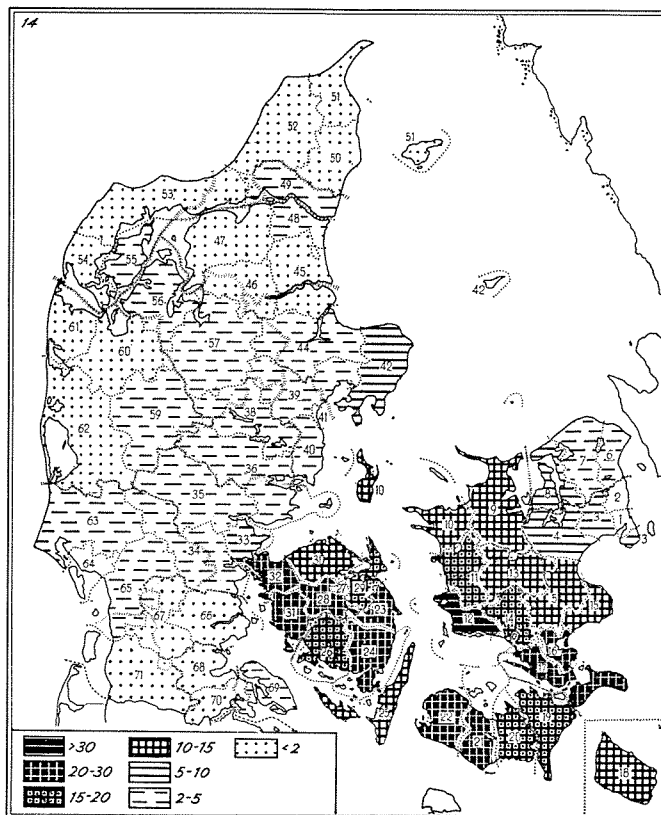


Plate II. Bag of pheasants in 1957

The map shows number of pheasants bagged per 100 ha in police districts. The distribution is similar to the one shown for hares. A comparison of the two maps shows large hare populations to coincide with large pheasant populations, and similarly for sparse populations.

Fig. 16.
Pheasants 1956/57.
Bag per 100 ha.



A survey of the special close-time regulations as regards pheasants and hares and covering the entire country is given on p. 23.

Special features of the geographical distribution of pheasants are discussed in subsequent chapters.

Total bag of pheasants:

1956: 319,105 pheasants.

1957: 411,853 pheasants.

This corresponds to an average bag of 9.2 and 10.5 pheasants per 100 ha, respectively.

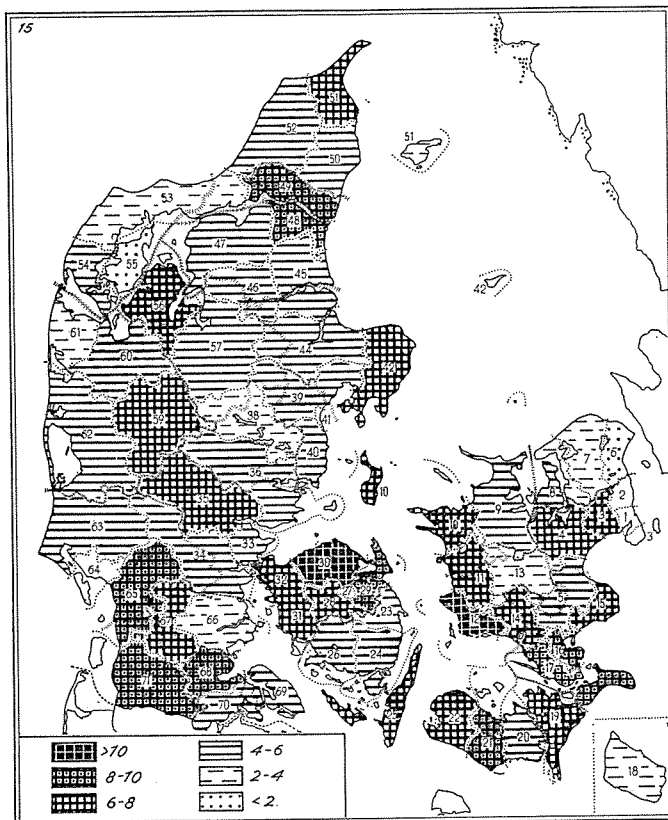


Fig. 17.
Partridges 1956/57.
Bag per 100 ha.

Partridges (*Perdix perdix*)—bag per 100 ha.

Comparison of the two maps concerning partridges (Figs. 17 and 18) shows clearly that the shooting season of 1957 was superior to the previous one all over the country, except in one place on Lolland.

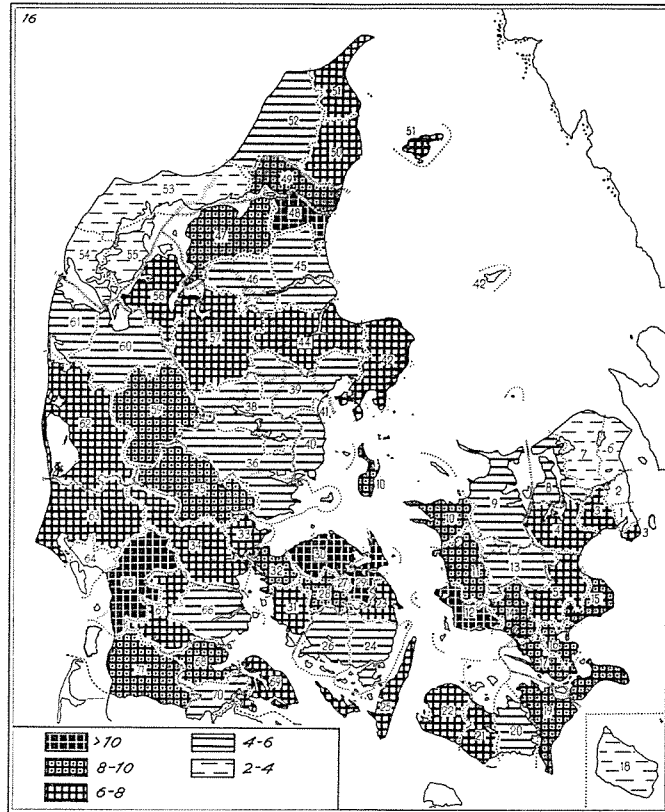
The best partridge country is in SW Sjælland, N Fyn and the western part of S Jylland.

Also extensive regions of Central Jylland have good partridge populations, as have Djursland and the region along the eastern part of the Limfjord.

The poorest districts are in NE Sjælland and on Mors (as to N Sjælland, see p. 65).

On comparing the maps concerning partridge and pheasant one gets the impression that there is a tendency for the best partridge country to be poor pheasant country within the individual provinces. As already mentioned Mors is one of the poor partridge districts but at the same time one of the best

Fig. 18.
Partridges 1957/58.
Bag per 100 ha.



pheasant countries in Jylland. Vice versa SW Jylland has a good partridge population but only very few pheasants.

On the island of Fyn the northern part (police district 30, Bogense) has the poorest pheasant but the best partridge country.

The examples cannot, of course, be considered expressions of a rule that an abundant partridge population is invariably correlated with a sparse pheasant population.

S Sjælland and Lolland-Falster have relatively good populations of both species whereas NE Sjælland has sparse population of pheasants as well as partridges.

Total bag of partridges: 1956: 252,700

1957: 307,800

Average bag per 100 ha: 1956: 6.0 partridges

1957: 7.4 partridges

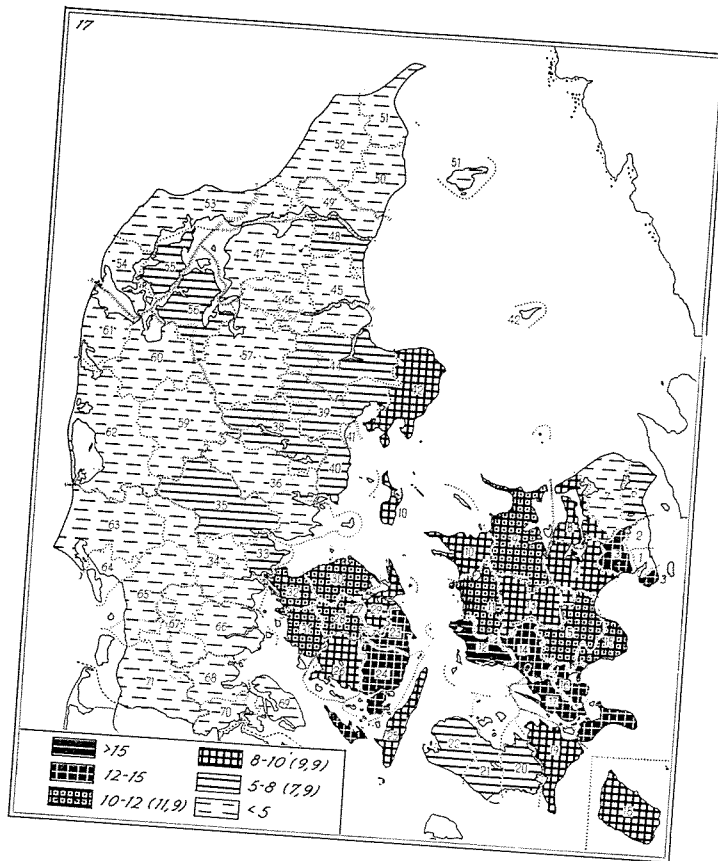


Fig. 19.
Wood pigeons 1956/57.
Bag per 100 ha.

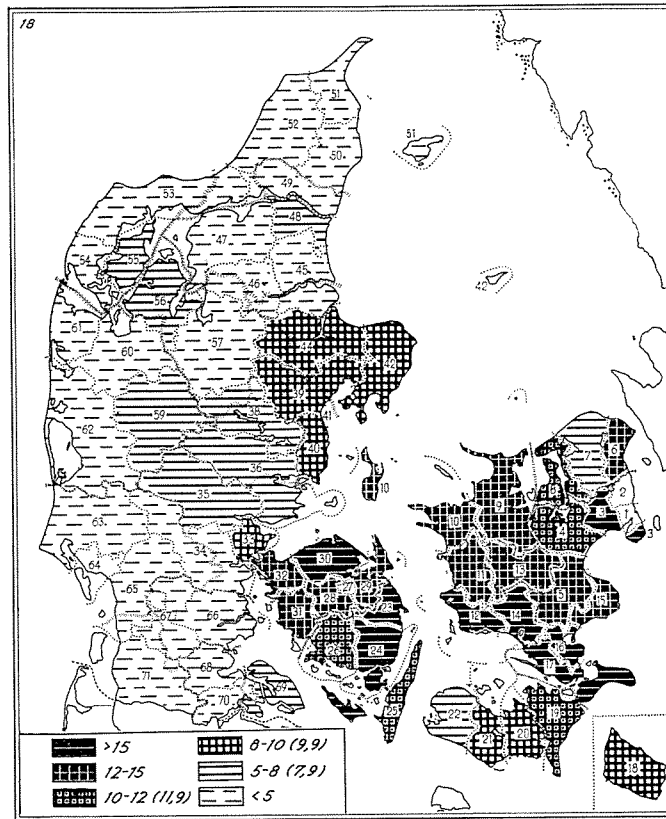
Wood pigeons (Columba palumbus)—bag per 100 ha.

Wood pigeons are in the present context largely ringdoves since the number of stock doves bagged appears negligibly small compared to the former.

Large populations of wood pigeons occur on the islands and on the Jylland peninsula Djursland. Very dense populations seem to inhabit the area round København and in SW Sjælland, and the same applies to large areas on Fyn.

Against the use of bag records as an expression of relative population size can be advanced the fact that large numbers of wood pigeons from the North usually visit Denmark during late autumn and winter. These visitors can be imagined to affect the bag record; this is, however, not likely to be the case to any large extent. The visitors occur as large flocks of considerable alertness. They are therefore difficult to get within shooting range and they are hardly

Fig. 20.
Wood pigeons 1957/58.
Bag per 100 ha.



bagged to such an extent that they will alter the true picture of the frequency of wood pigeons in different parts of the country.

The bulk of the pigeons are bagged in August–September during their movements to and from feeding and drinking places.

On the other hand, it cannot be excluded that the breeding population of the poor districts of the maps may be slightly larger since there seems to be a tendency for pigeons to leave these areas sometime during the summer.

Total bag in the two years: 1956: 278,300

1957: 334,200

Average bag per 100 ha: 1956: 6.7 wood pigeons

1957: 8.0 wood pigeons

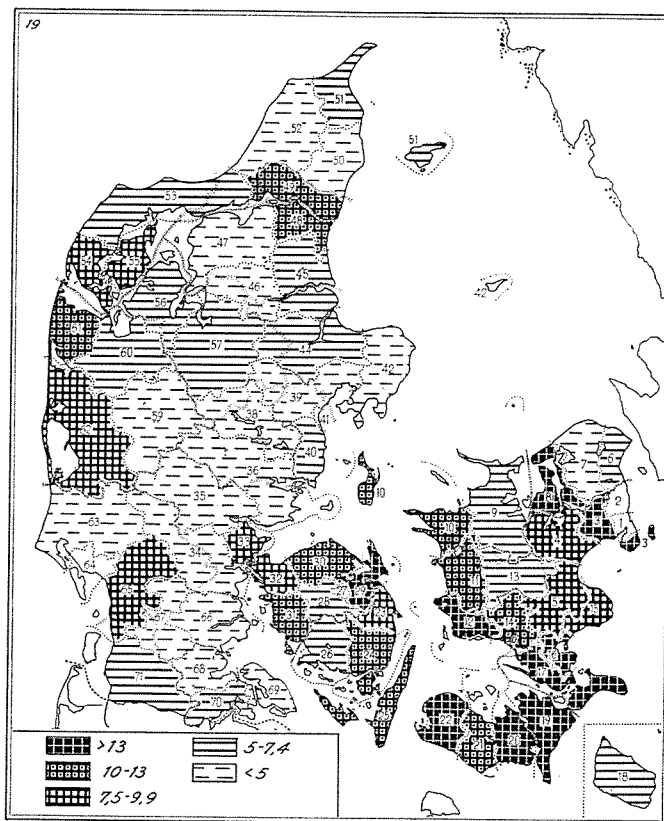


Fig. 21.
Surface ducks 1956/57.
Bag per 100 ha.
Ducks bagged off
the coasts are
included in adjoining
police district.

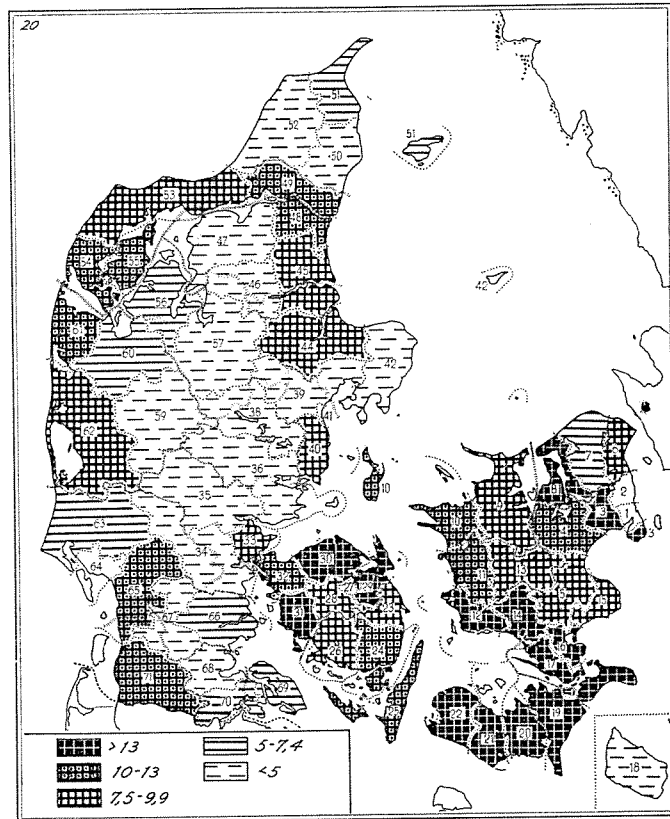
Surface ducks—bag per 100 ha.

The bag of surface ducks taken in the two years are shown in Figs. 21 and 22. Since it is impossible to distinguish between ducks born in this country and migrants the maps do not represent relative sizes of breeding populations but only the areas where ducks are bagged. However, there are reasons for assuming that a relatively large proportion of ducks bagged on the islands belong to our own breeding population whereas by far the greater number bagged in N and W Jylland must be considered migrants.

Furthermore surface ducks comprise several species, among which mallard, wigeon and teal presumably contribute the bulk of the bag while other surface ducks (pintail, shoveler, garganey and in particular gadwall) are relatively insignificant contributors.

The questionnaires for future use propose a distinction between mallards

Fig. 22.
Surface ducks 1957/58.
Bag per 100 ha.
Ducks bagged off
the coasts are
included in adjoining
police district.



and other surface ducks. In this way it should become possible within short time to know the chief shooting areas of mallards and the quantities involved.

The maps are based on the bag of all surface ducks. The ducks shot off the coasts were recorded under the police district of nearest coast district¹.) The list on p. 78 shows the number bagged on land as well as the total number bagged in individual police districts.

Total bag: 1956: 328,100
1957: 386,400

Average bag for the entire country:
1956: 7.8 per 100 ha
1957: 8.9 per 100 ha

¹) To facilitate comparison all areas refer to area of land. The area of sea covered by the bag records cannot be determined.



Fig. 23.
Woodcocks 1956/57.
Bag per 100 ha.

Woodcocks (*Scolopax rusticola*)—bag per 100 ha.

The maps which represent the bag of woodcocks do not suggest population densities since the majority of birds are bagged during their migration through Denmark. Nor can the number of birds passing through Denmark at different times of the year be visualized from the maps, too many factors are complicating the picture, thus the part of spring migration taking place after 7 April, the end of the open season, is excluded from the bag records.

Furthermore, a sharp distinction between woodcocks shot during autumn and spring has not been possible since the subdivision into time intervals used in the questionnaires (see p. 12) seems to have worked less satisfactory.

The main feature to be read from the maps is a general impression of counties

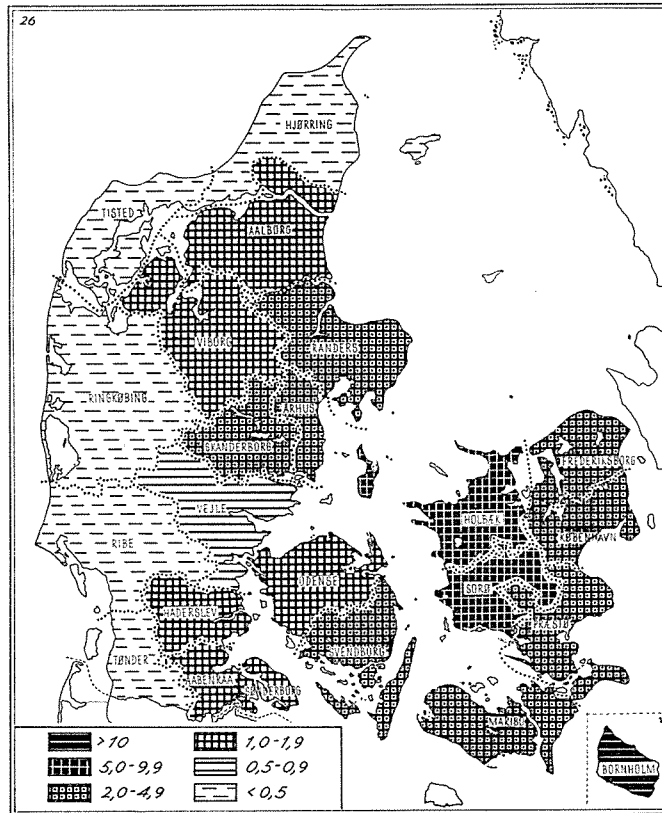


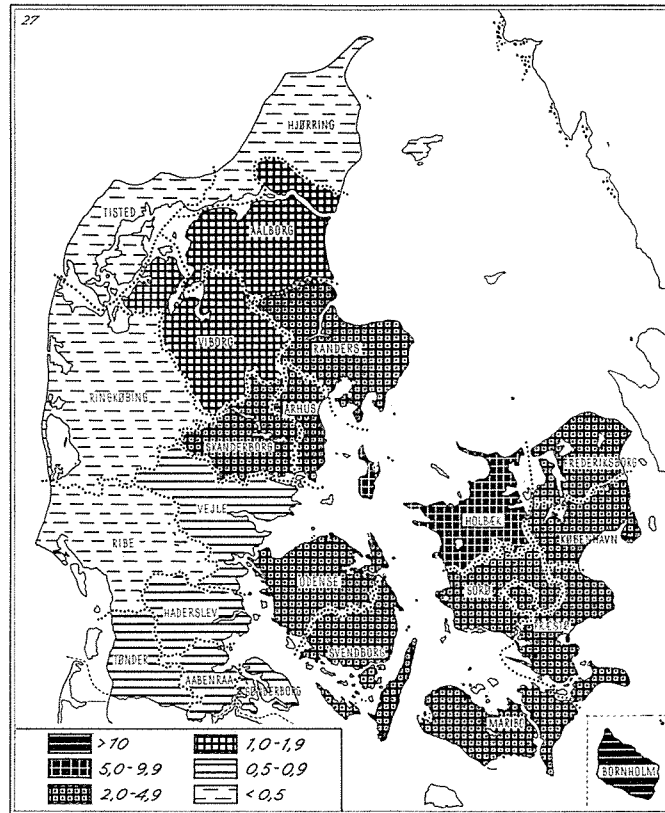
Fig. 25.
Rooks 1956/57.
Bag per 100 ha.

Rooks (*Corvus frugilegus*)—bag per 100 ha.

The rook is one of the birds which exhibit great differences between bag sizes in different counties. Particularly large bags are taken on Bornholm, a fact which is in agreement with the abundance of rooks on this island. The bag taken on Bornholm is almost doubled compared to Holbæk County which is second in rank. Also the very small bags taken in N and W Jylland agree with the fact that rookeries are practically absent from these regions.

The great majority of rooks bagged may be assumed to be young birds shot in the immediate vicinity of the nest and often within the boundaries of the

Fig. 26.
Rooks 1957/58.
Bag per 100 ha.



rookery, it is, therefore, reasonable to consider the maps a valid picture of the distribution of the breeding population of rooks in Denmark. The easterly or south-easterly distribution is apparent.

Total bag: 1956: 80,500 rooks
1957: 86,300 rooks

This corresponds to an average bag of, respectively, 1.9 and 2.1 rooks per 100 ha.

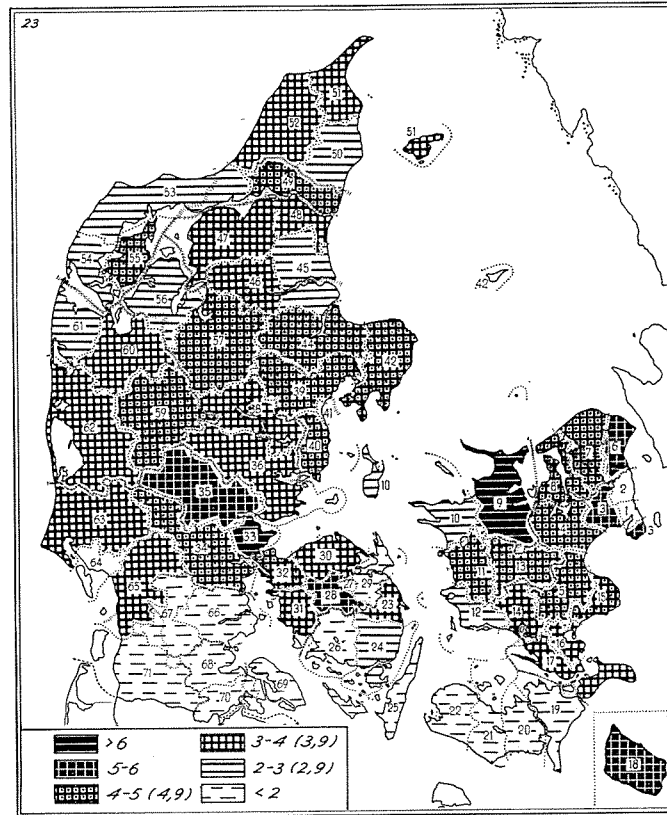


Fig. 27.
Magpies 1956/57.
Bag per 100 ha.

Magpies (*Pica pica*)—bag per 100 ha.

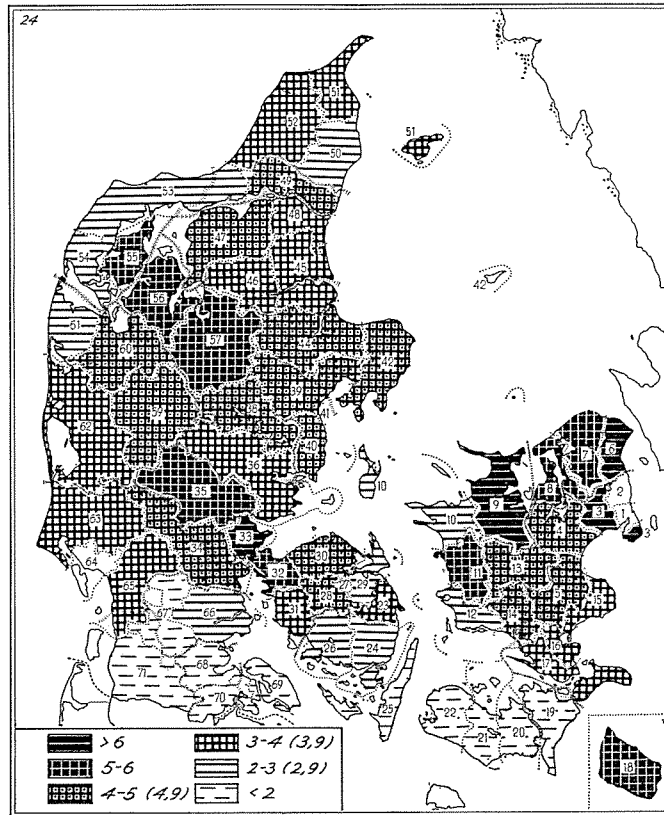
The questionnaire does not specifically mention jays. The Danish names of jay and magpie suggest a grouping of the two species into a single category, and undoubtedly this has been done in the bag records.

For the country as a whole there can be no doubt that magpies contribute the bulk of the yield but in certain areas the share of jays may be quite considerable.

The sparse population of the southern provinces is noticeable.

In this connection reference is made to a study by *Lindhard Hansen* (1950) on the occurrence, nest building etc. of the magpie. On the basis of direct observation Lindhard Hansen arrived at the conclusion that the breeding population of magpies in E Lolland comprised 62 pairs in 1948. This figure seems in good agreement with the impression deduced from the map of magpie bags. Lindhard Hansen continues:

Fig. 28.
Magpies 1957/58.
Bag per 100 ha.



"It is clear that studies restricted to such a small part of our country do not enable us to make an accurate estimate of the magpie population of the entire country, but it is tempting to extend the argument. The total area of Denmark is 43,931 sq.km and assuming the magpie population density in E Lolland to hold for the entire country the total population would amount to 6460 pairs of magpies. From the breeding success already discussed one would expect appr. 20,000 young magpies to leave the nests in all Denmark."

The fact that the study was made in an area inhabited by an even very sparse population must result in a vast underestimate of the actual figures.

Total bag: 1956/57: 153.750

1957/58: 167.710

The country average corresponds to a bag per 100 ha of

3.7 magpies in 1956/57 and

4.0 magpies in 1957/58

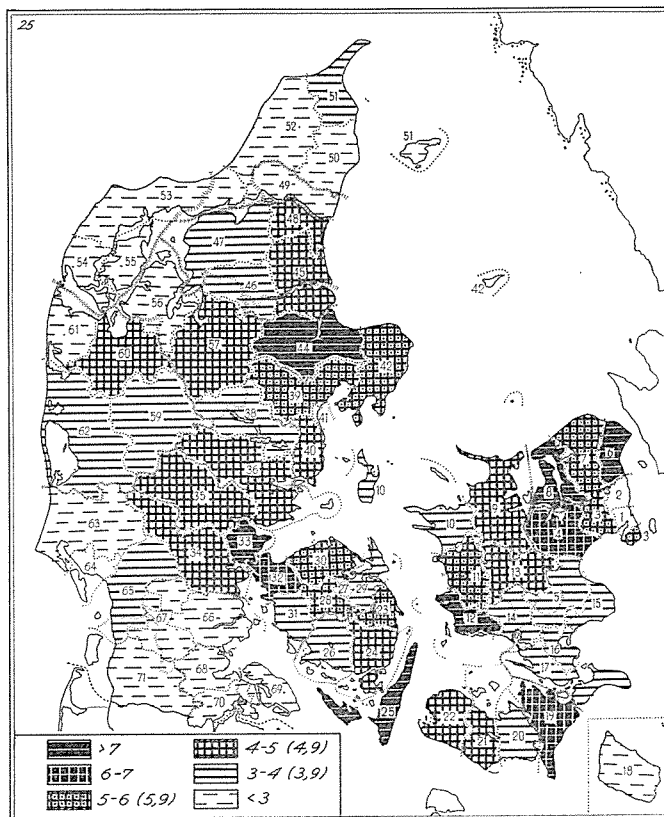


Fig. 29.
Crows 1957/58.
Bag per 100 ha.

Crows (*Corvus corone cornix*)—bag per 100 ha.

Since there is little difference between the number of crows bagged in the two years only the 1957/58 data are shown.

A very substantial proportion of crows bagged in Denmark must be assumed to be winter visitors or migrating birds. Hence, the map is largely an expression of the quantity of crows passing through or hibernating in Denmark and only to a small extent an expression of the size of the breeding population.

A comparison of the map with data from *Salomonsen: "Fugletrækket og dets gåder"* shows good agreement. Salomonsen says that the direction of Swedish and Finnish crows through Denmark is SW-NE, while Norwegian crows pass through Jylland.

The large bag of crows taken in police district 44 (Randers) is probably explained through the fact that in this district the coast line bends to become perpendicular to the direction of the migration with a consequent accumulation of migrants. Similar situations occur in police districts 6 (Helsingør), 12 (Skel-skør), and 25 (Rudkøbing). These districts fall within a common NE-SW direction and accumulation of migrants, partly combined with passage across stretches of water, must be considered probable.

Total bag for the years: 1956/57: 172.890
1957/58: 180.508.

This corresponds to an average bag of, respectively, 4.1 and 4.3 crows per 100 ha.

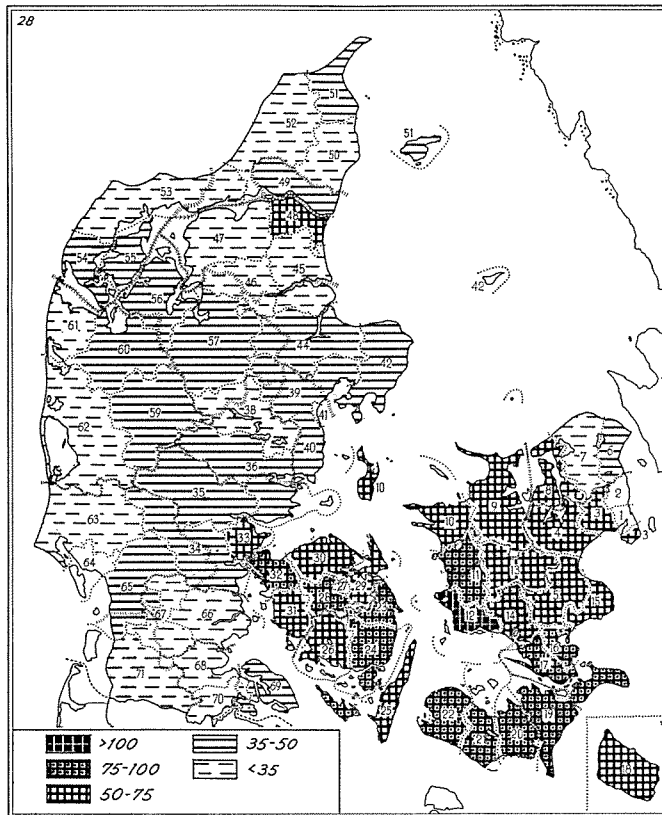


Fig. 30.
Total bag per 100 ha
1956/57.

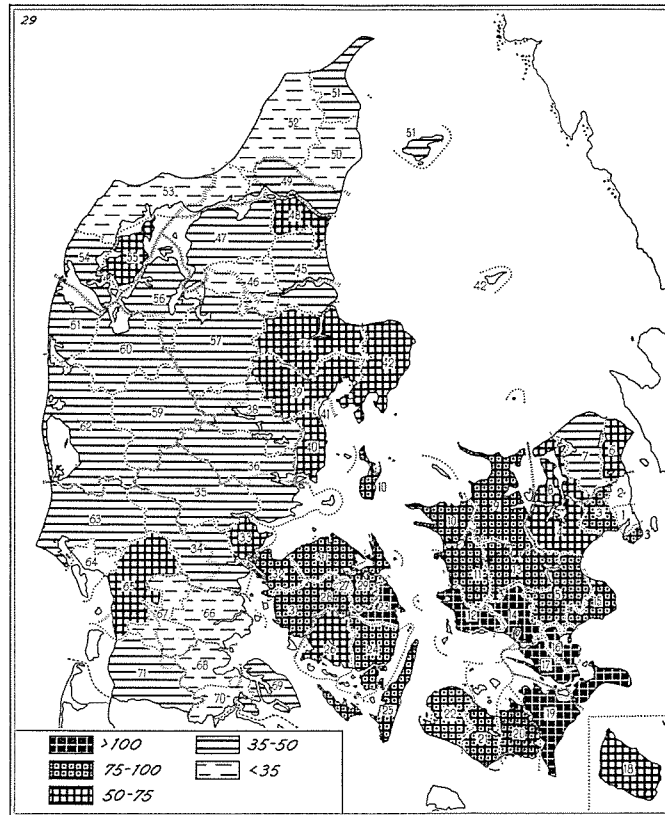
Total bag of all game species.

Total bag per 100 ha.

The maps, Figs. 30 and 31 show the total bag per 100 ha in individual police districts. The figures comprise data on all species listed in the questionnaire (see p. 12).

As could be expected from the maps for individual species, the districts which have the highest carrying capacity for the chief game species also show the highest total yield per 100 ha.

Fig. 31.
Total bag per 100 ha
1957/58.



The relation between hares and pheasants is described in detail on p. 61, and since areas favourable for these species often also contribute many wood pigeons and to some extent also surface ducks and partridges great differences between individual provinces result. Although certain regions in Jylland yield a large crop of partridges and surface ducks the total bag per 100 ha is below the country mean throughout most of Jylland. As mentioned, this is primarily due to the relatively small bag of pheasants, hares, and wood pigeons in this province. To this must be added that the game species particularly associated with Jylland, red deer and black grouse do not contribute any large number to the bag.

The country mean bag for the entire country was:

1956/57: appr. 60 individuals per 100 ha.

1957/58: appr. 70 individuals per 100 ha.

VI.
DISCUSSION OF MAPS AND UNDERLYING DATA

In addition to the presentation of maps of the distribution of game species it seemed natural to shed light on certain other features. Thus it might be of interest to know whether the ranking of districts according to bag size is identical in the two years, or one might be interested in analysing the detailed relation between game species, etc. A direct comparison of the maps may answer some questions of this nature, at least in broad outline. On the other hand, a more quantitative answer will usually necessitate an analysis of the actual bag records. Some aspects will be commented upon here.

Bag and population size.

For a utilization of maps based upon bag records for individual geographical units it is imperative to know whether they can be assumed to reflect population sizes. For most of the maps this seems to be so, but there are reasons for a scrutiny of species differences.

The bag of different species taken by sportsmen during the open season is, in principle, to be considered as a harvesting of the game crop, produced largely by the preceding breeding period.

The size of the harvest depends, primarily, on the crop size present in the open season. This means that when many hares are bagged in certain areas the areas are rich in hares and, vice versa, where only few hares are bagged the population is low.

This shows up most clearly in the game species which, generally, occur in greatest abundance, i.e. the chief game species, hare, pheasant, partridge, wood pigeon and surface ducks (and magpie and crow), species which are all bagged in large numbers (Appendix 1). Even when stratifying the data according

to police districts the bag is so large that the influence of e.g. a particularly keen sportsman remains negligible even when he has taken a very large bag. To this must be added that these species are taken by practically all sportsmen.

To sum up, there is reason for believing that the size of the bag taken in different regions of the country reflects the population density, although no information is supplied on the absolute density.

Other game species, roedeer, squirrel, fox, and woodcock are bagged in much smaller numbers. This causes the use of counties as the geographical unit to be preferable as regards these species.

Whereas the chief game species are bagged by all sportsmen a certain specialization is operating concerning foxes. Most sportsmen shoot foxes when they happen to come across them, but in addition some sportsmen continue the hunt for foxes when the open season for other game species comes to an end. Among this category of sportsmen are a few which to an exceptional extent have specialized in fox-shooting. This is brought out very clearly by the diagram in Fig. 37.

The fact that one or two exceptionally keen sportsmen may shoot as many foxes as do all other sportsmen of the police district between them affects the bag to such an extent that the police district cannot be used as a basis except for special purposes.

Badger, polecat, and stoat are bagged in so small numbers that calculations are best based on the bag taken per 1000 ha (10 sq.km). Polecat and stoat are not a game object in the usual sense, but largely taken in traps. The bag records for these species are, therefore, not indicators of relative population density but rather of geographic points where they are shot or trapped more or less actively. It is typical that the largest bag of the two species is recorded from regions where large estates, and hence professional hunters, occur in greatest numbers.

A detailed study confirms that the licence holders which have bagged particularly many stoats are professional hunters. As an example it is mentioned that 55 per cent of the stoats bagged in Holbæk County were taken by three licence holders, all estate game wardens. In Randers County 21 per cent were taken by two professional hunters while the bulk of the bag taken e.g. in Ringkøbing and Vejle Counties derives from a larger number of sportsmen each taking one or a few individuals.

Such considerations concerning badgers lead to a somewhat different result. The badgers reported appear to be bagged by sportsmen of widely different professions. Table 9 shows the professions of sportsmen who have shot badgers. The data are based on three police districts drawn at random.

Table 9. Professions of sportsmen who have bagged badgers.

Police district	Game wardens etc.	Foresters	Farmers	Workers	Trade and industry	Civil-servants, doctors, lawyers etc.	Others
7 Hillerød	1	4	23	5	4	1	7
16 Præsto	1		2		2		1
35 Vejle		1	33	9	6		7

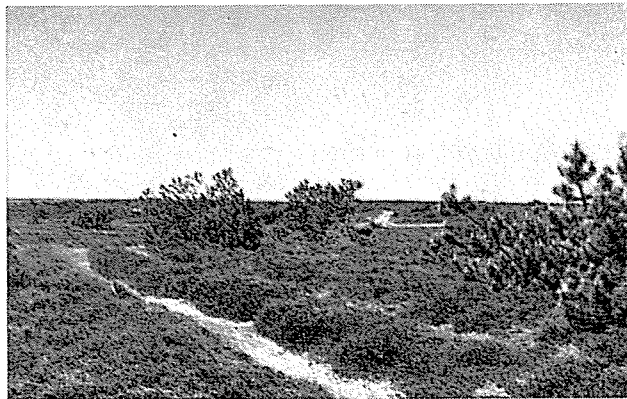
Since the bulk of the bag was not taken by one particular category—game wardens etc. and foresters—it is reasonable to assume that for this species the bag records do reflect relative population levels. The bag records are, however, very small, hence the distribution on counties calls for caution.

Carrying capacity of habitats.

By the carrying capacity of a habitat or area is understood the amount of game which, under the given circumstances, can maintain itself there.

The first impression produced by the maps is one of considerable variation in bag and, consequently, of population density (carrying capacity) between different parts of the country. It is not possible at present to isolate the factors which cause this wide amplitude in carrying capacity, they can only be demonstrated to exist.

As an illustration of this three types of habitat are shown:



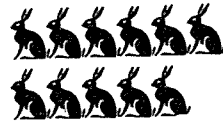
A



A habitat of this type has yielded a ten year average of *three hares per 100 ha per year.*

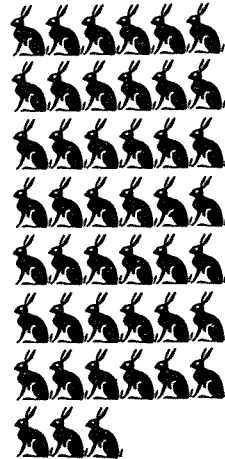


B



This habitat which to the human eye appears to be better hare country than A yielded an annual bag of *11 hares per 100 ha.*

C



As judged by the human eye this area seems little different from B as regards variety, game management, shooting policy etc. nonetheless the annual bag taken here is *45 hares per 100 ha.*

As mentioned already, we have to accept such differences in carrying capacity. What causes the differences is largely unknown and only continued research can clear up the share of various conceivable agents. An accurate bag record may afford a good basis for the continued attempts at analysing factors.

Ordinarily, the carrying capacity varies according to game species, depending on individual requirements. Furthermore, the capacity of a given area varies between years due to changes in environmental factors. This produces the fluctuating game populations. Within the limits of the fluctuations the capacity of an area appears to remain at much the same level.

Comparison of the two maps for a given species shows that the share of different geographical areas in the total annual bag remains the same. It is also seen that for the great majority of species 1957 was the most favourable year, and that variation between years is synchronized over the entire country or at least over provinces. Thus the variation between years is caused by the fluctuating population size, while the constant distribution of the total bag shows the carrying capacity to remain constant within certain limits.

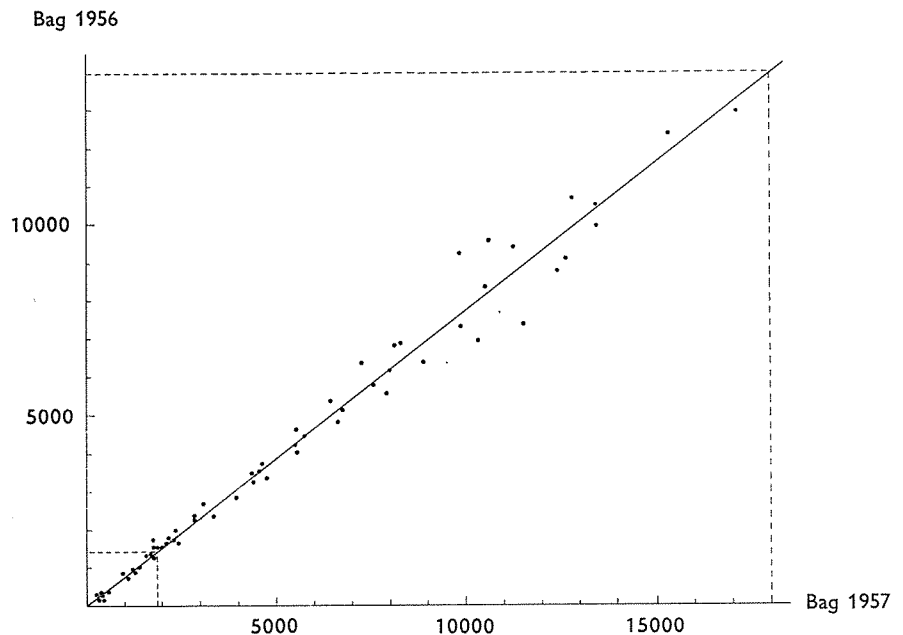


Fig. 32. Bag of pheasants in individual police districts. Dots representing absolute size of bags in 1956 and 1957. The correlation coefficient, $r = 0.99$.

Fig 32 shows the bag of pheasants taken in individual police districts in the two years plotted against one another. When represented in this way it is easily seen that the bag of pheasants is distributed in the same way in both years.

Also the correlation coefficient,¹⁾ $r = 0.99$, confirms a relatively fixed distribution of pheasant bags on individual police districts in the two years.

The Bag Record seems also to provide information on the amplitude of the fluctuation within areas of different carrying capacity.

Intuitively, one might expect the widest fluctuation between years in areas with large carrying capacity. In practice this would imply a great difference in the size of the autumn population of "good" and "poor" years in areas which can support a large population of a given game species whereas areas with low carrying capacity would show smaller variations.

However, this difference is only apparent. On expressing the bag as a percentage of the bag of the preceding year the increase in 1957 over 1956 is on an average found to be of the same size irrespective of the carrying capacity.

Let us assume a 25 per cent increase compared to the preceding year. In an area where the "poor" year yielded e.g. four pheasants the "good" year will yield five pheasants. A 25 per cent increase results in one additional pheasant. So small an increase does not show up to a significant extent since it is masked by random variation. In areas with even lower carrying capacity a 25 per cent increase will often not be detected at all.

In areas with large carrying capacity the difference is much easier to demonstrate, since e.g. 80 pheasants in the "poor" year must be compared to 100 in the "good" year, but the increase is still only 25 per cent.

¹⁾ Since correlation coefficients and regression equations turn up in the following they are briefly discussed here:

If, in two sets of numbers (e.g. expressing bags of pheasants in individual police districts in 1956 and 1957) large values in one (A) correspond to large values in the other set (B), and similarly for small values, the two sets of numbers are said to be positively correlated.

If large values in (A) correspond to low values in (B) and vice versa the correlation is said to be negative.

The correlation coefficient, r , measures the degree of correspondence between the two sets of numbers. It is dimensionless and can assume any value between -1 and $+1$. If $r = 0$ there is no correlation between the two sets; as r approaches $+1$ (or -1) the positive (or negative) correlation become increasingly pronounced.

The coefficient is an expression of correspondence, not of causation. If, however, a hypothesis is based on independent evidence the correlation coefficient may give further support to the hypothesis but not prove it, not even when $r = 1$ (or -1). A typical example of this is given in the section "Hares and pheasants". The relation between bag of hares and bag of pheasants has a correlation coefficient $r = 0.88$, i.e. it approaches $+1$. This does not prove that certain districts have many hares because there are many pheasants or vice versa. Common sense says that this is no reasonable assumption. On the other hand, it is reasonable to assume that some common external factor or combination of factors affect the two species in a similar way, and that this is what the correlation coefficient reflects.

If there is a linear relationship between the two sets it can be represented by the least square line through the swarm of points (see Fig. 32). This line is the regression line of y on x which enables one to indicate the most probable value of y corresponding to an arbitrary value of x . Using Fig. 32 as an example this means that for an area which in 1956 gave 7000 pheasants the most probable number in 1957 will be 9000 pheasants.

The regression line of Fig. 32 shows this interpretation to be realistic. The police district which in 1956 had a total bag of 1400 pheasants yielded 1800 pheasants in 1957. In another district the 1956 bag was 13,000 pheasants, in 1957 a total of 18,000 (the two points are located at the intersection of the stippled lines in Fig. 32). It will be seen that the increase which matters is the percentage increase, not the absolute increase.

This means that irrespective of the carrying capacity for pheasants the districts show the same percentage variation between years as long as the changes in environmental factors are comparable.

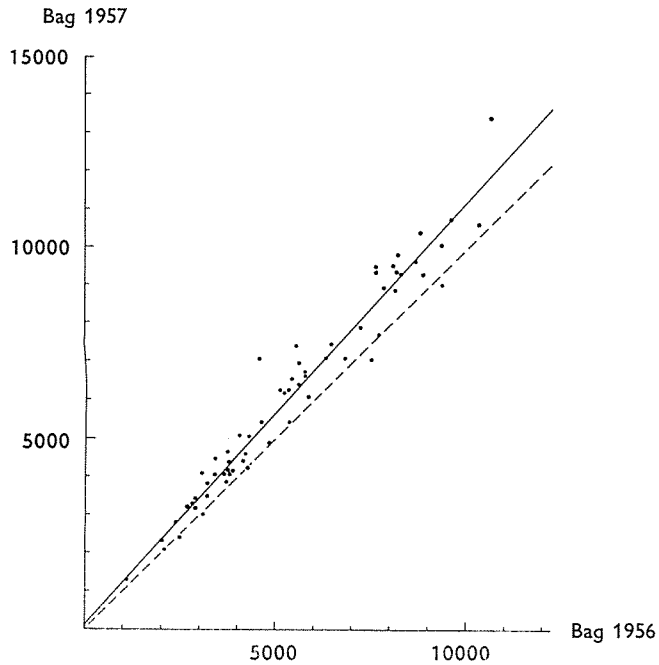


Fig. 33. Bag of hares in police districts. Dots representing absolute size of bags in 1956 and 1957. The correlation coefficient, $r = 0.98$.

Exactly the same holds for other game species. Fig. 33 shows the bag of hares in the two years. Although for this species the variation appears to be slightly larger it can hardly be doubted that the percentage variation is identical throughout the greater part of the country. The bulk of variation seems to be caused by the bags taken in Lolland and S Jylland where the 1956 bag exceeded the one for 1957 in a few police districts. These special cases must be taken as examples

that in these districts the fluctuations in one of the years differed from those of the rest of the country.

The relation between hares and pheasants.

On comparing the maps showing bag of hares and pheasants it will be seen that abundance of hares is correlated with abundance of pheasants whereas sparse hare populations are accompanied by sparse pheasant populations.

In Fig. 34 the bags of pheasants and hares are plotted against one another, each dot representing one police district. Considering the nature of the data (including the effect of special close-time regulations) the scatter seems rather small and a correlation analysis confirms the close relation between the two sets of data. The coefficient of correlation, $r = 0.88$, must be considered high for biological data of this kind.

When it thus appears that an area capable of producing a large number of

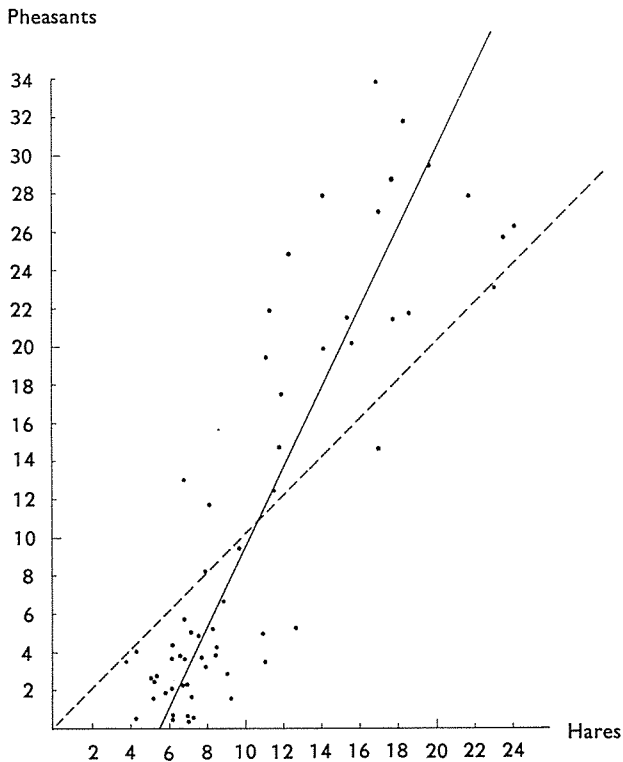


Fig. 34. Relation between number of hares and pheasants bagged in individual police districts in 1957. Numbers indicate bag per 100 ha, $r = 0.88$.

hares also yields many pheasants it seems likely that the complex of factors favourable for one species is favourable for the other species as well.

The figure also shows that areas which carry a large hare population may have an even larger pheasant population whereas few hares are accompanied by even fewer pheasants.

The stippled line in Fig. 34 is a guiding line which indicates the relation between hares and pheasants were they equally abundant within individual areas. The line drawn in full is the regression line which applies to the bags actually taken. At the intersection of the lines hares and pheasants are equally abundant. Where the regression line is above the stippled line pheasants dominate over hares while to the left hares are more plentiful.

As already mentioned pheasants, in particular, have been protected in certain counties in the two years considered here. It cannot be excluded that these special close-time regulations have affected the relation between bag of hares and pheasants. Fig. 35 is based on police districts where no close-time regulations have been operating.

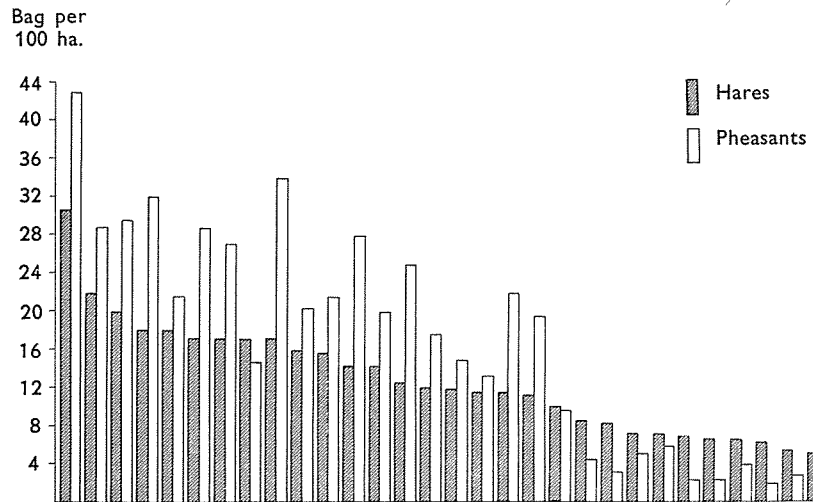


Fig. 35. Bag of hares and pheasants in 1957. The columns indicate numbers bagged per 100 ha.—Lolland-Falster is excluded from the histogram and from the remainder of the country only police districts without special close-time regulations have been included.

It will be seen that the bag of pheasants exceeds hares in police districts with large bags while the two species are bagged in approximately equal numbers in the police districts which in this year yielded about 10 hares per 100 ha (the

average bag for the entire country). At the other extreme, areas with low carrying capacity, pheasants are bagged in smaller numbers than are hares.

Finally the attention is drawn to the relation between the two species in the four police districts of Maribo County. According to the above one would here expect an excess of pheasants over hares but, as shown in Fig. 36, the two species are bagged in approximately equal numbers.

Since only bags for two years are available it is hardly possible to decide whether there is a genuine difference between this region and the remainder of the country; the difference might be a special feature of the two years studied.

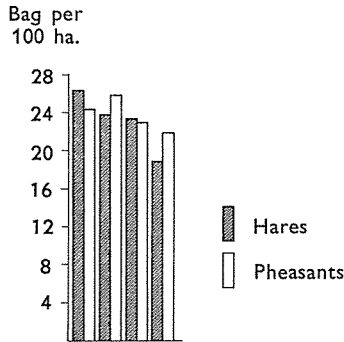


Fig. 36. Bag of hares and pheasants in Lolland-Falster, 1957. Numbers bagged per 100 ha.

For the country as a whole it seems reasonable, however, to conclude that pheasants are more sensitive to variations in the environmental factors than are hares. Good conditions seem to favour pheasants which now build up even denser populations than hares, but vice versa does an unfavourable combination of master factors show its greatest negative effect on pheasant populations which then remain sparse.

The relation between hares and foxes.

A certain relationship has been demonstrated between the population density of hares and pheasants within a given area. Similarly, there seems to be a connection between the orders of magnitude of hare and fox populations but here the correlation is negative.

In areas with many foxes the hare population tends to be sparse and vice versa. The relationship appears from Fig. 37 which illustrates the situation E of Store Bælt. The relationship appears to be quite simple and very regular (the dots are almost linearly arranged, the few deviations can often be explained through the activity of a few, particularly keen, sportsmen).

The simple explanation that hares are actively kept down by the foxes suggests itself, but it cannot be accepted straight away.

In case hares were really important food items for the fox the opposite relation would seem more probable, with foxes particularly abundant in areas with large hare populations. The maps show quite clearly that is not so since, in both years, the largest number of foxes were bagged in areas poor in hares.

As regards hares and pheasants, their common abundance was assumed to be caused by identical responses to at least some major environmental factors. In a similar way one might assume hares and foxes to respond in different ways to common environmental factors; different environmental requirements are actually suggested as an explanation of the relationship between hares and foxes.

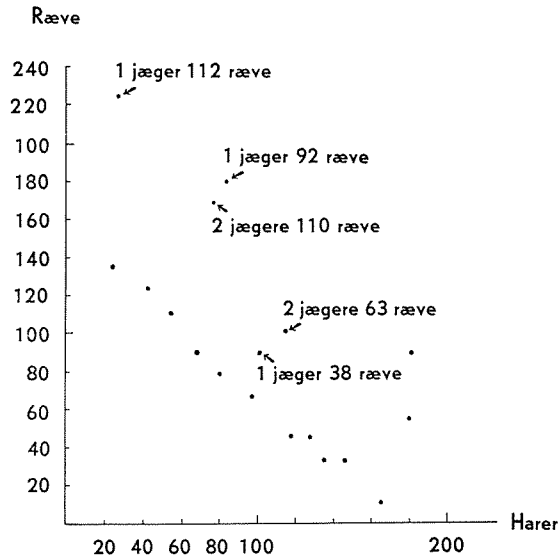


Fig. 37.
Relation between hares and foxes bagged in police districts E of Store Bælt. Numbers indicate indices of abundance of the two species.
Foxes: 100 = 0.89.
Hares: 100 = 13.52.
The legend against some points outside the linear trend indicates particularly large numbers of foxes (ræve) bagged by one or two sportsmen (jægere) within the particular police district. The 112 foxes bagged by a single sportsman represent 18 per cent of the total bag taken in this police district.

On the other hand, it is not denied that foxes do devour hares, given the opportunity. On the contrary, it seems likely that foxes may be one of the factors which affect the population density of so-called useful game, but the fact that the relation between foxes and hares is the same both years shows that it cannot be one of the chief factors.

The absolute effect on the hare population of a given number of foxes per unit area cannot be determined with any accuracy on the basis of The Bag Record. On the other hand, Fig. 37 in conjunction with the variation between years suggest that the presence of a fox population may lower the potential autumn population size of a hare population, but even the total eradication of foxes within an area can only be expected to result in a limited increase in the number of hares.

Appraisal of releases based on the maps.

The maps showing bag records indicate the pheasant to occur practically throughout the country although in varying numbers. In this connection it is appropriate to recapitulate its history in Denmark.

The pheasant is first mentioned from this country as early as 1562 but it did not achieve wider distribution until late in the 19th century.

The first population living wild dates from 1862 (Kongelunden, Amager); particularly after 1890 many estates started private pheasant farms—especially on the islands—and in many places pheasants were released into wild nature.

On the initiative of the Game Council pheasants have been released every year since 1932 by the local sportsmen's associations; in this way releases have been made all over Denmark.

It will appear from the maps that this first joint attempt to introduce the pheasant has been met by success since it is now present in all parts of the country. The prospect of extending such releases must, however, be judged otherwise in case the release aims at an increase of the breeding population. Once one of the small game species, e.g. hares, partridges, or pheasants have succeeded in forming populations they possess the power to increase their population up to the level which can be maintained at this time by the habitat. The maps seem to indicate that such populations occur all over the country although it must be pointed out that limited areas may well exist where the breeding population is so small in size, or perhaps even lacking, that an autumn population of normal size cannot be attained. This implies that, except for emergency releases to supplement populations which for some reason are declining in a given area suitable for pheasants, releases may be said to have completed their function, at least if increased breeding populations are the immediate object of the release.

The same seems to hold for indigenous small game. The map for partridge, p. 38 shows a very small population of this species in NE Sjælland.

It is probable that in this region the partridge population never was large in spite of repeated releases over a period of 200 years.

Thus *Weismann*, in his book "Vildtets og jagtens historie i Danmark" mentions that in Sjælland, and particularly in NE Sjælland within the period 1700–1860 the game population was poor or very poor during the years 1700–44, 1758–78 and 1785–1838, i. e. during 120 years and only satisfactory according to contemporary opinion during the periods 1745–57, 1779–84, and 1839–60, or appr. 40 years. Poor populations seem to be a normal feature of this region.

Between 1932 and the present day supplementary releases have been made, not only in NE Sjælland, but all over the country. It is hardly possible to analyse the country-wide effect of these releases on the basis of present data, although as far as NE Sjælland is concerned the issue is clear: the release has not had the desired effect.

Repeated releases during 200 years have not been able to improve the partridge populations in this region.

Release of birds with a view to shooting.

Also with regard to birds released with the immediate purpose of increasing the bag of the approaching open season does the Bag Record provide valuable information.

The studies by *Paludan* (1958) show that even birds released at the most favourable age can only be expected to yield a bag amounting to less than half the number released.

Considering the number of licence holders in this country this implies that an annual release of more than 200,000 birds would be required in order to enable each licence holder to increase his bag by one bird.

On the basis of area it would also involve large numbers. In order to increase the bag per 100 ha by one pheasant more than 80,000 pheasants would have to be released in Denmark. This shows that the release of pheasants as a means of supplementing the bag all over the country is unlikely to be economically sound.

VII.

FACTS CONCERNING THE NUMBER OF LICENCE HOLDERS

Number of licence holders per 100 ha.

Not only the abundance of game but also the number of licence holders per unit area varies greatly between regions.

The map, Plate III, shows the distribution of sportsmen, and it brings out the fact that the average area available per sportsman varies from less than 25 ha per licence holder in the best game country to more than 75 ha in the less favourable regions. This indicates that the number of sportsmen increases in good game country.

The Appendix on p. 110 shows the exact number of licence holders in each police district and the last column gives the number of licence holders per 100 ha.

The table utilizes data from both years but since the variation between years is negligible one map, based on the 1957/58 data, is sufficient to shed light on the general problem.

Number of sportsmen in relation to total population.

Between geographical units of the population the percentage of sportsmen shows wide variation. First of all, the percentage depends very much on the share contributed by people living in rural areas.

Table 10. Selected examples of the percentage of licence holders
(% of total population).

Police district	% licence holders
København	0.3
9. Holbæk	3.3
16. Præstø	6.5
20. Sakskøbing	5.7
22. Nakskov	3.9
27. Odense	1.1
35. Vejle	3.1
41. Århus	0.6
62. Ringkøbing	5.8
71. Tønder	5.1

In districts where only small town communities occur, e. g. Præstø, Saksøbing, and Rudkøbing police districts, more than 5 per cent of the population are sportsmen. In districts with a single larger town the percentage is about three. In purely urban districts the percentage of sportsmen reaches its lowest level and it decreases with increasing size of the town, in Odense it is 1.1%, in Århus 0.6, and in København only 0.3%.

On an average 2.4 per cent of the Danish population are licence holders.

Table 10 shows the percentage of licence holders in some selected police districts. Corresponding data for all districts are given in the appendix on p. 110 (for further details concerning the activity of sportsmen from the large towns, see p. 20).

Bag per sportsman.

The size of the bag taken by the individual sportsman in different parts of the country depends partly on the abundance of game in the particular area and partly on the number of sportsmen exploiting it. It has already been mentioned that good game country has a larger number of sportsmen, quite naturally this tends to equalize the bags taken to the effect that the bag per sportsman is somewhat larger in Jylland than would be expected from the maps which represent bag per 100 ha.

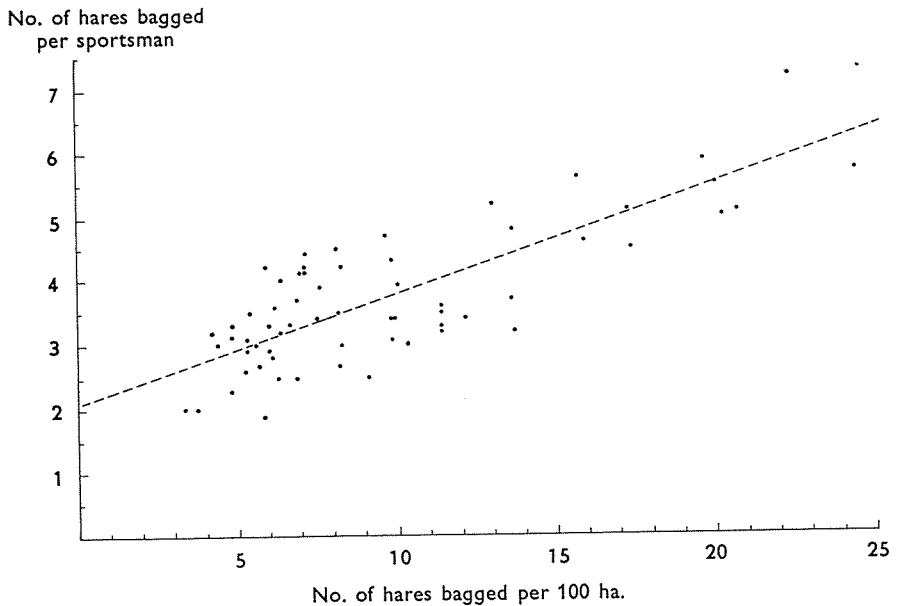


Fig. 38. Hares. Bag per sportsman versus bag per unit area. $r = 0.8$.

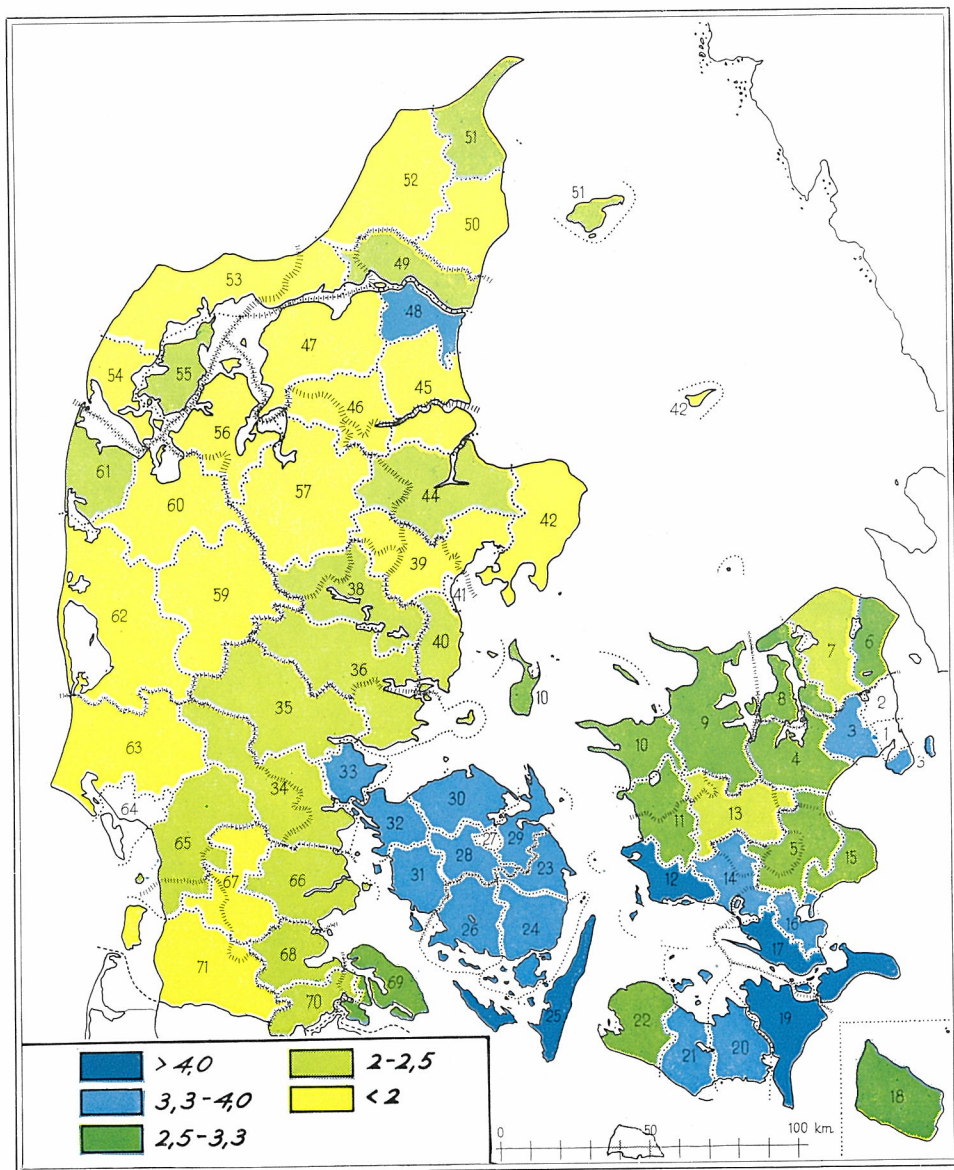


Plate III. Number of licence holders per 100 ha

The map shows the distribution of sportsmen on police districts.

4 sportsmen per 100 ha = 25 ha per sportsman

3 - - - - - = 33 - - -

2 - - - - - = 50 - - -

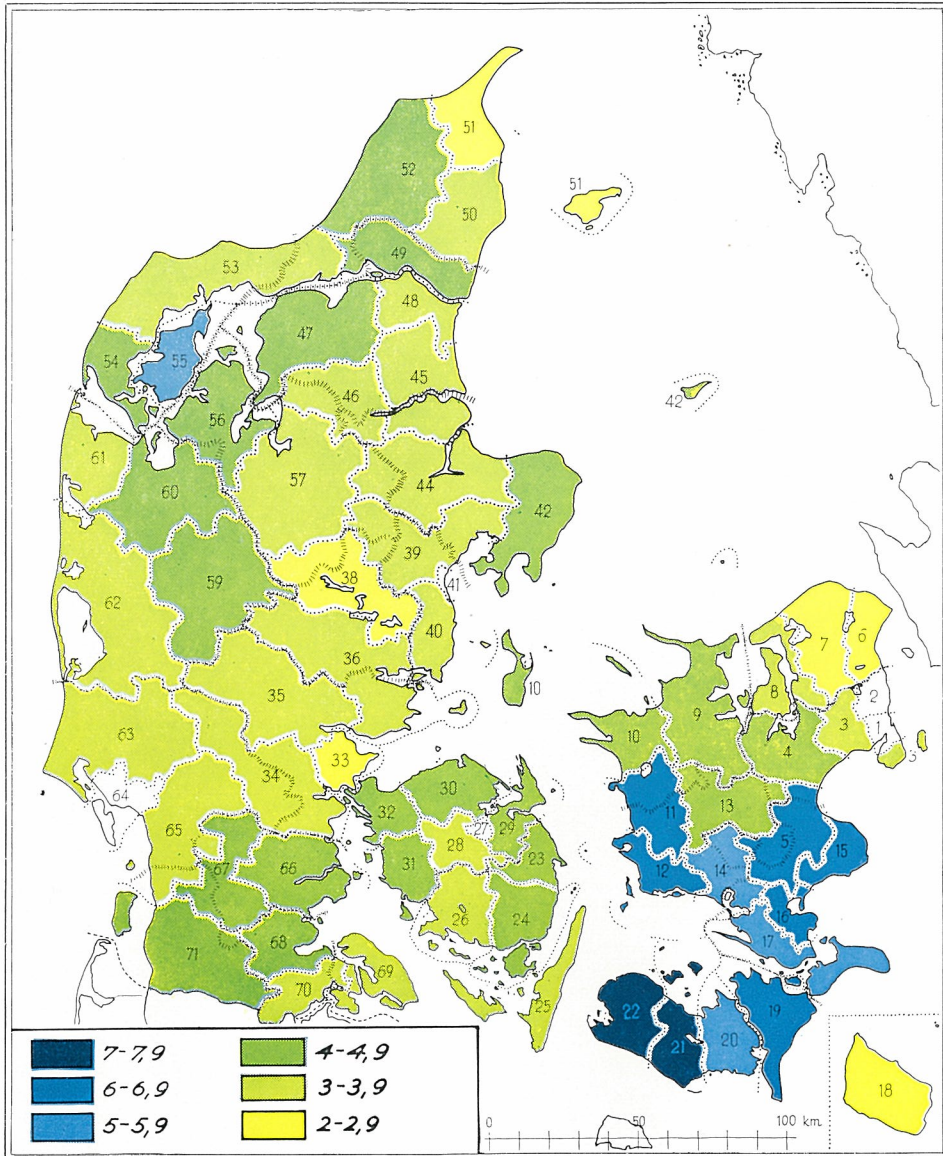


Plate IV. Bag of hares per sportsman

The map shows the mean number of hares bagged per sportsman in individual police districts.

Although the average size of area available per sportsman differs by a factor of three between regions the size of game populations per unit area differs even more. This causes the fact that the largest bag per sportsman is taken in the best game country. To some extent this is illustrated by the map on Plate IV which shows the mean bag of hares per sportsman in different parts of the country. It is obvious that the bags taken in Central Sjælland, Fyn, and extensive parts of Jylland differ but little. Only in the very best hare country in S Sjælland and in Maribo county can the individual sportsman expect a somewhat larger bag of hares.

A closer analysis shows, accordingly, that an increased bag of hares per 100 ha is correlated with increased bag per sportsman. Fig. 38 shows the relation between hares bagged per 100 ha and the mean number of hares taken per sportsman in individual police districts. The line of regression shows the expected bag of hares per sportsman as a function of the bag per unit area.

The diagram also indicates that a doubling of the bag per 100 ha is not accompanied by a corresponding doubling of the bag per sportsman, but only by a much smaller increase. If, in a given area, e. g. 6 hares are bagged per 100 ha the diagram shows the expected bag per sportsman to be about three hares. In another area with a bag of 12 hares (100 per cent increase) per 100 ha, the expected bag per sportsman is approximately 4 hares, i. e. an increase by 33 per cent. Similarly, in regions with a bag of 18 and 24 hares per 100 ha sportsmen may expect an average bag of 5, respectively 6, hares each.

























The difference between the percentage increase per unit area and per licence holder is, as already mentioned, largely caused by the positive correlation between population density of hares and of sportsmen.

As a further illustration of the bag per sportsman Fig. 39 shows some examples of the average bag taken by sportsmen in different parts of the country. It is interesting to notice that the bag of individual species is subject to considerable variation. Thus sportsmen in police district Præstø get relatively few partridges but many pheasants. For sportsmen in police district Åbenrå the opposite holds. Sportsmen in police district Ringkøbing take many waders and so on, features which all tend to equalize the total bag per sportsman.





































Finally, the figure shows that the bag of diving ducks and other swimming birds is considerably larger for sportsmen living in towns (Århus and to some extent Københavns Sdr. Birk) than for those living outside the towns. The probable reason for this is that sportsmen in towns often have difficulties in acquiring shooting rights in the country, to compensate for this they specialize in shore and sea sporting.

The total bag per sportsman can be seen from the maps, Figs. 40 and 41.

Fig. 39. Examples of mean bag per sportsman

Home district of sportsman Game species	Police district 3 Sdr. Birk	Police district 16 Præsto
Roedeer	 0.2	 0.4
Hares	 3.6	 6.0
Foxes	 0.4	 0.1
Partridges	 2.5	 2.9
Wood pigeons	 5.5	 4.7
Pheasants	 3.9	 8.8
Surface ducks	 6.0	 6.0
Diving ducks	 3.7	 2.8
Other swimming birds	 3.6	 0.7
Waders	 1.6	 0.8
Crows	 1.5	 1.2
Magpies	 1.8	 1.0

in different parts of the country

Police district 41 Århus	Police district 62 Ringkøbing	Police district 68 Åbenrå
 0.3	 0.1	 0.4
 2.8	 3.2	 4.4
 0.4	 0.5	 0.6
 2.2	 3.4	 4.9
 3.7	 1.8	 1.3
 2.6	 1.0	 0.3
 1.9	 5.1	 2.1
 6.3	 0.7	 0.5
 2.2	 0.9	 0.2
 1.8	 3.1	 0.7
 2.1	 2.0	 0.8
 1.3	 1.7	 0.6

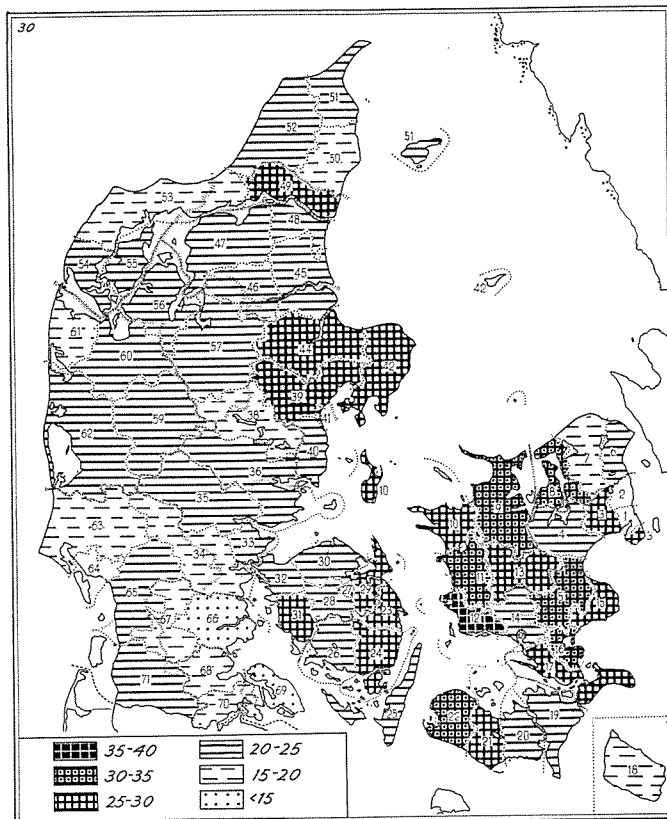
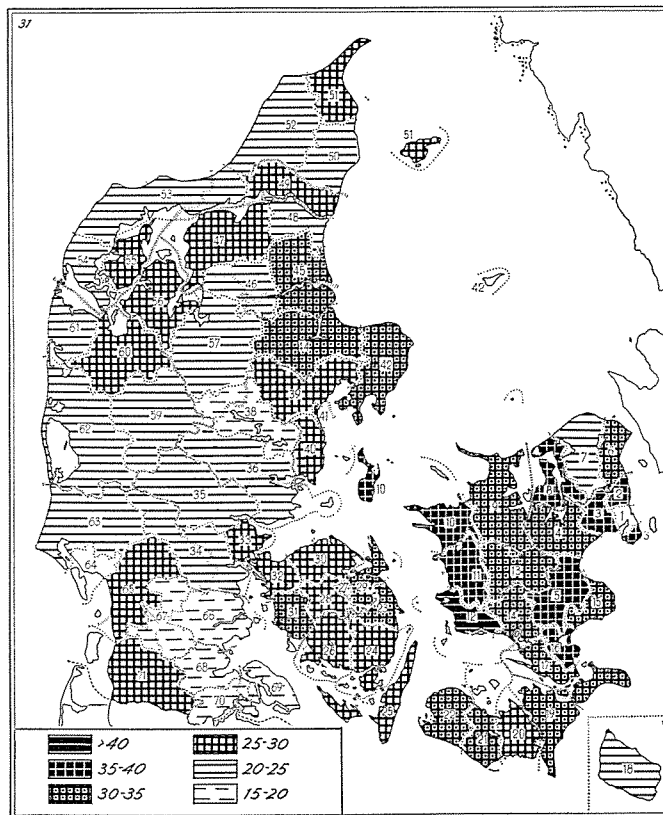


Fig. 40.
Total bag per licence
holder in 1956.

It is obvious that the poor year of 1956 resulted in a smaller average bag per sportsman. On the other hand, there was apparently little difference between the years as regards the geographical distribution of relative bag size. On the whole, the areas with highest yield are identical in poor and good years.

Fig. 41.
Total bag per licence
holder in 1957.



Although there are tendencies towards an equalization of bag sizes the differences are not negligible. In the best regions the sportsmen take twice the bag taken in the less good regions, seen in the light of the considerable variation in abundance of game the variation of bag per sportsman is relatively small.

DANISH REVIEW *of* GAME BIOLOGY

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H. STRANDGAARD
The Danish Bag Record I

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VIII.

Summary.

All holders of shooting licences receive with their licence a questionnaire. They must supply data on the bag taken by the holder personally. The questionnaires are returned to the local police offices from where they are forwarded to the Game Research Station for analysis.

The present publication is based on the 175,000 questionnaires relating to the years 1956/57 and 1957/58. In order to arrive at a clear picture of the crop of game taken in different parts of the country the bag records have been used to prepare maps of the bag taken of all major game species.

Since for these species the bag seems to reflect population densities in different regions several of the maps may also be considered to express the suitability of individual parts of the country as a habitat for game. Above all, this applies to the more stationary game, e.g. hares, partridges and pheasants. As opposed to this category the bag of migrants or winter visitors only reflects the suitability of the regions during the shorter stay of these species.

As regards the carrying capacity of different areas the bag records demonstrate a variation between years. This variation causes fluctuations of the population density of game species. Within the amplitude of this fluctuation the carrying capacity of different regions seems to remain relatively stable, and the relative abundance in different counties or police districts is identical irrespective of the absolute quality of the year. The difference in carrying capacity between districts may be considerable, thus the mean bag of hares varies from about 3 in the poorest to more than 30 hares per 100 ha in the best hare country. Between smaller geographical units the variation may be even wider.

In addition to variation in the abundance of game the density of licence holders is also subject to geographical variation. The mean area available to each sportsman varies from less than 25 ha to more than 75 ha. It is also obvious that the density of sportsmen is greatest in the best game country. Also the population groups shows a widely different percentage of sportsmen. In regions with only small town communities licence holders contribute more than 5 per cent of the population, but one per cent or even less in town communities.

Although the best game country has the greatest density of sportsmen the

largest bag per sportsman is taken in these regions. The reason for this is that the game density increases more than the number of licence holders. Finally, it appears that the largest bag of diving ducks is taken by town-dwelling sportsmen. An explanation is sought in the fact that the town-dwelling sportsman often finds difficulties in acquiring shooting rights in the country, to compensate for this he specializes in sporting along coasts and on the sea.

Main provisions of the Danish Game Act.

In Denmark the landowner holds the shooting rights on his land unless they have been transferred to other persons. On the sea, in fjords and bays shooting is free to all Danish citizens.

No area or bag limits are operating in Denmark.

Shooting is prohibited between sunset and sunrise, the only exception being that migrating ducks may be shot between $1\frac{1}{2}$ hours before sunrise and $1\frac{1}{2}$ hours after sunset. The use of gin traps is prohibited except for trapping of otters and stoats.

The open seasons relating to the game species mentioned in this publication were as follows during the two years considered :

Hare: 1 Oct.–18 Dec.

Roedeer: Bucks: 15 May–15 July; both sexes, including fawns: 1 Oct.–31 Dec.

Squirrel: all year.

Fox: all year.

Badger: all year.

Polecat: all year.

Stoat: all year.

Pheasant: Cocks: 1 Oct.–31 Dec; Hens: 1 Nov.–30 Nov.

Partridge: 18 Sept.–1 Nov.

Wood Pigeon: 1 Aug.–31 Dec.

Surface-feeding ducks: 15 Aug.–31 Dec.

Woodcock: 24 Sept.–7 April.

Rook: all year.

Magpie: all year.

Jay: 1 Aug.–31 Dec.

Crow: all year.

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Appendix 1. Bag per 100 ha in individual police districts

Game species	1956/57		1957/58		1956/57		1957/58	
	Bagged in home distr.	Numbers per 100 ha	Bagged in home distr.	Numbers per 100 ha	Bagged in home distr.	Numbers per 100 ha	Bagged in home distr.	Numbers per 100 ha
<i>Police district 3: Sondre Birk</i>				<i>Police district 4: Roskilde</i>				
Hares	2906	8.3	3457	9.8	5323	9.8	6304	11.6
Partridges	2450	7.0	2719	7.7	3550	6.5	4091	7.5
Wood pigeons	4385	12.5	6519	18.5	4522	8.3	5870	10.8
Pheasants	2335	6.6	3294	9.4	5111	9.4	6773	12.4
Ducks	3284	9.3	4343	12.4	3034	5.6	4016	7.4
do. incl. sea	6258	17.8	7568	21.5	4729	8.7	5688	10.4
Crows	1970	5.6	1791	5.1	3336	6.1	3351	6.2
Magpies	1963	5.6	2313	6.6	2440	4.5	2643	4.9
<i>Police district 5: Køge</i>				<i>Police district 6: Helsingør</i>				
Hares	8175	13.0	9883	15.7	1118	3.7	1315	4.3
Partridges	3289	5.2	3994	6.4	478	1.6	637	2.1
Wood pigeons	6356	10.1	7915	12.6	2341	7.7	3661	12.1
Pheasants	9144	14.6	12627	20.1	981	3.2	1215	4.0
Ducks	4186	6.7	4986	7.9	1416	4.7	2234	7.4
do. incl. sea	5456	8.7	5960	9.5	1770	5.8	2949	9.7
Crows	2610	4.2	2390	3.8	1531	5.1	4372	14.4
Magpies	2571	4.1	2560	4.1	1684	5.6	2301	7.6
<i>Police district 7: Hillerød</i>				<i>Police district 8: Frederikssund</i>				
Hares	2021	3.3	2328	3.8	2735	6.9	3244	8.2
Partridges	1505	2.4	1731	2.8	1590	4.0	1826	4.6
Wood pigeons	2941	4.8	3623	5.9	3291	8.3	4513	11.4
Pheasants	1769	2.9	2141	3.5	3710	9.3	4648	11.7
Ducks	2196	3.6	2930	4.8	3270	8.2	5015	12.6
do. incl. sea	2281	3.7	3091	5.0	5418	13.6	6929	17.4
Crows	3305	5.4	3060	5.0	2377	6.0	3127	7.9
Magpies	2913	4.7	3440	5.6	1856	4.7	2341	5.9
<i>Police district 9: Holbæk</i>				<i>Police district 10: Kalundborg</i>				
Hares	8775	10.0	10480	12.0	5865	11.4	6102	11.9
Partridges	4714	5.4	5184	5.9	3719	7.2	4209	8.2
Wood pigeons	9433	10.8	11783	13.5	4476	8.7	6158	12.0
Pheasants	12460	14.2	15351	17.5	5830	11.4	7545	14.7
Ducks	5144	5.9	6968	8.0	5429	10.6	5023	9.8
do. incl. sea	6324	7.2	8260	9.4	6259	12.2	6308	12.3
Crows	4314	4.9	4284	4.9	1631	3.2	1735	3.4
Magpies	5996	6.8	6156	7.0	1214	2.4	1343	2.6

Game species	1956/57		1957/58		1956/57		1957/58	
	Bagged in home distr.	Numbers per 100 ha	Bagged in home distr.	Numbers per 100 ha	Bagged in home distr.	Numbers per 100 ha	Bagged in home distr.	Numbers per 100 ha

Police district 11: Slagelse

Hares	8223	15.7	9370	17.9
Partridges	3778	7.2	4232	8.1
Wood pigeons	6103	11.6	7394	14.1
Pheasants	9462	18.0	11256	21.4
Ducks	5849	11.1	5902	11.2
do. incl. sea	6225	11.9	6084	11.6
Crows	2684	5.1	2773	5.3
Magpies	2266	4.3	2841	5.4

Police district 12: Skelskør

	7602	24.4	9558	30.6
	3688	11.8	4548	14.6
	6877	22.0	7281	23.3
	10009	32.1	13470	43.2
	5842	18.7	6210	19.9
	6497	20.8	7060	22.6
	2405	7.7	2255	7.2
	807	2.6	890	2.9

Police district 13: Ringsted

Hares	6285	9.8	7133	11.2
Partridges	2313	3.6	2823	4.4
Wood pigeons	6331	9.9	7953	12.4
Pheasants	8836	13.8	12425	19.4
Ducks	4095	6.4	5137	8.0
do. incl. sea	4106	6.4	5208	8.1
Crows	3391	5.3	3136	4.9
Magpies	2759	4.3	3037	4.8

Police district 14: Næstved

	4577	11.4	7166	17.8
	2730	6.8	3524	8.8
	5057	12.6	7420	18.5
	7398	18.4	11524	28.7
	3262	8.1	4043	10.1
	5029	12.5	6835	17.0
	1540	3.8	1516	3.8
	1548	3.9	1618	4.0

Police district 15: St. Heddinge

Hares	3720	13.6	4670	17.1
Partridges	1978	7.3	2261	8.3
Wood pigeons	2766	10.1	3433	12.6
Pheasants	2829	10.4	3971	14.6
Ducks	1769	6.5	2102	7.7
do. incl. sea	2229	8.2	2457	9.0
Crows	789	2.9	892	3.3
Magpies	1200	4.4	918	3.4

Police district 16: Præstø

	3772	17.3	4319	19.8
	2085	9.6	2152	9.9
	3032	13.9	3439	15.8
	5378	24.6	6413	29.4
	2174	10.0	2910	13.3
	3546	16.2	4423	20.3
	781	3.6	758	3.5
	727	3.3	731	3.3

Police district 17: Vordingborg

Hares	9308	20.2	10124	21.9
Partridges	3685	8.0	4368	9.5
Wood pigeons	6430	13.9	7775	16.8
Pheasants	10782	23.4	12840	27.8
Ducks	4716	10.2	6169	13.4
do. incl. sea	7510	16.3	8954	19.4
Crows	1635	3.5	1425	3.1
Magpies	1526	3.3	1533	3.3

Police district 18: Rønne

	3195	5.8	3828	6.9
	1336	2.4	1173	2.1
	4748	8.6	5233	9.4
	6406	11.6	7228	13.0
	2536	4.6	2139	3.9
	2792	5.0	2353	4.2
	1180	2.1	1274	2.3
	2892	5.2	3118	5.6

Game species	1956/57		1957/58		1956/57		1957/58	
	Bagged in home distr.	Numbers per 100 ha	Bagged in home distr.	Numbers per 100 ha	Bagged in home distr.	Numbers per 100 ha	Bagged in home distr.	Numbers per 100 ha
<i>Police district 19: Nykøbing F.</i>					<i>Police district 20: Sakskøbing</i>			
Hares	10594	20.6	13476	26.2	7489	19.6	7132	18.7
Partridges	3808	7.4	4384	8.5	1773	4.6	1940	5.1
Wood pigeons	5088	9.9	6022	11.7	2671	7.0	3210	8.4
Pheasants	9552	18.5	12514	24.3	6946	18.2	8280	21.7
Ducks	5437	10.6	6645	12.9	4384	11.5	4689	12.3
do. incl. sea	7841	15.2	9438	18.3	5355	14.0	6223	16.3
Crows	3436	6.7	3417	6.6	1487	3.9	1302	3.4
Magpies	825	1.6	874	1.7	422	1.1	390	1.0
<i>Police district 21: Rødby</i>					<i>Police district 22: Nakskov</i>			
Hares	9381	24.5	9060	23.7	10280	22.3	10698	23.2
Partridges	3222	8.4	3004	7.9	3495	7.6	3602	7.8
Wood pigeons	2881	7.5	3064	8.0	3217	7.0	3625	7.9
Pheasants	9265	24.2	9848	25.7	9727	21.1	10573	23.0
Ducks	3608	9.4	5865	15.3	6168	13.4	7583	16.5
do. incl. sea	4847	12.7	7184	18.8	8170	17.8	9684	21.0
Crows	2082	5.4	1548	4.0	2586	5.6	2175	4.7
Magpies	479	1.3	517	1.4	332	0.7	341	0.7
<i>Police district 23: Nyborg</i>					<i>Police district 24: Svendborg</i>			
Hares	4183	15.9	4468	17.0	8853	17.4	9336	18.4
Partridges	1492	5.7	1567	6.0	2774	5.5	2965	5.8
Wood pigeons	3674	14.0	4466	17.0	7071	13.9	8199	16.1
Pheasants	6391	24.3	8892	33.8	13015	25.6	16142	31.8
Ducks	2224	8.5	2218	8.4	4300	8.5	4772	9.4
do. incl. sea	2517	9.6	2553	9.7	5124	10.1	5902	11.6
Crows	1432	5.4	1365	5.2	2158	4.2	2074	4.1
Magpies	1034	3.9	952	3.6	1220	2.4	1338	2.6
<i>Police district 25: Rudkøbing</i>					<i>Police district 26: Fåborg</i>			
Hares	5110	13.7	6337	17.0	4708	9.8	5467	11.4
Partridges	2661	7.1	2940	7.9	1932	4.0	2303	4.8
Wood pigeons	3193	8.5	4050	10.8	4656	9.7	5212	10.9
Pheasants	5574	14.9	7928	21.2	8400	17.5	10494	21.9
Ducks	3729	10.0	3759	10.1	2913	6.1	3721	7.7
do. incl. sea	4784	12.8	4785	12.8	3165	6.6	4086	8.5
Crows	2341	6.3	2649	7.1	1215	2.5	1835	3.8
Magpies	189	0.5	470	1.3	773	1.6	1002	2.1

Game species	1956/57		1957/58		1956/57		1957/58	
	Bagged in home distr.	Numbers per 100 ha	Bagged in home distr.	Numbers per 100 ha	Bagged in home distr.	Numbers per 100 ha	Bagged in home distr.	Numbers per 100 ha

Police district 28: Odense herred

Hares	3382	10.3	4056	12.4
Partridges	2537	7.8	2374	8.8
Wood pigeons	3893	11.9	4592	14.0
Pheasants	6877	21.0	8109	24.8
Ducks	2171	6.6	2437	7.5
do. incl. sea	2312	7.1	2580	7.9
Crows	1797	5.5	1866	5.7
Magpies	1665	5.1	1557	4.8

Police district 29: Kerteminde

	3308	11.4	4102	14.2
	2588	8.9	3162	10.9
	2526	8.7	3645	12.6
	4450	15.4	5769	19.9
	2022	7.0	2543	8.8
	4033	13.9	5212	18.0
	1022	3.5	1051	3.6
	436	1.5	579	2.0

Police district 30: Bogense

Hares	5485	11.4	7455	15.5
Partridges	5289	11.0	6727	14.0
Wood pigeons	5137	10.7	7504	15.6
Pheasants	7011	14.6	10348	21.5
Ducks	3383	7.0	5532	11.5
do. incl. sea	4798	10.0	7614	15.8
Crows	2431	5.1	2732	5.7
Magpies	1582	3.3	2006	4.2

Police district 31: Assens

	4288	12.1	5034	14.2
	2118	6.0	2374	6.7
	3676	10.3	4563	12.8
	7368	20.7	9921	27.9
	2913	8.2	4098	11.5
	3653	10.3	4743	13.3
	1637	4.6	1345	3.8
	1155	3.2	1212	3.4

Police district 32: Middelfart

Hares	4035	13.6	5084	17.1
Partridges	1911	6.4	2395	8.1
Wood pigeons	3276	11.0	4061	13.7
Pheasants	6216	21.0	8018	27.0
Ducks	2422	8.2	3128	10.5
do. incl. sea	2827	9.5	3181	10.7
Crows	1711	5.8	1923	6.5
Magpies	1429	4.8	1532	5.2

Police district 33: Fredericia

	2146	9.1	2100	8.9
	1122	4.8	1440	6.1
	1602	6.8	2038	8.6
	1375	5.8	1562	6.6
	1385	5.9	1388	5.9
	2260	9.6	2287	9.7
	2156	9.1	1868	7.9
	1731	7.3	1648	7.0

Police district 34: Kolding

Hares	7787	6.7	8995	7.8
Partridges	5786	5.0	8460	7.3
Wood pigeons	4032	3.5	5042	4.4
Pheasants	3343	2.9	4242	3.7
Ducks	3346	2.9	3751	3.2
do. incl. sea	3887	3.4	4228	3.7
Crows	5096	4.4	5186	4.5
Magpies	4942	4.3	5515	4.8

Police district 35: Vejle

	8036	6.4	9554	7.6
	8193	6.5	10293	8.2
	6885	5.5	6206	5.0
	4644	3.7	5535	4.4
	3351	2.7	3285	2.6
	3606	2.9	3590	2.9
	5377	4.3	5959	4.8
	6245	5.0	7104	5.7

Game species	1956/57		1957/58		1956/57		1957/58		
	Bagged in home distr.	Numbers per 100 ha	Bagged in home distr.	Numbers per 100 ha	Bagged in home distr.	Numbers per 100 ha	Bagged in home distr.	Numbers per 100 ha	
<i>Police district 36: Horsens</i>					<i>Police district 38: Silkeborg</i>				
Hares	8163	6.0	9397	6.9	3855	4.8	4145	5.1	
Partridges	5678	4.1	6832	5.0	2689	3.3	3445	4.3	
Wood pigeons	6031	4.4	7117	5.2	4532	5.6	4475	5.5	
Pheasants	3787	2.8	4939	3.6	1676	2.1	2071	2.6	
Ducks	4364	3.2	4964	3.6	3185	3.9	3534	4.4	
do. incl. sea	5676	4.1	6484	4.7	3318	4.1	3667	4.5	
Crows	5671	4.1	6328	4.6	3090	3.8	3162	3.9	
Magpies	5036	3.7	5156	3.8	2940	3.6	3451	4.3	
<i>Police district 39: Hasle herred</i>					<i>Police district 40: Odder</i>				
Hares	5786	6.0	6651	6.9	2423	6.1	2843	7.2	
Partridges	3904	4.0	4822	5.0	1839	4.7	2084	5.3	
Wood pigeons	7080	7.3	8388	8.7	2470	6.3	3320	8.4	
Pheasants	4220	4.4	5493	5.7	1548	3.9	1987	5.0	
Ducks	2902	3.0	3766	3.9	1963	5.0	2367	6.0	
do. incl. sea	3160	3.3	4151	4.3	2484	6.3	2954	7.5	
Crows	5126	5.3	5571	5.8	1643	4.2	2078	5.3	
Magpies	4280	4.4	4633	4.8	1586	4.0	1740	4.4	
<i>Police district 42: Grenå</i>					<i>Police district 44: Randers</i>				
Hares	5629	6.9	6464	8.0	5764	5.2	6814	6.2	
Partridges	4873	6.0	5679	7.0	6036	5.5	7330	6.6	
Wood pigeons	6837	8.4	7538	9.3	7112	6.4	8912	8.1	
Pheasants	4883	6.0	6631	8.2	3386	3.1	4744	4.3	
Ducks	2291	2.8	2633	3.2	4911	4.4	5568	5.0	
do. incl. sea	2472	3.0	2874	3.5	7959	7.2	9388	8.5	
Crows	4909	6.0	4038	5.0	7502	6.8	7761	7.0	
Magpies	3729	4.6	3974	4.9	4520	4.1	4519	4.1	
<i>Police district 45: Hadsund</i>					<i>Police district 46: Hobro</i>				
Hares	4192	4.8	4614	5.3	3198	4.8	3489	5.2	
Partridges	3550	4.1	3924	4.5	3008	4.5	3660	5.4	
Wood pigeons	3070	3.5	3991	4.6	2605	3.9	2808	4.2	
Pheasants	1691	1.9	2377	2.7	1306	1.9	1749	2.6	
Ducks	3521	4.0	5433	6.2	2002	3.0	2116	3.1	
do. incl. sea	5488	6.3	7714	8.8	2190	3.3	2277	3.4	
Crows	3739	4.3	3801	4.3	2368	3.5	2529	3.8	
Magpies	2158	2.5	2740	3.1	2120	3.2	2494	3.7	

Game species	1956/57		1957/58		1956/57		1957/58	
	Bagged in home distr.	Numbers per 100 ha	Bagged in home distr.	Numbers per 100 ha	Bagged in home distr.	Numbers per 100 ha	Bagged in home distr.	Numbers per 100 ha
<i>Police district 47: Nibe</i>					<i>Police district 48: Ålborg</i>			
Hares	5592	5.4	6985	6.7	3069	8.2	4127	11.1
Partridges	5679	5.5	8409	8.1	3140	8.4	4148	11.1
Wood pigeons	4111	4.0	5028	4.9	2002	5.4	2467	6.6
Pheasants	1752	1.7	2285	2.2	870	2.3	1251	3.4
Ducks	2842	2.7	4270	4.1	2863	7.7	3155	8.5
do. incl. sea	3705	3.6	4993	4.8	3901	10.5	4271	11.5
Crows	3290	3.2	3924	3.8	1638	4.4	1655	4.4
Magpies	3450	3.3	4258	4.1	1464	3.9	1434	3.8
<i>Police district 49: Nr. Sundby</i>					<i>Police district 50: Sæby</i>			
Hares	4881	8.3	4915	8.3	2853	4.4	3333	5.2
Partridges	4842	8.2	5275	8.9	2803	4.3	4175	6.5
Wood pigeons	2519	4.3	2010	3.4	1739	2.7	2377	3.7
Pheasants	1738	2.9	1748	3.0	870	1.3	975	1.5
Ducks	4483	7.6	4257	7.2	1680	2.6	1904	3.0
do. incl. sea	6845	11.6	6568	11.1	1878	2.9	2226	3.5
Crows	1949	3.3	1456	2.5	1357	2.1	1409	2.2
Magpies	2620	4.4	2443	4.1	1717	2.7	1827	2.8
<i>Police district 51: Frederikshavn</i>					<i>Police district 52: Hjørring</i>			
Hares	3843	6.3	4151	6.8	6854	5.9	7173	6.2
Partridges	3773	6.2	4521	7.4	5510	4.8	6271	5.4
Wood pigeons	2856	4.7	2916	4.8	4108	3.6	4259	3.7
Pheasants	1001	1.6	1365	2.2	1940	1.7	2358	2.0
Ducks	2810	4.6	3300	5.4	3863	3.3	4221	3.7
do. incl. sea	3470	5.7	4095	6.7	3940	3.4	4324	3.7
Crows	2222	3.7	2043	3.4	2166	1.9	2835	2.5
Magpies	2049	3.4	2105	3.5	4022	3.5	4513	3.9
<i>Police district 53: Thisted</i>					<i>Police district 54: Hurup</i>			
Hares	5353	4.2	5448	4.3	3075	7.2	2966	7.0
Partridges	3230	2.6	3295	2.6	1731	4.1	1587	3.7
Wood pigeons	2771	2.2	2904	2.3	1145	2.7	1288	3.0
Pheasants	344	0.3	537	0.4	272	0.6	268	0.6
Ducks	7063	5.6	9128	7.2	3278	7.7	4275	10.1
do. incl. sea	7867	6.2	9868	7.8	3377	7.9	4373	10.3
Crows	1524	1.2	1354	1.1	708	1.7	736	1.7
Magpies	2663	2.1	2496	2.0	962	2.3	865	2.0

Game species	1956/57		1957/58		1956/57		1957/58	
	Bagged in home distr.	Numbers per 100 ha	Bagged in home distr.	Numbers per 100 ha	Bagged in home distr.	Numbers per 100 ha	Bagged in home distr.	Numbers per 100 ha
<i>Police district 55: Nykøbing M.</i>					<i>Police district 56: Skive</i>			
Hares	3422	9.6	4532	12.7	5191	7.1	6259	8.5
Partridges	697	1.9	885	2.5	4502	6.1	5194	7.1
Wood pigeons	1888	5.3	2213	6.2	4090	5.6	4699	6.4
Pheasants	1562	4.4	1848	5.2	2696	3.7	3068	4.2
Ducks	3084	8.6	4028	11.3	3351	4.6	4015	5.5
do. incl. sea	3263	9.1	4185	11.7	3678	5.0	4365	5.9
Crows	514	1.4	678	1.9	1795	2.4	1957	2.7
Magpies	1602	4.5	1863	5.2	3569	4.9	3734	5.1
<i>Police district 57: Viborg</i>					<i>Police district 59: Herning</i>			
Hares	7674	5.3	9452	6.6	9555	7.1	10790	8.0
Partridges	7237	5.0	8797	6.1	8803	6.5	11248	8.4
Wood pigeons	6289	4.4	7104	4.9	5565	4.1	7793	5.8
Pheasants	4027	2.8	5507	3.8	3398	2.5	4368	3.2
Ducks	6764	4.7	5929	4.1	3581	2.7	4611	3.4
do. incl. sea	7176	5.0	6245	4.3	4451	3.3	4760	3.5
Crows	6929	4.8	5929	4.1	4122	3.1	5080	3.8
Magpies	6340	4.4	7333	5.1	6652	4.9	6546	4.9
<i>Police district 60: Holstebro</i>					<i>Police district 61: Lemvig</i>			
Hares	6453	6.2	7486	7.2	2958	5.7	3224	6.2
Partridges	4674	4.5	5875	5.6	1856	3.5	2333	4.5
Wood pigeons	4357	4.2	5091	4.9	1708	3.3	1703	3.3
Pheasants	1311	1.3	1680	1.6	226	0.4	330	0.6
Ducks	5225	5.0	5914	5.7	4375	8.4	5838	11.2
do. incl. sea	7104	6.8	7164	6.8	5615	10.7	5838	11.2
Crows	4559	4.4	4367	4.2	1062	2.0	1135	2.2
Magpies	4091	3.9	4716	4.5	1313	2.5	1292	2.5
<i>Police district 62: Ringkøbing</i>					<i>Police district 63: Varde</i>			
Hares	8633	5.3	9730	5.9	7194	5.6	7968	6.2
Partridges	7816	4.8	10407	6.3	7232	5.6	9723	7.6
Wood pigeons	5170	3.2	5379	3.3	3878	3.0	4115	3.2
Pheasants	2261	1.4	2882	1.8	3539	2.8	4560	3.6
Ducks	10361	6.3	11830	7.2	4551	3.6	6110	4.8
do. incl. sea	14579	8.9	15718	9.6	5040	3.9	6497	5.1
Crows	5596	3.4	6052	3.7	3139	2.4	2971	2.3
Magpies	5028	3.1	5225	3.2	4228	3.3	4433	3.5

Game species	1956/57		1957/58		1956/57		1957/58		
	Bagged in home distr.	Numbers per 100 ha	Bagged in home distr.	Numbers per 100 ha	Bagged in home distr.	Numbers per 100 ha	Bagged in home distr.	Numbers per 100 ha	
<i>Police district 65: Ribe</i>					<i>Police district 66: Haderslev</i>				
Hares	8099	8.2	8980	9.1	5377	7.5	6603	9.3	
Partridges	8282	8.4	10948	11.1	2709	3.8	4208	5.9	
Wood pigeons	4090	4.2	4342	4.4	1319	1.9	1922	2.7	
Pheasants	2305	2.3	2782	2.8	722	1.0	1079	1.5	
Ducks	7518	7.6	10318	10.5	2548	3.6	3191	4.5	
do. incl. sea	8118	8.3	11068	11.3	3005	4.2	3616	5.1	
Crows	3650	3.7	3877	3.9	1535	2.2	1954	2.7	
Magpies	3409	3.5	3777	3.8	1090	1.5	1458	2.0	
<i>Police district 67: Tøftlund</i>					<i>Police district 68: Åbenrå</i>				
Hares	4338	6.4	4263	6.2	3727	8.1	3904	8.5	
Partridges	4281	6.3	5326	7.8	3709	8.1	4410	9.6	
Wood pigeons	1438	2.1	1326	1.9	934	2.0	1147	2.5	
Pheasants	277	0.4	341	0.5	123	0.3	183	0.4	
Ducks	1370	2.0	1736	2.5	1539	3.4	1745	3.8	
do. incl. sea	1403	2.1	1754	2.6	1639	3.6	1886	4.1	
Crows	1435	2.1	1441	2.1	890	1.9	748	1.6	
Magpies	1241	1.8	1152	1.7	520	1.1	519	1.1	
<i>Police district 69: Sønderborg</i>					<i>Police district 70: Gråsten</i>				
Hares	3718	9.8	4167	11.0	2491	7.6	2404	7.3	
Partridges	1783	4.7	2567	6.8	1572	4.8	1764	5.4	
Wood pigeons	1725	4.6	2350	6.2	900	2.7	920	2.8	
Pheasants	1521	4.0	1864	4.9	174	0.5	173	0.5	
Ducks	1516	4.0	2328	6.2	1615	4.9	1776	5.4	
do. incl. sea	1853	4.9	2795	7.4	1675	5.1	1800	5.5	
Crows	623	1.6	610	1.6	1018	3.1	849	2.6	
Magpies	583	1.5	722	1.9	492	1.5	485	1.5	
<i>Police district 71: Tønder</i>									
Hares	7672	7.0	7777	7.1					
Partridges	9253	8.5	10874	9.9					
Wood pigeons	2082	1.9	2553	2.3					
Pheasants	210	0.2	285	0.3					
Ducks	7723	7.1	13130	12.0					
do. incl. sea	7812	7.1	13130	12.0					
Crows	1908	1.7	2397	2.2					
Magpies	1535	1.4	1549	1.4					

Appendix 2. Bag per 100 ha in individual counties

Game species	1956/57		1957/58		1956/57		1957/58	
	Bag	Numbers per 100 ha	Bag	Numbers per 100 ha	Bag	Numbers per 100 ha	Bag	Numbers per 100 ha
<i>København county</i>				<i>Frederiksborg county</i>				
Roedeer	559	0.5	775	0.7	1021	0.8	1233	0.9
Squirrels	474	0.4	1576	1.4	1155	0.9	2067	1.6
Foxes	1357	1.2	1710	1.5	2141	1.6	2606	2.0
Woodcocks	374	0.3	450	0.4	884	0.7	697	0.5
Rooks	5211	4.7	5344	4.8	2636	2.0	3045	2.3
<i>Holbæk county</i>				<i>Sorø county</i>				
Roedeer	1085	0.6	1250	0.7	1536	1.1	1766	1.2
Squirrels	775	0.5	1148	0.7	772	0.5	769	0.5
Foxes	2602	1.5	2318	1.4	1165	0.8	1215	0.9
Woodcocks	915	0.5	1074	0.6	1350	0.9	1093	0.8
Rooks	13167	7.7	13055	7.7	7239	5.1	6829	4.8
<i>Præstø county</i>				<i>Bornholms county</i>				
Roedeer	1866	1.2	2288	1.4	397	0.7	743	1.3
Squirrels	113	0.1	117	0.1	530	1.0	376	0.7
Foxes	998	0.6	1017	0.6	625	1.1	695	1.3
Woodcocks	1440	0.9	1221	0.8	965	1.7	635	1.2
Rooks	6344	3.9	7784	4.8	6260	11.3	6656	12.0
<i>Maribo county</i>				<i>Svendborg county</i>				
Roedeer	1995	1.2	1986	1.2	1777	1.1	1955	1.2
Squirrels	932	0.2	813	0.5	718	0.4	861	0.5
Foxes	435	0.3	524	0.3	727	0.5	950	0.6
Woodcocks	1397	0.8	903	0.5	931	0.6	1069	0.7
Rooks	5118	3.0	5544	3.2	4426	2.7	4892	3.0
<i>Odense county</i>				<i>Vejle county</i>				
Roedeer	1168	0.7	1429	0.8	1557	0.7	1563	0.7
Squirrels	657	0.4	548	0.3	666	0.3	703	0.3
Foxes	817	0.5	869	0.5	2410	1.1	2712	1.2
Woodcocks	866	0.5	937	0.5	819	0.4	867	0.4
Rooks	3279	1.9	3852	2.2	2015	0.9	1804	0.8

Game species	1956/57		1957/58		1956/57		1957/58		
	Bag	Numbers per 100 ha	Bag	Numbers per 100 ha	Bag	Numbers per 100 ha	Bag	Numbers per 100 ha	
<i>Skanderborg county</i>					<i>Århus county</i>				
Roedeer	1049	0.6	1143	0.7	355	0.5	506	0.6	
Squirrels	1192	0.7	1131	0.7	640	0.8	577	0.7	
Foxes	1892	1.1	2335	1.4	915	1.2	1075	1.4	
Woodcocks	528	0.3	522	0.3	331	0.4	285	0.4	
Rooks	3814	2.3	4099	2.5	3789	4.8	3654	4.7	
<i>Randers county</i>					<i>Ålborg county</i>				
Roedeer	1650	0.7	1880	0.8	1025	0.4	1179	0.4	
Squirrels	2189	0.9	1984	0.8	1811	0.6	1879	0.7	
Foxes	3483	1.5	3589	1.5	2974	1.0	3441	1.2	
Woodcocks	1674	0.7	1199	0.5	1780	0.6	1134	0.4	
Rooks	6364	2.7	6735	2.8	3099	1.1	4599	1.6	
<i>Hjørring county</i>					<i>Thisted county</i>				
Roedeer	938	0.3	1038	0.4	305	0.2	349	0.2	
Squirrels									
Foxes	2964	1.1	3137	1.1	1278	0.7	1297	0.7	
Woodcocks	3148	1.1	2125	0.8	1595	0.9	1298	0.7	
Rooks	101		75		226	0.1	152	0.1	
<i>Viborg county</i>					<i>Ringkøbing county</i>				
Roedeer	1018	0.3	1035	0.4	1163	0.3	1274	0.3	
Squirrels	3430	1.2	2612	0.9	1865	0.4	1475	0.3	
Foxes	3676	1.2	3618	1.2	4390	1.0	4713	1.0	
Woodcocks	858	0.3	749	0.3	1801	0.4	2146	0.5	
Rooks	3098	1.0	3648	1.2	708	0.2	941	0.2	
<i>Ribe county</i>					<i>Haderslev county</i>				
Roedeer	917	0.3	1167	0.4	1145	0.9	1274	1.0	
Squirrels	408	0.1	359	0.1					
Foxes	2613	0.9	2939	1.0	1220	0.9	1435	1.1	
Woodcocks	2067	0.7	2793	0.9	216	0.2	314	0.2	
Rooks	117		85		1592	1.2	1222	0.9	
<i>Åbenrå-Sønderborg counties</i>					<i>Tønder county</i>				
Roedeer	1001	0.8	1180	1.0	539	0.4	526	0.4	
Squirrels									
Foxes	1102	0.9	1282	1.1	1274	1.0	1623	1.2	
Woodcocks	202	0.2	327	0.3	350	0.3	449	0.3	
Rooks	1166	1.0	1074	0.9	480	0.4	807	0.6	

Appendix 3. Bag per 100 ha in individual countries

Game species	1956/57		1957/58		1956/57		1957/58	
	Bag	Numbers per 100 ha	Bag	Numbers per 100 ha	Bag	Numbers per 100 ha	Bag	Numbers per 100 ha
<i>København county</i>				<i>Frederiksborg county</i>				
Badgers	58	0.5	60	0.5	133	1.0	152	1.1
Polecats	86	0.8	123	1.1	59	0.4	81	0.6
Stoats	72	0.6	140	1.3	44	0.3	107	0.8
<i>Holbæk county</i>				<i>Soro county</i>				
Badgers	114	0.8	103	0.6	81	0.6	66	0.5
Polecats	381	2.2	342	2.0	389	2.7	323	2.3
Stoats	382	2.2	658	3.9	403	2.8	484	3.4
<i>Præsto county</i>				<i>Bornholms county</i>				
Badgers	45	0.3	81	0.5				
Polecats	171	1.1	437	2.7				
Stoats	344	2.1	481	3.0				
<i>Maribo county</i>				<i>Svendborg county</i>				
Badgers	118	0.7	84	0.5	46	0.3	36	0.2
Polecats	14	0.1	22	0.1	286	1.8	334	2.1
Stoats	365	2.1	446	2.6	307	1.9	529	3.3
<i>Odense county</i>				<i>Vejle county</i>				
Badgers	55	0.3	55	0.3	362	1.6	255	1.1
Polecats	493	2.8	518	3.0	338	1.5	298	1.3
Stoats	263	1.5	441	2.5	86	0.4	165	0.7
<i>Skanderborg county</i>				<i>Århus county</i>				
Badgers	241	1.4	220	1.3	93	1.2	106	1.4
Polecats	118	0.7	151	0.9	57	0.7	112	1.4
Stoats	113	0.7	137	0.8	46	0.6	89	1.1

Game species	1956/57		1957/58		1956/57		1957/58	
	Bag	Numbers per 100 ha	Bag	Numbers per 100 ha	Bag	Numbers per 100 ha	Bag	Numbers per 100 ha

Randers county

Badgers	261	1.1	260	1.1
Polecats	237	1.0	175	0.7
Stoats	361	1.5	443	1.8

Ålborg county

257	0.9	219	0.8
224	0.8	220	0.8
286	1.0	328	1.1

Hjørring county

Badgers	151	0.5	161	0.6
Polecats	249	0.9	211	0.8
Stoats	221	0.8	251	0.9

Thisted county

20	0.1	27	0.2
69	0.4	70	0.4
73	0.4	43	0.2

Viborg county

Badgers	400	1.3	286	1.0
Polecats	295	1.0	238	0.8
Stoats	229	0.8	376	1.3

Ringkøbing county

312	0.7	239	0.5
310	0.7	280	0.6
382	0.8	140	0.3

Ribe amt

Badgers	225	0.8	199	0.7
Polecats	309	1.0	273	0.9
Stoats	176	0.6	305	1.0

Haderslev county

177	1.3	171	1.3
78	0.6	71	0.5
44	0.3	68	0.5

Åbenrå-Sønderborg counties

Badgers	139	1.2	132	1.1
Polecats	93	0.8	100	0.8
Stoats	44	0.4	98	0.8

Tønder county

51	0.4	77	0.6
90	0.7	54	0.4
84	0.6	214	1.6

Appendix 4. Bag, total and per 100 ha (police districts)

Police district	1956/57		1957/58	
	Total bag in home district	Numbers per 100 ha	Total bag in home district	Numbers per 100 ha
3. Sdr. Birk	23882	67.9	29505	83.9
4. Roskilde	32882	60.4	38993	71.6
5. Køge	42900	68.3	50539	80.4
6. Helsingør	11899	39.3	19532	64.5
7. Hillerød	20950	34.1	23705	38.6
8. Frederikssund	22296	56.1	29192	73.4
9. Holbæk	63033	72.0	73624	84.1
10. Kalundborg	34968	68.1	39351	76.7
11. Slagelse	47091	89.7	52406	99.8
12. Skelskør	42663	136.7	50481	161.7
13. Ringsted	42134	65.9	49928	78.1
14. Næstved	29567	73.6	40402	100.5
15. St. Heddinge	18047	66.2	21269	78.0
16. Præstø	20837	95.5	23304	106.8
17. Vordingborg	41795	90.6	48732	105.6
18. Bornholm	31399	56.7	33472	60.4
19. Nykøbing F.	42527	82.6	51725	100.4
20. Saksøbing	28721	75.3	30022	78.7
21. Rødby	33179	86.7	36102	94.4
22. Nakskov	40598	88.2	42640	92.7
23. Nyborg	23334	88.8	26626	101.3
24. Svendborg	44500	87.5	49618	97.6
25. Rudkøbing	25435	68.0	31224	83.5
26. Fåborg	28506	59.4	34825	72.5
28. Odense herred	25909	79.2	29454	90.1
29. Kerteminde	18585	64.2	23289	80.5
30. Bogense	33993	70.7	46985	97.8
31. Assens	25933	73.0	32430	91.2
32. Middelfart	23145	78.0	29220	98.5
33. Fredericia	14448	61.2	14709	62.3
34. Kolding	41392	35.8	49240	42.6
35. Vejle	49346	39.4	56215	44.9
36. Horsens	51257	37.4	57073	41.7
38. Silkeborg	28003	34.7	30680	38.0
39. Hasle herred	40966	42.4	48755	50.5
40. Odder	16805	42.5	20374	51.6
42. Grenå	40123	49.4	44136	54.4
44. Randers	50252	45.4	56223	50.8
45. Hadsund	29285	33.5	36026	41.2
46. Hobro	20283	30.2	22233	33.1

Police district	1956/57		1957/58	
	Total bag in home district	Numbers per 100 ha	Total bag in home district	Numbers per 100 ha
47. Nibe	32845	31.7	42575	41.1
48. Ålborg	20216	54.2	24589	66.0
49. Nr. Sundby	28958	49.1	27267	46.2
50. Sæby	15540	24.1	19223	29.8
51. Frederikshavn	25925	42.7	27951	46.0
52. Hjørring	34827	30.2	38321	33.2
53. Thisted	29037	23.0	31880	25.3
54. Hurup	14951	35.2	16428	38.6
55. Nykøbing M.	15319	42.8	19278	53.9
56. Skive	30235	41.2	34028	46.3
57. Viborg	56923	39.5	61382	42.6
59. Herning	47954	35.6	57855	43.0
60. Holstebro	39229	37.5	44553	42.6
61. Lemvig	18094	34.6	21516	41.1
62. Ringkøbing	57216	34.9	65354	39.8
63. Varde	40668	31.7	48742	38.0
65. Ribe	47510	48.3	55763	56.7
66. Haderslev	19306	27.1	24441	34.3
67. Toftlund	16697	24.5	17840	26.1
68. Åbenrå	13551	29.5	14728	32.1
69. Sønderborg	13928	36.8	17146	45.3
70. Gråsten	10735	32.7	11383	34.7
71. Tønder	38162	34.9	49620	45.4

Appendix 5. Bag per sportsman
(the police districts indicate home district of sportsman)

Game species	1956/57		1957/58		1956/57		1957/58	
	Total bag	Bag per sportsman	Total bag	Bag per sportsman	Total bag	Bag per sportsman	Total bag	Bag per sportsman
<i>København police district</i>					<i>Police district 2: Ndr. Birk</i>			
Roedeer	658	0.3	631	0.3	979	0.7	1187	0.9
Hares	7922	3.4	8197	3.6	6794	5.1	8082	5.8
Foxes	458	0.2	514	0.2	481	0.4	470	0.3
Partridges	3586	1.5	4026	1.8	2522	1.9	3108	2.2
Wood pigeons	7491	3.2	7979	3.5	5878	4.4	7356	5.3
Pheasants	11454	4.9	13393	5.9	11979	9.1	17186	12.4
Surface ducks	8559	3.7	8751	3.8	5648	4.3	5458	3.9
Diving ducks	5152	2.2	8400	3.7	801	0.6	1139	0.8
Oth. swim. birds	8499	3.7	10523	4.6	1853	1.4	1464	1.1
Waders	3289	1.4	3152	1.4	1842	1.4	1940	1.4
Crows	2431	1.0	2405	1.1	1322	1.0	1434	1.0
Magpies	1657	0.7	1792	0.8	1431	1.1	1880	1.4
Others	6486	2.8	6082	2.7	4013	3.0	4962	3.6
Total	67642	29.2	75845	33.1	45543	34.5	55666	40.2

<i>Police district 1: Frederiksberg</i>					<i>Police district 3: Sdr. Birk</i>			
Roedeer	244	0.5	308	0.6	205	0.1	221	0.2
Hares	1713	3.3	2559	5.0	4211	3.0	5130	3.6
Foxes	74	0.1	114	0.2	438	0.3	548	0.4
Partridges	832	1.6	1422	2.8	3011	2.1	3510	2.5
Wood pigeons	1514	2.9	2092	4.1	5430	3.8	7807	5.5
Pheasants	2756	5.4	4534	8.8	4017	2.8	5587	3.9
Surface ducks	1359	2.6	1547	3.0	7170	5.1	8559	6.0
Diving ducks	661	1.3	1002	1.9	2917	2.1	5222	3.7
Oth. swim. birds	694	1.4	648	1.3	4691	3.3	5050	3.6
Waders	387	0.8	460	0.9	2242	1.6	2289	1.6
Crows	283	0.6	892	1.7	2371	1.7	2138	1.5
Magpies	295	0.6	455	0.9	2207	1.6	2578	1.8
Others	1237	2.4	1827	3.6	2238	1.6	1614	1.1
Total	12049	23.4	17860	34.7	41148	29.0	50253	35.4

Game species	1956/57		1957/58		1956/57		1957/58	
	Total bag	Bag per sportsman	Total bag	Bag per sportsman	Total bag	Bag per sportsman	Total bag	Bag per sportsman

Police district 4: Roskilde

Roedeer	294	0.2	363	0.2	317	0.4	422	0.5
Hares	5323	3.4	6886	4.4	1711	2.0	2146	2.4
Foxes	628	0.4	743	0.5	644	0.7	789	0.9
Partridges	3550	2.3	4412	2.8	748	0.9	960	1.1
Wood pigeons	4522	2.8	6497	4.1	2725	3.1	4012	4.5
Pheasants	5111	3.2	7666	4.9	2084	2.4	2495	2.8
Surface ducks	4729	3.0	6043	3.8	2243	2.6	3232	3.6
Diving ducks	1845	1.2	2733	1.7	952	1.1	1873	2.1
Oth. swim. birds	2335	1.5	1924	1.2	1544	1.8	1970	2.2
Waders	1382	0.9	1485	0.9	390	0.4	609	0.7
Crows	3336	2.1	3467	2.2	1550	1.8	4493	5.1
Magpies	2440	1.5	2784	1.8	1715	2.0	2407	2.7
Others	3048	1.9	3722	2.4	941	1.1	1526	1.7
Total	38543	24.3	48725	30.9	17564	20.2	26934	30.4

Police district 6: Helsingør

Police district 5: Køge

Roedeer	556	0.3	667	0.4	407	0.3	550	0.5
Hares	8493	5.2	10219	6.1	2387	2.0	2805	2.3
Foxes	371	0.2	450	0.3	762	0.6	935	0.8
Partridges	3340	2.0	4051	2.4	1622	1.3	1940	1.6
Wood pigeons	6541	4.0	8119	4.9	3085	2.6	4018	3.3
Pheasants	9599	5.9	13271	7.9	2321	2.0	2920	2.4
Surface ducks	5595	3.4	6129	3.7	2398	2.0	3328	2.7
Diving ducks	2688	1.6	4240	2.5	754	0.6	843	0.7
Oth. swim. birds	2451	1.5	1732	1.0	1571	1.3	1404	1.2
Waders	2222	1.4	1754	1.0	939	0.8	806	0.7
Crows	2645	1.6	2427	1.5	3370	2.8	3099	2.5
Magpies	2587	1.6	2665	1.6	2925	2.4	3463	2.8
Others	2316	1.4	3197	1.9	1488	1.2	1612	1.3
Total	49404	30.3	58921	35.2	24029	19.8	27723	22.8

Police district 7: Hillerød

Game species	1956/57		1957/58		1956/57		1957/58	
	Total bag	Bag per sportsman	Total bag	Bag per sportsman	Total bag	Bag per sportsman	Total bag	Bag per sportsman

Police district 8: Frederikssund

Police district 10: Kalundborg

Roedeer	310	0.3	350	0.3	104	0.1	98	0.1
Hares	3068	2.5	3855	3.2	6024	3.6	6309	4.0
Foxes	578	0.5	782	0.7	824	0.5	481	0.3
Partridges	1793	1.5	2017	1.7	3841	2.3	4277	2.6
Wood pigeons	3602	3.0	4903	4.1	4539	2.7	6218	3.7
Pheasants	4311	3.6	5520	4.6	6038	3.6	7909	4.7
Surface ducks	5849	4.8	7385	6.2	6353	3.8	6354	3.8
Diving ducks	5839	4.8	8316	7.0	10573	6.4	16462	9.9
Oth. swim. birds	3331	2.8	2865	2.4	2760	1.7	3177	1.9
Waders	1963	1.6	2095	1.8	2407	1.4	2496	1.5
Crows	2432	2.0	3291	2.8	1653	1.0	1735	1.0
Magpies	1897	1.6	2473	2.1	1249	0.8	1354	0.8
Others	1335	1.1	1975	1.7	2194	1.3	2553	1.5
Total	36308	30.0	45827	38.3	48559	29.2	59423	35.6

Police district 9: Holbæk

Police district 11: Slagelse

Roedeer	468	0.2	562	0.2	334	0.2	321	0.2
Hares	9232	3.9	11153	4.6	8476	5.6	9809	6.5
Foxes	1343	0.6	1356	0.6	507	0.3	475	0.3
Partridges	4941	2.1	5470	2.3	3838	2.5	4373	2.9
Wood pigeons	10086	4.3	12016	5.0	6216	4.1	7596	5.0
Pheasants	12879	5.5	16429	6.8	9942	6.5	12387	8.2
Surface ducks	6514	2.8	8531	3.5	6309	4.1	6150	4.1
Diving ducks	4103	1.7	5090	2.1	1127	0.7	873	0.6
Oth. swim. birds	1924	0.8	2589	1.1	2219	1.5	2515	1.7
Waders	1945	0.8	2407	1.0	2855	1.9	2816	1.9
Crows	4353	1.8	4342	1.8	2684	1.8	2794	1.9
Magpies	6051	2.6	6230	2.6	2266	1.5	2890	1.9
Others	7432	3.2	7981	3.3	3202	2.1	2920	1.9
Total	71271	30.3	84156	34.8	49975	32.7	55919	37.1

Game species	1956/57		1957/58		1956/57		1957/58	
	Total bag	Bag per sportsman	Total bag	Bag per sportsman	Total bag	Bag per sportsman	Total bag	Bag per sportsman

Police district 12: Skelskør

Roedeer	236	0.2	363	0.3	313	0.2	478	0.3
Hares	8053	5.7	9885	6.9	4803	3.3	7365	5.1
Foxes	188	0.1	176	0.1	294	0.2	340	0.2
Partridges	3796	2.7	4667	3.3	2830	1.9	3595	2.5
Wood pigeons	7015	4.9	7391	5.2	5208	3.6	7595	5.3
Pheasants	10859	7.6	14081	9.8	7608	5.2	11841	8.2
Surface ducks	6734	4.7	7251	5.1	5109	3.5	6961	4.8
Diving ducks	4219	3.0	5561	3.9	1453	1.0	1956	1.4
Oth. swim. birds	3735	2.6	5095	3.6	2625	1.8	1465	1.0
Waders	2702	1.9	2749	1.9	1819	1.2	1703	1.2
Crows	2445	1.7	2274	1.6	1616	1.1	1550	1.1
Magpies	825	0.6	906	0.6	1587	1.1	1640	1.1
Others	1179	0.8	1134	0.8	1385	0.9	1386	1.0
Total	51986	36.5	61533	42.9	36650	24.9	47875	33.1

Police district 14: Næstved

Police district 13: Ringsted

Roedeer	572	0.4	561	0.4	293	0.4	385	0.5
Hares	6603	4.3	7521	4.7	3777	4.8	4757	6.2
Foxes	544	0.4	586	0.4	206	0.3	176	0.2
Partridges	2415	1.6	2952	1.9	2022	2.6	2318	3.0
Wood pigeons	6472	4.2	8488	5.4	2796	3.6	3456	4.5
Pheasants	9633	6.2	12984	8.2	2867	3.6	4100	5.4
Surface ducks	4211	2.7	5343	3.4	2260	2.9	2457	3.2
Diving ducks	243	0.2	464	0.3	1739	2.2	2338	3.1
Oth. swim. birds	1457	0.9	1160	0.7	575	0.7	648	0.8
Waders	1373	0.9	1366	0.9	487	0.6	540	0.7
Crows	3443	2.2	3227	2.0	798	1.0	894	1.2
Magpies	2796	1.8	3107	2.0	1200	1.5	921	1.2
Others	4553	2.9	4930	3.1	2038	2.6	1877	2.5
Total	44315	28.6	52689	33.3	21058	26.8	24867	32.5

Police district 15: St. Heddinge

Game species	1956/57		1957/58		1956/57		1957/58	
	Total bag	Bag per sportsman	Total bag	Bag per sportsman	Total bag	Bag per sportsman	Total bag	Bag per sportsman

Police district 16: Præsto

Police district 18: Bornholm

Roedeer	308	0.4	308	0.4	392	0.2	740	0.4
Hares	3897	5.1	4518	6.0	3231	1.8	3849	2.1
Foxes	123	0.2	107	0.1	616	0.3	693	0.4
Partridges	2123	2.8	2185	2.9	1348	0.8	1180	0.7
Wood pigeons	3143	4.1	3592	4.7	4759	2.7	5248	2.9
Pheasants	5561	7.2	6654	8.8	6441	3.6	7229	4.0
Surface ducks	3761	4.9	4579	6.0	2806	1.6	2361	1.3
Diving ducks	1591	2.1	2146	2.8	2347	1.3	3751	2.1
Oth. swim. birds	537	0.7	555	0.7	807	0.5	760	0.4
Waders	655	0.9	568	0.8	1048	0.6	704	0.4
Crows	854	1.1	919	1.2	1203	0.7	1279	0.7
Magpies	821	1.1	748	1.0	2905	1.6	3123	1.7
Others	2762	3.6	3204	4.2	6831	3.8	7021	3.9
Total	26136	34.0	30083	39.7	34734	19.5	37938	21.2

Police district 17: Vordingborg

Police district 19: Nykøbing F.

Roedeer	319	0.2	413	0.2	493	0.2	476	0.2
Hares	9420	5.0	10478	5.4	10687	5.1	13590	6.5
Foxes	141	0.1	206	0.1	186	0.1	197	0.1
Partridges	3792	2.0	4444	2.3	3842	1.8	4420	2.1
Wood pigeons	6441	3.4	7860	4.1	5106	2.5	6081	2.9
Pheasants	11415	6.1	13859	7.2	9609	4.6	12639	6.1
Surface ducks	7572	4.0	9281	4.8	7847	3.8	9445	4.5
Diving ducks	2416	1.3	3972	2.1	3665	1.8	6414	3.1
Oth. swim. birds	2251	1.2	2363	1.2	1729	0.8	2102	1.0
Waders	1954	1.0	1570	0.8	1257	0.6	1300	0.6
Crows	1639	0.9	1614	0.8	3437	1.7	3429	1.6
Magpies	1526	0.8	1584	0.8	838	0.4	901	0.4
Others	1605	0.9	2299	1.2	1544	0.7	2104	1.0
Total	50491	27.0	59943	31.1	50240	24.1	63098	30.2

Game species	1956/57		1957/58		1956/57		1957/58	
	Total bag	Bag per sportsman	Total bag	Bag per sportsman	Total bag	Bag per sportsman	Total bag	Bag per sportsman

Police district 20: Sakskøbing

Police district 22: Nakskov

Roedeer	519	0.4	555	0.4	459	0.3	370	0.3
Hares	7576	5.9	7167	5.5	10372	7.2	10799	7.5
Foxes	109	0.1	131	0.1	54	0.0	71	0.1
Partridges	1808	1.4	1956	1.5	3526	2.4	3619	2.5
Wood pigeons	2705	2.1	3256	2.5	3231	2.2	3644	2.5
Pheasants	7138	5.5	8456	6.5	9967	6.9	10706	7.4
Surface ducks	5372	4.2	6234	4.8	8230	5.7	9694	6.7
Diving ducks	1108	0.9	2147	1.7	1448	1.0	1759	1.2
Oth. swim. birds	822	0.6	756	0.6	1425	1.0	1497	1.0
Waders	992	0.8	850	0.7	1396	1.0	1375	1.0
Crows	1512	1.2	1302	1.0	2608	1.8	2177	1.5
Magpies	424	0.3	392	0.3	354	0.2	344	0.2
Others	1577	1.2	1540	1.2	2497	1.7	1743	1.2
Total	31662	24.5	34742	26.8	45567	31.4	47798	33.1

Police district 21: Rødby

Police district 23: Nyborg

Roedeer	245	0.2	300	0.2	291	0.3	284	0.3
Hares	9484	7.3	9170	7.1	4480	4.6	4812	4.9
Foxes	56	0.0	78	0.1	113	0.1	128	0.1
Partridges	3267	2.5	3046	2.4	1655	1.7	1756	1.8
Wood pigeons	3060	2.4	3096	2.4	3856	4.0	4698	4.8
Pheasants	9692	7.5	10128	7.8	6794	7.0	9408	9.6
Surface ducks	4879	3.8	7202	5.6	2642	2.7	2659	2.7
Diving ducks	978	0.8	1291	1.0	1040	1.1	1730	1.8
Oth. swim. birds	787	0.6	690	0.5	1385	1.4	1622	1.7
Waders	630	0.5	815	0.6	589	0.6	628	0.6
Crows	2091	1.6	1552	1.2	1462	1.5	1404	1.4
Magpies	523	0.4	551	0.4	1071	1.1	993	1.0
Others	1004	0.8	1674	1.3	1332	1.4	1373	1.4
Total	36696	28.4	39593	30.6	26710	27.4	31495	32.0

Game species	1956/57		1957/58		1956/57		1957/58	
	Total bag	Bag per sportsman	Total bag	Bag per sportsman	Total bag	Bag per sportsman	Total bag	Bag per sportsman
<i>Police district 24: Svendborg</i>				<i>Police district 26: Fåborg</i>				
Roedeer	712	0.3	681	0.3	353	0.2	443	0.3
Hares	9147	4.5	9661	4.8	5007	3.1	5774	3.5
Foxes	168	0.1	177	0.1	269	0.2	359	0.2
Partridges	2926	1.4	3120	1.6	1999	1.3	2373	1.5
Wood pigeons	7145	3.5	8267	4.1	4716	3.0	5388	3.3
Pheasants	13518	6.6	16773	8.3	8901	5.6	11456	7.0
Surface ducks	5243	2.6	6024	3.0	3236	2.0	4334	2.7
Diving ducks	3108	1.5	3549	1.8	5469	3.4	9957	6.1
Oth. swim. birds	2087	1.0	2322	1.2	1405	0.9	1654	1.0
Waders	1254	0.6	1133	0.6	819	0.5	1232	0.8
Crows	2162	1.1	2112	1.0	1220	0.8	1864	1.1
Magpies	1235	0.6	1368	0.7	784	0.5	1041	0.6
Others	2415	1.2	2191	1.1	2036	1.3	2245	1.4
Total	51120	25.1	57378	28.5	36214	22.8	48120	29.5

<i>Police district 25: Rudkøbing</i>				<i>Police district 27: Odense</i>				
Roedeer	236	0.1	332	0.2	323	0.3	257	0.2
Hares	5132	3.2	6356	3.9	3537	3.2	3906	3.6
Foxes	170	0.1	247	0.2	64	0.1	96	0.1
Partridges	2671	1.6	2951	1.8	1966	1.8	2377	2.2
Wood pigeons	3208	2.0	4070	2.5	2935	2.6	4368	4.0
Pheasants	5597	3.4	7977	4.9	5126	4.6	7300	6.7
Surface ducks	4784	2.9	4802	2.9	3877	3.5	4833	4.5
Diving ducks	5899	3.6	8151	5.0	3174	2.8	3172	2.9
Oth. swim. birds	1160	0.7	1364	0.8	2148	1.9	2002	1.8
Waders	886	0.5	757	0.5	2412	2.2	2542	2.3
Crows	2343	1.4	2649	1.6	1502	1.3	2098	1.9
Magpies	189	0.1	470	0.3	288	0.3	453	0.4
Others	806	0.5	1140	0.7	996	0.9	1305	1.2
Total	33081	20.4	41266	25.2	28348	25.4	34709	32.0

Game species	1956/57		1957/58		1956/57		1957/58	
	Total bag	Bag per sportsman	Total bag	Bag per sportsman	Total bag	Bag per sportsman	Total bag	Bag per sportsman

Police district 28: Odense herred

Police district 30: Bogense

Roedeer	206	0.2	245	0.2	178	0.1	321	0.2
Hares	3671	3.0	4401	3.6	5743	3.2	7726	4.3
Foxes	166	0.1	166	0.1	218	0.1	273	0.2
Partridges	2643	2.1	3014	2.4	5395	3.0	6805	3.8
Wood pigeons	4053	3.3	4836	3.9	5258	2.9	7610	4.2
Pheasants	7323	5.9	8831	7.2	7691	4.3	11018	6.1
Surface ducks	2459	2.0	2737	2.2	5023	2.8	7818	4.3
Diving ducks	366	0.3	303	0.2	1219	0.7	1470	0.8
Oth. swim. birds	979	0.8	759	0.6	1662	0.9	2237	1.2
Waders	816	0.7	962	0.8	1986	1.1	2928	1.6
Crows	1864	1.5	1942	1.6	2475	1.4	2749	1.5
Magpies	1695	1.4	1614	1.3	1603	0.9	2033	1.1
Others	1861	1.5	2436	2.0	524	0.3	645	0.4
Total	28102	22.7	32246	26.1	38975	21.8	53633	29.8

Police district 29: Kerteminde

Police district 31: Assens

Roedeer	175	0.2	290	0.3	272	0.2	326	0.2
Hares	3425	3.5	4291	4.2	4511	3.4	5388	4.0
Foxes	94	0.1	118	0.1	172	0.1	172	0.1
Partridges	2671	2.8	3263	3.2	2200	1.7	2560	1.9
Wood pigeons	2610	2.7	3841	3.8	3755	2.8	4746	3.5
Pheasants	4692	4.8	6010	5.9	7685	5.8	10484	7.8
Surface ducks	4072	4.2	5329	5.2	3814	2.9	4831	3.6
Diving ducks	2970	3.1	4070	4.0	8798	6.7	6842	5.1
Oth. swim. birds	1484	1.5	1743	1.7	1748	1.3	1836	1.4
Waders	1428	1.5	1646	1.6	986	0.7	969	0.7
Crows	1041	1.1	1113	1.1	1655	1.3	1361	1.0
Magpies	450	0.5	617	0.6	1162	0.9	1238	0.9
Others	625	0.6	1400	1.4	1098	0.8	1888	1.4
Total	25737	26.6	33731	33.1	37856	28.7	42641	31.8

Game species	1956/57		1957/58		1956/57		1957/58	
	Total bag	Bag per sportsman	Total bag	Bag per sportsman	Total bag	Bag per sportsman	Total bag	Bag per sportsman
<i>Police district 32: Middelfart</i>								
Roedeer	147	0.1	188	0.2	732	0.3	833	0.3
Hares	4116	3.7	5170	4.6	8280	3.3	9493	3.8
Foxes	149	0.1	168	0.1	1135	0.4	1424	0.6
Partridges	1956	1.8	2511	2.2	6128	2.4	8922	3.6
Wood pigeons	3383	3.0	4095	3.6	4130	1.6	5174	2.1
Pheasants	6272	5.6	8114	7.2	3520	1.4	4636	1.9
Surface ducks	2902	2.6	3185	2.8	4117	1.6	4569	1.8
Diving ducks	1876	1.7	1910	1.7	1338	0.5	1548	0.6
Oth. swim. birds	1288	1.2	1464	1.3	2441	1.0	2478	1.0
Waders	553	0.5	738	0.7	2453	1.0	2859	1.1
Crows	1750	1.6	1925	1.7	5160	2.0	5303	2.1
Magpies	1450	1.3	1549	1.4	5026	2.0	5579	2.2
Others	641	0.6	664	0.6	2010	0.8	2152	0.9
Total	26483	23.8	31681	28.1	46470	18.3	54970	22.0

Police district 34: Kolding

<i>Police district 33: Fredericia</i>								
Roedeer	299	0.3	258	0.3	614	0.2	641	0.2
Hares	2487	2.5	2505	2.7	8781	3.2	10414	3.8
Foxes	330	0.3	390	0.4	1222	0.4	1350	0.5
Partridges	1354	1.4	1764	1.9	8876	3.3	11004	4.0
Wood pigeons	1716	1.7	2199	2.3	7227	2.7	6498	2.4
Pheasants	1533	1.5	1849	2.0	4974	1.8	5923	2.1
Surface ducks	2488	2.5	2510	2.7	4242	1.6	4223	1.5
Diving ducks	4625	4.7	5140	5.5	1748	0.6	2201	0.8
Oth. swim. birds	2188	2.2	2007	2.1	2354	0.9	3455	1.3
Waders	1615	1.6	1884	2.0	2516	0.9	3051	1.1
Crows	2180	2.2	1953	2.1	5512	2.0	6091	2.2
Magpies	1779	1.8	1698	1.8	6402	2.3	7266	2.6
Others	527	0.5	501	0.5	2263	0.8	2301	0.8
Total	23121	23.4	24658	26.2	56731	20.8	64418	23.3

Police district 35: Vejle

Game species	1956/57		1957/58		1956/57		1957/58	
	Total bag	Bag per sportsman	Total bag	Bag per sportsman	Total bag	Bag per sportsman	Total bag	Bag per sportsman

Police district 36: Horsens

Roedeer	933	0.3	1025	0.4	479	0.3	569	0.3
Hares	8607	2.9	9872	3.4	6089	3.3	6919	3.7
Foxes	1345	0.5	1488	0.5	1090	0.6	1379	0.7
Partridges	6031	2.0	7286	2.5	3997	2.2	5029	2.7
Wood pigeons	6139	2.1	7340	2.5	7233	4.0	8511	4.5
Pheasants	4116	1.4	5740	2.0	4508	2.5	5673	3.0
Surface ducks	5771	2.0	6620	2.3	3342	1.8	4323	2.3
Diving ducks	5085	1.7	6239	2.1	3053	1.7	3169	1.7
Oth. swim. birds	1929	0.7	2098	0.7	1224	0.7	2038	1.1
Waders	2808	1.0	3307	1.1	1923	1.1	2356	1.3
Crows	5748	2.0	6416	2.2	5252	2.9	5604	3.0
Magpies	5092	1.7	5221	1.8	4331	2.4	4648	2.5
Others	7531	2.6	6648	2.3	4180	2.3	4333	2.3
Total	61135	20.8	69300	23.7	46701	25.5	54551	29.0

Police district 39: Hasle

Police district 38: Silkeborg

Roedeer	451	0.3	500	0.3	200	0.2	226	0.2
Hares	4219	2.3	4536	2.5	2708	2.8	3184	3.2
Foxes	987	0.5	1264	0.7	429	0.4	411	0.4
Partridges	2961	1.6	3762	2.1	2018	2.1	2299	2.3
Wood pigeons	4665	2.6	4633	2.5	2594	2.7	3605	3.7
Pheasants	1882	1.0	2236	1.2	1803	1.9	2321	2.4
Surface ducks	3538	2.0	3877	2.1	2642	2.7	3063	3.1
Diving ducks	827	0.5	1345	0.7	2399	2.5	3273	3.3
Oth. swim. birds	1259	0.7	1012	0.6	895	0.9	802	0.8
Waders	1093	0.6	1118	0.6	1036	1.1	969	1.0
Crows	3162	1.8	3290	1.8	1712	1.8	2149	2.2
Magpies	3028	1.7	3508	1.9	1640	1.7	1793	1.8
Others	2850	1.6	2998	1.6	2382	2.5	2606	2.6
Total	30922	17.2	34079	18.6	22458	23.3	26701	27.1

Police district 40: Odder

Game species	1956/57		1957/58		1956/57		1957/58	
	Total bag	Bag per sportsman	Total bag	Bag per sportsman	Total bag	Bag per sportsman	Total bag	Bag per sportsman

Police district 41: Århus

Police district 44: Randers

Roedeer	210	0.3	223	0.3	519	0.2	585	0.3
Hares	1594	2.3	1884	2.8	5977	2.6	7193	3.1
Foxes	239	0.3	285	0.4	1659	0.7	1621	0.7
Partridges	1129	1.6	1445	2.2	6209	2.7	7525	3.2
Wood pigeons	2141	3.1	2472	3.7	7216	3.1	9121	3.9
Pheasants	1333	1.9	1745	2.6	3599	1.6	5028	2.2
Surface ducks	1070	1.5	1284	1.9	8193	3.6	9572	4.1
Diving ducks	3831	5.5	4161	6.3	2532	1.1	3940	1.7
Oth. swim. birds	1082	1.5	1488	2.2	2581	1.1	2804	1.2
Waders	794	1.1	1177	1.8	4758	2.1	5699	2.5
Crows	1398	2.0	1377	2.1	7567	3.3	7887	3.4
Magpies	468	0.7	897	1.3	4549	2.0	4589	2.0
Others	2767	4.0	2565	3.9	4511	2.0	4410	1.9
Total	18056	25.8	21003	31.6	59870	26.1	69974	30.1

Police district 42: Grenå

Police district 45: Hadsund

Roedeer	677	0.4	729	0.5	482	0.3	617	0.4
Hares	5791	3.7	6601	4.3	4329	3.1	4780	3.4
Foxes	1009	0.6	1094	0.7	1011	0.7	1170	0.8
Partridges	4904	3.1	5727	3.7	3604	2.5	4003	2.8
Wood pigeons	6851	4.4	7664	4.9	3114	2.2	4020	2.8
Pheasants	5035	3.2	6831	4.4	1963	1.4	2707	1.9
Surface ducks	2499	1.6	2945	1.9	5545	3.9	7818	5.5
Diving ducks	2200	1.4	3342	2.2	1476	1.0	2798	2.0
Oth. swim. birds	1338	0.9	1236	0.8	1335	0.9	1171	0.8
Waders	1648	1.1	1605	1.0	2402	1.7	2563	1.8
Crows	4916	3.1	4081	2.6	3754	2.6	3845	2.7
Magpies	3746	2.4	4011	2.6	2177	1.5	2763	1.9
Others	2889	1.8	2979	1.9	3762	2.7	5050	3.6
Total	43503	27.8	48845	31.5	34954	24.7	43305	30.5

Game species	1956/57		1957/58		1956/57		1957/58	
	Total bag	Bag per sportsman	Total bag	Bag per sportsman	Total bag	Bag per sportsman	Total bag	Bag per sportsman

Police district 46: Hobro

Police district 48: Ålborg

Roedeer	125	0.1	160	0.2	235	0.2	305	0.2
Hares	3263	3.3	3549	3.6	3594	2.7	4814	3.5
Foxes	787	0.8	663	0.7	594	0.5	770	0.6
Partridges	3036	3.1	3694	3.7	3511	2.7	4647	3.4
Wood pigeons	2654	2.7	2864	2.9	2309	1.7	2817	2.1
Pheasants	1366	1.4	1793	1.8	1148	0.9	1580	1.2
Surface ducks	2213	2.2	2340	2.3	4901	3.7	5280	3.9
Diving ducks	227	0.2	364	0.4	739	0.6	918	0.7
Oth. swim. birds	699	0.7	664	0.7	1600	1.2	1512	1.1
Waders	865	0.9	829	0.8	3304	2.5	4697	3.5
Crows	2406	2.4	2610	2.6	1773	1.3	1773	1.3
Magpies	2158	2.2	2500	2.5	1522	1.2	1508	1.1
Others	1512	1.5	1303	1.3	1603	1.2	1648	1.2
Total	21311	21.7	23333	23.4	26833	20.3	32269	23.7

Police district 47: Nibe

Police district 49: Nr. Sundby

Roedeer	118	0.1	176	0.1	337	0.3	244	0.2
Hares	5707	3.5	7205	4.2	5056	4.2	5059	4.3
Foxes	1002	0.6	1137	0.7	498	0.4	480	0.4
Partridges	5773	3.6	8598	5.0	4927	4.1	5362	4.5
Wood pigeons	4169	2.6	5157	3.0	2627	2.2	2106	1.8
Pheasants	1797	1.1	2379	1.4	1870	1.6	1872	1.6
Surface ducks	3793	2.4	5260	3.1	7068	5.9	6753	5.7
Diving ducks	807	0.5	723	0.4	1408	1.2	1483	1.3
Oth. swim. birds	1651	1.0	2025	1.2	2065	1.7	1999	1.7
Waders	3381	2.1	4083	2.4	3783	3.2	3952	3.3
Crows	3371	2.1	4161	2.4	1961	1.6	1458	1.2
Magpies	3519	2.2	4400	2.6	2620	2.2	2451	2.1
Others	1389	0.9	2693	1.6	501	0.4	485	0.4
Total	36477	22.6	47997	27.9	34721	29.2	33704	23.6

Game species	1956/57		1957/58		1956/57		1957/58	
	Total bag	Bag per sportsman	Total bag	Bag per sportsman	Total bag	Bag per sportsman	Total bag	Bag per sportsman
<i>Police district 50: Sæby</i>				<i>Police district 52: Hjørring</i>				
Roedeer	147	0.2	241	0.2	280	0.2	302	0.2
Hares	2891	3.0	3417	3.5	7019	4.2	7348	4.5
Foxes	597	0.6	716	0.7	1350	0.8	1311	0.8
Partridges	2835	3.0	4226	4.3	5602	3.4	6365	3.9
Wood pigeons	1767	1.8	2380	2.4	4177	2.5	4293	2.6
Pheasants	889	0.9	1037	1.1	2165	1.3	2683	1.6
Surface ducks	1884	2.0	2243	2.3	4111	2.5	4523	2.7
Diving ducks	485	0.5	992	1.0	99	0.1	291	0.2
Oth. swim. birds	861	0.9	1208	1.2	1588	1.0	1476	0.9
Waders	922	1.0	1426	1.4	2898	1.8	3129	1.9
Crows	1375	1.4	1411	1.4	2199	1.3	2856	1.7
Magpies	1721	1.8	1833	1.9	4070	2.5	4542	2.8
Others	259	0.3	277	0.3	466	0.3	690	0.4
Total	16633	17.3	21407	21.7	36024	21.8	39809	24.1

<i>Police district 51: Frederikshavn</i>				<i>Police district 53: Thisted</i>				
Roedeer	261	0.2	244	0.2	256	0.2	268	0.2
Hares	3904	2.5	4212	2.7	5425	3.2	5517	3.4
Foxes	585	0.4	606	0.4	1081	0.6	1025	0.6
Partridges	3830	2.5	4555	3.0	3287	1.9	3356	2.1
Wood pigeons	2893	1.9	2961	1.9	2783	1.6	2917	1.8
Pheasants	1016	0.7	1415	0.9	431	0.3	562	0.3
Surface ducks	3519	2.3	4125	2.7	7958	4.7	9887	6.0
Diving ducks	4914	3.2	8559	5.6	286	0.2	405	0.2
Oth. swim. birds	6400	4.2	7894	5.1	1201	0.7	1499	0.9
Waders	3304	2.2	3078	2.0	3302	2.0	3911	2.4
Crows	2288	1.5	2089	1.4	1531	0.9	1359	0.8
Magpies	2058	1.3	2121	1.4	2663	1.6	2500	1.5
Others	311	0.2	360	0.2	463	0.3	482	0.3
Total	35283	23.0	42219	27.5	30667	18.1	33688	20.6

Game species	1956/57		1957/58		1956/57		1957/58	
	Total bag	Bag per sportsman	Total bag	Bag per sportsman	Total bag	Bag per sportsman	Total bag	Bag per sportsman
<i>Police district 54: Hurup</i>								
Roedeer	39	0.1	60	0.1	46	0.0	89	0.1
Hares	3115	4.4	3021	4.2	5277	4.2	6318	4.8
Foxes	220	0.3	276	0.4	685	0.5	688	0.5
Partridges	1761	2.5	1609	2.3	4525	3.6	5232	4.0
Wood pigeons	1165	1.7	1314	1.8	4171	3.3	4736	3.6
Pheasants	284	0.4	295	0.4	2754	2.2	3116	2.4
Surface ducks	3395	4.8	4390	6.1	3729	2.9	4417	3.4
Diving ducks	342	0.5	516	0.7	811	0.7	879	0.7
Oth. swim. birds	1672	2.4	2016	2.8	1132	0.9	1117	0.9
Waders	1806	2.6	2043	2.9	1784	1.4	2119	1.6
Crows	708	1.0	736	1.0	1800	2.6	1962	1.5
Magpies	962	1.4	871	1.2	3584	1.3	3729	2.9
Others	121	0.2	141	0.2	1710	1.3	1406	1.1
Total	15590	22.2	17288	24.2	32008	24.8	35818	27.3

Police district 56: Skive

Police district 55: Nykøbing M.

Police district 57: Viborg

Roedeer	21	0.0	36	0.1	593	0.2	566	0.2
Hares	3507	4.7	4636	5.9	8021	3.1	9845	3.7
Foxes	239	0.3	296	0.4	1959	0.7	1908	0.7
Partridges	743	1.0	937	1.2	7473	2.8	9040	3.4
Wood pigeons	1905	2.6	2260	2.9	6426	2.4	7226	2.7
Pheasants	1586	2.1	1899	2.4	4194	1.6	5767	2.2
Surface ducks	3270	4.4	4204	5.3	7325	2.8	6447	2.4
Diving ducks	463	0.6	540	0.7	1055	0.4	1192	0.5
Oth. swim. birds	741	1.0	1007	1.3	2047	0.8	2245	0.9
Waders	1545	2.1	1887	2.4	3552	1.4	3299	1.3
Crows	514	0.7	695	0.9	7029	2.7	6015	2.3
Magpies	1608	2.2	1867	2.4	6490	2.5	7466	2.8
Others	214	0.3	314	0.4	4094	1.6	4169	1.6
Total	16356	21.9	20578	26.1	60258	23.0	65185	24.7

Game species	1956/57		1957/58		1956/57		1957/58	
	Total bag	Bag per sportsman	Total bag	Bag per sportsman	Total bag	Bag per sportsman	Total bag	Bag per sportsman

Police district 59: Herning

Roedeer	396	0.2	485	0.2	96	0.1	94	0.1
Hares	9963	4.1	11109	4.5	3012	2.7	3276	3.0
Foxes	1189	0.5	1179	0.5	393	0.3	451	0.4
Partridges	9098	3.7	11553	4.6	1888	1.7	2379	2.2
Wood pigeons	5784	2.4	8044	3.2	1724	1.5	1726	1.6
Pheasants	3580	1.5	4652	1.9	254	0.2	335	0.3
Surface ducks	4606	1.9	5007	2.0	5624	5.0	5847	5.4
Diving ducks	476	0.2	424	0.2	607	0.5	847	0.8
Oth. swim. birds	1054	0.4	1022	0.4	1135	1.0	1137	1.0
Waders	3042	1.2	3645	1.5	3298	2.9	3746	3.4
Crows	4270	1.7	5209	2.1	1069	0.9	1135	1.0
Magpies	6784	2.8	6669	2.7	1313	1.2	1294	1.2
Others	1320	0.5	1421	0.6	316	0.3	251	0.2
Total	51562	21.0	60419	24.2	20729	18.4	22518	20.6

Police district 61: Lemvig

Police district 60: Holstebro

Roedeer	236	0.1	293	0.2	277	0.1	275	0.1
Hares	6453	3.6	7633	4.2	8920	2.9	9998	3.2
Foxes	1191	0.7	1260	0.7	1502	0.5	1680	0.5
Partridges	4674	2.6	5970	3.2	8068	2.6	10604	3.4
Wood pigeons	4357	2.4	5214	2.8	5298	1.7	5487	1.8
Pheasants	1311	0.7	1802	1.0	2471	0.8	3105	1.0
Surface ducks	7104	3.9	7490	4.1	14773	4.8	15836	5.1
Diving ducks	1427	0.8	1477	0.8	2280	0.7	2298	0.7
Oth. swim. birds	2093	1.2	2171	1.2	3536	1.1	2850	0.9
Waders	3393	1.9	4197	2.3	7857	2.5	9512	3.1
Crows	4559	2.5	4383	2.4	5675	1.8	6084	2.0
Magpies	4091	2.3	4723	2.6	5109	1.7	5256	1.7
Others	1646	0.9	1798	1.0	1355	0.4	1094	0.4
Total	42535	23.5	48411	26.4	67121	21.7	74079	23.8

Police district 62: Ringkøbing

Game species	1956/57		1957/58		1956/57		1957/58	
	Total bag	Bag per sportsman	Total bag	Bag per sportsman	Total bag	Bag per sportsman	Total bag	Bag per sportsman

Police district 63: Varde

Roedeer	238	0.1	329	0.1	201	0.1	285	0.1
Hares	7349	3.0	8225	3.5	8177	3.5	9132	3.9
Foxes	986	0.4	1053	0.4	873	0.4	974	0.4
Partridges	7397	3.1	9928	4.2	8347	3.6	11101	4.7
Wood pigeons	3951	1.6	4232	1.8	4134	1.8	4458	1.9
Pheasants	3627	1.5	4736	2.0	2346	1.0	2860	1.2
Surface ducks	5957	2.5	7549	3.2	8212	3.5	11219	4.8
Diving ducks	467	0.2	580	0.2	2195	0.9	2443	1.0
Oth. swim. birds	1523	0.6	1987	0.8	1869	0.8	1658	0.7
Waders	4575	1.9	5932	2.5	6900	2.9	7667	3.3
Crows	3259	1.4	3074	1.3	3666	1.6	3946	1.7
Magpies	4307	1.8	4488	1.9	3430	1.5	3837	1.6
Others	708	0.3	900	0.4	760	0.3	800	0.3
Total	44344	18.4	53013	22.3	51110	21.8	60380	25.7

Police district 65: Ribe

Police district 64: Esbjerg

Roedeer	127	0.1	124	0.1	779	0.5	925	0.6
Hares	4928	3.9	4450	3.5	5648	3.4	6939	4.2
Foxes	313	0.2	368	0.3	607	0.4	880	0.5
Partridges	4309	3.4	5138	4.0	2861	1.7	4426	2.7
Wood pigeons	1873	1.5	2042	1.6	1405	0.8	2015	1.2
Pheasants	1245	1.0	1297	1.0	927	0.6	1270	0.8
Surface ducks	7978	6.3	8529	6.7	3095	1.8	3755	2.3
Diving ducks	2819	2.2	2722	2.1	737	0.4	1455	0.9
Oth. swim. birds	1987	1.6	1708	1.3	665	0.4	629	0.4
Waders	6750	5.4	7425	5.8	610	0.4	727	0.4
Crows	1906	1.5	1471	1.2	1586	0.9	1982	1.2
Magpies	1479	1.2	1092	0.9	1128	0.7	1512	0.9
Others	2061	1.6	1980	1.6	1660	1.0	1800	1.1
Total	37775	30.0	38346	30.0	21708	13.0	28315	17.2

Police district 66: Haderslev

Game species	1956/57		1957/58		1956/57		1957/58	
	Total bag	Bag per sportsman	Total bag	Bag per sportsman	Total bag	Bag per sportsman	Total bag	Bag per sportsman

Police district 67: Toftlund

Police district 69: Sønderborg

Roedeer	344	0.3	301	0.3	264	0.2	307	0.3
Hares	4485	4.0	4438	4.1	3865	3.4	4299	3.8
Foxes	673	0.6	592	0.5	368	0.3	327	0.3
Partridges	4394	3.9	5426	5.0	1856	1.6	2698	2.4
Wood pigeons	1463	1.3	1377	1.3	1766	1.5	2384	2.1
Pheasants	311	0.3	369	0.3	1589	1.4	1953	1.7
Surface ducks	1462	1.3	1820	1.7	1893	1.7	2844	2.5
Diving ducks	70	0.1	265	0.2	1492	1.3	1655	1.4
Oth. swim. birds	186	0.2	216	0.2	457	0.4	460	0.4
Waders	1042	0.9	1043	1.0	456	0.4	450	0.4
Crows	1472	1.3	1453	1.3	660	0.6	638	0.6
Magpies	1276	1.1	1185	1.1	591	0.5	727	0.6
Others	262	0.2	245	0.2	1571	1.4	1402	1.2
Total	17440	15.7	18730	17.1	16828	14.7	20144	17.6

Police district 68: Åbenrå

Police district 70: Gråsten

Roedeer	397	0.5	413	0.4	408	0.6	454	0.7
Hares	3964	4.5	4116	4.4	2658	3.9	2608	3.8
Foxes	435	0.5	593	0.6	310	0.5	342	0.5
Partridges	3885	4.4	4548	4.9	1665	2.5	1922	2.8
Wood pigeons	977	1.1	1186	1.3	943	1.4	939	1.4
Pheasants	169	0.2	254	0.3	347	0.5	441	0.6
Surface ducks	1683	1.9	1974	2.1	1708	2.5	1810	2.6
Diving ducks	319	0.4	432	0.5	236	0.4	736	1.1
Oth. swim. birds	212	0.2	182	0.2	269	0.4	342	0.5
Waders	798	0.9	669	0.7	369	0.5	447	0.6
Crows	956	1.1	781	0.8	1020	1.5	859	1.2
Magpies	541	0.6	532	0.6	501	0.7	491	0.7
Others	721	0.8	474	0.5	1335	2.0	1878	2.7
Total	15057	17.1	16154	17.4	11769	17.5	13269	19.2

Game species	1956/57		1957/58	
	Total bag	Bag per sportsman	Total bag	Bag per sportsman
<i>Police district 71: Tønder</i>				
Roedeer	369	0.2	405	0.2
Hares	7764	4.1	7940	4.2
Foxes	974	0.5	1357	0.7
Partridges	9313	4.9	10999	5.8
Wood pigeons	2099	1.1	2632	1.4
Pheasants	282	0.1	347	0.2
Surface ducks	7860	4.1	13185	6.9
Diving ducks	353	0.2	596	0.3
Oth. swim. birds	599	0.3	778	0.4
Waders	4683	2.5	6824	3.6
Crows	1926	1.0	2421	1.3
Magpies	1541	0.8	1569	0.8
Others	1376	0.7	1845	1.0
Total	39139	20.6	50898	26.8

Appendix 6. Licence holders in individual police districts

Police district	Licences returned		Licences issued		% returned		sportsman per 100 ha		Sportsmen, % of population
	56/57	57/58	56/57	57/58	56/57	57/58	56/57	57/58	
København	1738	1782	2316	2288	75.04	77.88			0.3
1. Frederiksberg	368	383	514	514	71.60	74.51			0.4
2. Nordre Birk	1033	1070	1322	1385	78.14	77.26			0.6
3. Søndre Birk	1120	1144	1418	1419	78.98	80.62	4.0	4.0	0.9
4. Roskilde	1301	1300	1587	1576	81.98	82.49	2.9	2.9	2.5
5. Køge	1302	1411	1632	1672	79.78	84.39	2.6	2.7	3.4
6. Helsingør	670	682	870	887	77.07	76.89	2.9	2.9	1.2
7. Hillerød	1169	1151	1212	1217	96.45	94.58	2.0	2.0	2.2
8. Frederikssund	957	992	1210	1195	79.09	83.01	3.0	3.0	3.3
9. Holbæk	1983	2089	2354	2420	84.24	86.32	2.7	2.8	3.3
10. Kalundborg	1399	1428	1662	1668	84.18	85.61	3.2	3.2	4.7
11. Slagelse	1270	1303	1527	1509	83.17	86.35	2.9	2.9	3.2
12. Skelskør	1331	1237	1424	1434	93.47	86.26	4.6	4.6	4.6
13. Ringsted	1328	1335	1547	1584	85.84	84.28	2.4	2.5	3.2
14. Næstved	1136	1107	1472	1445	77.17	76.61	3.7	3.6	3.3
15. St. Heddinge	611	622	786	764	77.74	81.41	2.9	2.8	3.9
16. Præstø	653	650	769	757	84.92	85.87	3.5	3.5	6.5
17. Vordingborg	1478	1593	1870	1929	79.04	82.58	4.1	4.2	4.9
18. Rønne	1435	1437	1778	1793	80.71	80.15	3.2	3.2	3.7
19. Nykøbing F.	1778	1716	2081	2086	85.44	82.26	4.0	4.1	4.3
20. Sakskøbing	1053	1061	1293	1298	81.44	81.74	3.4	3.4	5.7
21. Rødby	767	817	1293	1293	59.32	63.19	3.4	3.4	4.8
22. Nakskov	1201	1208	1449	1446	82.88	83.54	3.1	3.1	3.9
23. Nyborg	878	878	976	983	89.96	89.32	3.7	3.7	3.5
24. Svendborg	1616	1687	2039	2012	79.25	83.85	4.0	4.0	3.4
25. Rudkøbing	1449	1373	1624	1639	89.22	83.77	4.3	4.4	5.3
26. Fåborg	1404	1398	1591	1632	88.25	85.66	3.3	3.4	5.0
27. Odense	882	896	1116	1084	79.03	82.66			1.1
28. Odense Herred	1083	1096	1237	1234	87.55	88.74	3.8	3.8	3.2
29. Kerteminde	845	839	969	1018	87.20	82.42	3.3	3.5	4.6
30. Børgense	1508	1513	1790	1801	84.25	84.01	3.7	3.7	5.8
31. Assens	1172	1172	1318	1343	88.92	87.27	3.7	3.8	5.0
32. Middelfart	958	977	1115	1126	85.92	86.77	3.8	3.8	3.5

Police district	Licences returned		Licences issued		% returned		sportsman per 100 ha		Sportsmen, % of population
	56/57	57/58	56/57	57/58	56/57	57/58	56/57	57/58	56/57
33. Fredericia	789	758	990	942	79.70	80.47	4.2	4.0	2.3
34. Kolding	2144	2030	2544	2494	84.28	81.40	2.2	2.2	3.1
35. Vejle	2340	2434	2727	2760	85.81	88.19	2.2	2.2	3.1
36. Horsens	2356	2365	2946	2927	79.97	80.80	2.2	2.1	3.0
38. Silkeborg	1434	1490	1803	1828	79.53	81.51	2.2	2.3	2.8
39. Hasle Herred	1532	1586	1829	1881	83.76	84.32	1.9	1.9	2.4
40. Odder	821	792	963	985	85.25	80.41	2.4	2.5	2.1
41. Århus	537	525	700	665	76.71	78.95			0.6
42. Grenå	1267	1491	1564	1551	81.01	96.13	1.9	1.9	4.0
44. Randers	1910	2170	2296	2326	83.19	93.29	2.1	2.1	2.3
45. Hadsund	1121	1122	1417	1422	79.11	78.90	1.6	1.6	3.6
46. Hobro	793	868	984	997	80.59	87.06	1.5	1.5	2.9
47. Nibe	1302	1349	1613	1718	80.72	78.52	1.6	1.7	3.6
48. Ålborg	1262	1288	1320	1361	95.61	94.64	3.5	3.7	1.2
49. Nr. Sundby	854	987	1190	1180	71.76	83.64	2.0	2.0	2.6
50. Sæby	793	815	959	985	82.69	82.74	1.5	1.5	3.1
51. Frederikshavn	1152	1166	1532	1533	75.20	76.06	2.5	2.5	3.2
52. Hjørring	1309	1307	1654	1649	79.14	79.26	1.4	1.4	2.1
53. Thisted	1266	1300	1692	1635	74.82	79.51	1.3	1.3	3.3
54. Hurup	591	557	702	714	84.19	78.01	1.7	1.7	3.5
55. Nykøbing M.	603	675	747	788	80.72	85.66	2.1	2.2	2.7
56. Skive	1013	1064	1269	1310	79.83	81.22	1.7	1.8	2.7
57. Viborg	2165	2236	2624	2639	82.51	84.73	1.8	1.8	3.4
59. Herning	2133	2112	2450	2494	87.06	84.68	1.8	1.9	3.8
60. Holstebro	1519	1520	1809	1837	83.97	82.74	1.7	1.8	3.3
61. Lemvig	914	940	1127	1092	81.10	86.08	2.2	2.1	4.5
62. Ringkøbing	2641	2657	3089	3115	85.50	85.30	1.9	1.9	5.8
63. Varde	1980	2006	2411	2377	82.12	84.39	1.9	1.9	5.2
64. Esbjerg	711	1034	1259	1277	56.47	80.97			2.0
65. Ribe	1934	1967	2341	2346	82.61	83.84	2.4	2.4	4.9
66. Haderslev	1434	1268	1675	1649	85.61	76.90	2.4	2.3	3.4
67. Tofslund	945	938	1113	1095	84.91	85.66	1.6	1.6	4.7
68. Åbenrå	716	755	878	927	81.55	81.45	1.9	2.0	2.8
69. Sønderborg	966	940	1147	1142	84.22	82.31	3.0	3.0	2.5
70. Gråsten	539	543	673	692	80.09	78.58	2.1	2.1	3.2
71. Tønder	1600	1455	1901	1898	84.17	76.66	1.7	1.7	5.1
All country	86262	87857	105099	105682	82.08	83.13	2.5	2.5	2.4

*Appendix 7. Area (ha) of police districts
(excluding urbanland)*

No.	Police district	County	ha	ha, total
2.	Nordre Birk	København		11658
3.	Søndre Birk	København		35149
4.	Roskilde	København		54484
5.	Køge	København	5268	
		Sorø	13095	
		Præstø	44459	62822
6.	Helsingør	Frederiksborg		30305
7.	Hillerød	Frederiksborg		61434
8.	Frederikssund	Frederiksborg		39756
9.	Holbæk	Holbæk		87542
10.	Kalundborg	Holbæk		51337
11.	Slagelse	Holbæk	25689	
		Sorø	26796	52485
12.	Skelskør	Sorø		31211
13.	Ringsted	København	5241	
		Holbæk	5809	
		Sorø	52886	63936
14.	Næstved	Sorø	19254	
		Præstø	20943	40197
15.	Store Heddinge	Præstø		27269
16.	Præstø	Præstø		21829
17.	Vordingborg	Præstø		46151
			Sjælland, total	717565
18.	Bornholm	Bornholm		55399
			Bornholm, total	55399

No.	Police district	County	ha	ha, total
19.	Nykøbing F.	Præstø Maribo	1397 50104	51501
20.	Saxkøbing	Maribo		38134
21.	Rødby	Maribo		38255
22.	Nakskov	Maribo		46016
			Lolland-Falster, total	173906
23.	Nyborg	Svendborg		26289
24.	Svendborg	Svendborg		50837
25.	Rudkøbing	Svendborg		37386
26.	Fåborg	Svendborg		48019
28.	Odense Herred	Odense		32702
29.	Kerteminde	Odense		28939
30.	Bogense	Odense		48056
31.	Assens	Odense		35545
32.	Middelfart	Odense		29656
			Fyn, total	337429
33.	Fredericia	Vejle		23615
34.	Kolding	Vejle Ribe	44811 70741	115552
35.	Vejle	Vejle		125225
36.	Horsens	Vejle Skanderborg	36072 100829	136901
38.	Silkeborg	Skanderborg Viborg	55793 24892	80685
39.	Hasle	Skanderborg Århus Randers Viborg	10854 38943 28633 18158	96588

No.	Police district	County	ha	ha, total
40.	Odder	Århus		39515
42.	Grenå	Randers		81186
44.	Randers	Randers	90443	
		Viborg	20254	110697
45.	Hadsund	Randers	29681	
		Ålborg	57799	87480
46.	Hobro	Randers	10285	
		Ålborg	35265	
		Viborg	21678	67228
47.	Nibe	Ålborg		103488
48.	Ålborg	Ålborg		37282
49.	Nørresundby	Ålborg	52385	
		Hjørring	6641	59026
50.	Sæby	Hjørring		64513
51.	Frederikshavn	Hjørring		60766
52.	Hjørring	Hjørring		115354
53.	Thisted	Hjørring	28715	
		Thisted	97345	126060
54.	Hurup	Thisted		42519
55.	Nykøbing M.	Thisted		35769
56.	Skive	Viborg	68097	
		Ringkøbing	5362	73459
57.	Viborg	Viborg		144233
59.	Herning	Ringkøbing		134696
60.	Holstebro	Ringkøbing		104596
61.	Lemvig	Ringkøbing		52353
62.	Ringkøbing	Ringkøbing		164081
63.	Varde	Ribe		128156
64.	Esbjerg	Ribe		21438

No.	Police district	County	ha	ha, total
65.	Ribe	Ribe	76480	98350
		Haderslev	6975	
		Tønder	14895	
66.	Haderslev	Haderslev		71225
67.	Toftlund	Haderslev	54682	68258
		Tønder	13576	
68.	Åbenrå	Åbenrå		45884
69.	Sønderborg	Sønderborg		37822
70.	Gråsten	Åbenrå	28100	32783
		Sønderborg	4683	
71.	Tønder	Åbenrå	3317	109392
		Tønder	106075	
			Jylland, total	2896175
			Country total	4180474

*Appendix 8. Area (ha) of counties
(excluding urbanland)*

København	111800
Frederiksborg	131495
Holbæk	170377
Sorø	143242
Præstø	162048
Bornholm	55399
Maribo	172509
Svendborg	162531
Odense	174898
Vejle	229723
Skanderborg	167476
Århus	78458
Randers	240228
Ålborg	286219
Hjørring	275989
Thisted	175633
Viborg	297312
Ringkøbing	461088
Ribe	296815
Haderslev	132882
Åbenrå-Sønderborg	119806
Tønder	134546

Total	4180474
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