WETLANDS INTERNATIONAL

Newsletter

Number 28 December 2002

WETLANDS INTERNATIONAL

WOODCOCK & SNIPE SPECIALIST GROUP

Newsletter 28

Compiled by Yves Ferrand
Coordinator

Office national de la chasse et de la faune sauvage
Research Department
Migratory Birds Unit
BP 20
F 78612 Le Perray-en-Yvelines Cedex

December 2002

Wetlands International

This Newsletter is supposed to serve as a contact organ to inform the members of the Woodcock and Snipe Specialist Group (WSSG), a research unit of Wetlands International (WI) and likewise of the World Conservation Organisation (IUCN). Subjects of the WSSG are species of the genus *Scolopax*, *Gallinago* and *Lymnocryptes* that differ in several respects remarkably from all other wader species. For this reason a separate research unit was established.

CONTENTS

Page

Editorial

As you will see in this Newsletter, the activity of our Woodcock and Snipe Specialist Group is always intense. Many members in many countries have carried on their research in 2002. An important effort by our Russian, Baltic region and Central Europe colleagues has been registered which is essential because of their position in the heart of the "production" sites. A significant effort has also been made in the wintering areas especially in Italy and France. In North America, the results of an extensive research on winter mortality of American woodcock are impatiently awaited. Thanks to J. Shergalin a bibliographic watch has also been realised.

Woodcock research is rather well developed in Europe and I think that we have a good idea of the status of this species in this part of the world. On the other hand, there is always a lack of knowledge for the snipe species, and particularly for Jack snipe. New information has been obtained for the Baltic States and in Belarus through the studies funded by OMPO. But in Russia knowledge is still very scarce.

If only complementary studies are needed in Europe and North America, it is clear that there is still a big gap in Africa and Asia. Our colleagues in these regions are not numerous and their work is very precious. Our duty is to help them and to develop a network of specialists in African and Asian countries. All contacts you could be aware of will be welcomed.

In last April, a WI meeting gathered the specialist groups especially to present the 2002-2005 WI strategy and review the activities and projects of each specialist group. The more important result of this meeting is the next signature of a memorandum of cooperation between WI and WSSG. This memorandum formalizes the contributions by each party in order to re-enforce the importance of the specialist groups within WI activities.

As announced in the last Newsletter, the Sixth Woodcock and Snipe Workshop will be held in France, in Nantes, from 24th to 28th of November 2003. You will find again first announcement in this issue. I hope that you will be numerous to attend this meeting which is a periodic occasion to talk together about our research.

Finally, you have probably seen a logo on the Newsletter cover. As far as I know, it is the first WSSG logo. I wish that the majority of the members will like its design intended to gather the woodcock and snipe specialists from all around the world.

Good success with your scientific work and see you in Nantes in November.

Yves Ferrand
Coordinator

Office national de la chasse et de la faune sauvage
Research Department – Migratory Birds Unit
BP 20
F – 78612 Le Perray-en-Yvelines Cedex
Telephone : +33 1 30 46 60 16/00 ; Fax : +33 1 30 46 60 99
e.mail : y.ferrand@oncfs.gouv.fr

Who are we ? Inquiry results

The inquiry that you received in the course of the year 2002 was a good way to get a better knowledge of the topics of interest and the expectations of WSSG members. Many thanks for your numerous and varied answers.

WSSG has around 55 active members spread over 26 countries. Half of these members are interested in woodcocks as well as in snipes, 20 only in woodcocks and 10 only in snipes.

The most of the members are working on breeding biology, hunting bag analysis and population dynamics. The research projects also concern these topics but some new ones have appeared, like the origin of wintering woodcocks by stable isotope analysis, or the acoustic communication.
An interesting question was to know which kind of research you think absolutely necessary to do. Of course, the answers are varied but one seems more frequent than the others : the **impact of hunting**. Different answers can also be gathered under another topic : the **population trends**. These two topics could be a very interesting challenge for the whole WSSG.
Finally, we asked you about your expectations regarding WSSG. A very important part of the members wish to find in WSSG a **centre of information exchange** : up-dated knowledge, on-going projects, available database,... The coordination of research activities and the development of standard census methods were also proposed. This is a challenge for the coordinator. A first answer to your request will be the next workshop in 2003. A second answer could be the set-up of a specific web site inside the WI one.

News from..... **DENMARK**

Wing sampling of Snipes and Woodcock in Denmark
Seasons 2000/01 and 2001/02 - Progress report

IB CLAUSAGER, National Environmental Research Institute, Department of Coastal Zone Ecology, Kalø, Grenaavej 12, DK 8410 Roende
E-mail: ic@dmu.dk

Introduction

Under the provisions of the Danish Game Act all license holders are obliged to provide information about their personal game bag during the past hunting season divided into species and the counties where quarry were shot. However, some species are lumped into groups and thus only information about the total bag for each group is collated. In order to obtain information about the bag size of particular species in the different groups a voluntary wing survey was introduced in 1979 for waders and a few years later also for ducks, geese and gulls. The Common Snipe and Jack Snipe are lumped together in the group 'Snipes' whereas the Woodcock is registrated as a single species in the game statistics.

The Department of Coastal Zone Ecology, Kalø of the Danish National Environmental Research Institute (NERI) carries out the wing survey. The hunters contribute on a voluntary basis and the wings sent in are supplied with exact shooting date and place and hunting

method used. The results are published annually in Danish with an English summary (i.e. Clausager 2001 & 2002).

Snipe bag

The annual bag of snipes in Denmark has dropped from about 70,000 birds in the 1970s to about 25,000 in the 1990s considered mainly due to population decrease because of loss of habitats in the breeding areas and decrease of suitable resting areas during migration and in the winter quarters. A similar pattern in the snipe bag has been recorded in other countries and in some countries (i.e. Sweden and the Netherlands) the species have been protected. Based on the wing survey it is assessed that the Common Snipe constitutes about 90% of the total bag in Denmark and the Jack Snipe about 10%. Half of the snipe bag is flushed birds taken using pointing dogs and the other half is taken during flight hunting, especially early morning.
In Denmark both species have an open season from 1 September to 31 December.

Wing survey 2000/01 and 2001/02

The number of wings received during the hunting seasons 2000/01 and 2001/02 is given in Table 1. Nearly all wings were supplied with details of the exact shooting date and place and hunting method used.

	No. of wings		Age ratio: Juv./Ad.		
Species/Season	2000/01	2001/02	2000/01	2001/02	Mean 1985-2000
Common Snipe	659	525	3,9	2,8	3,7
Jack Snipe	99	92	-	-	-
Woodcock	1117	1039	3,2	1,7	2,3

***Table 1**: Number of wings received during the 2000/01 and 2001/02 hunting seasons including calculated age ratios.*

Common Snipe

The Common Snipe breeds in Denmark numbering 2,500 – 3,000 pairs (Grell 1998). The population has decreased very much during the 20th century. On migration the species is very common although the number passing Denmark has also decreased during the last century. A few birds winter in Denmark, especially in mild winters.
The age ratio in the wing sample from 2000/01 indicates that the breeding season in 2000 was about average compared to the mean of previous years, whereas the breeding season in 2001 was poor (Table 1).

The temporal distribution of the reported wings reflects to some degree the pattern of autumn migration. When the hunting season in Denmark opens on 1 September the migration is already in full progress. This means that most of the birds are taken in the first part of the hunting season (Fig. 1).
The geographical distribution of the wings received suggests that the major part of the bag is taken in the western parts of Denmark (Fig. 2). This region still support quite relatively large numbers of wetlands.

method used. The results are published annually in Danish with an English summary (i.e. Clausager 2001 & 2002).

Snipe bag

The annual bag of snipes in Denmark has dropped from about 70,000 birds in the 1970s to about 25,000 in the 1990s considered mainly due to population decrease because of loss of habitats in the breeding areas and decrease of suitable resting areas during migration and in the winter quarters. A similar pattern in the snipe bag has been recorded in other countries and in some countries (i.e. Sweden and the Netherlands) the species have been protected. Based on the wing survey it is assessed that the Common Snipe constitutes about 90% of the total bag in Denmark and the Jack Snipe about 10%. Half of the snipe bag is flushed birds taken using pointing dogs and the other half is taken during flight hunting, especially early morning.
In Denmark both species have an open season from 1 September to 31 December.

Wing survey 2000/01 and 2001/02

The number of wings received during the hunting seasons 2000/01 and 2001/02 is given in Table 1. Nearly all wings were supplied with details of the exact shooting date and place and hunting method used.

	No. of wings		Age ratio: Juv./Ad.		
Species/Season	2000/01	2001/02	2000/01	2001/02	Mean 1985-2000
Common Snipe	659	525	3,9	2,8	3,7
Jack Snipe	99	92	-	-	-
Woodcock	1117	1039	3,2	1,7	2,3

***Table 1**: Number of wings received during the 2000/01 and 2001/02 hunting seasons including calculated age ratios.*

Common Snipe

The Common Snipe breeds in Denmark numbering 2,500 – 3,000 pairs (Grell 1998). The population has decreased very much during the 20th century. On migration the species is very common although the number passing Denmark has also decreased during the last century. A few birds winter in Denmark, especially in mild winters.
The age ratio in the wing sample from 2000/01 indicates that the breeding season in 2000 was about average compared to the mean of previous years, whereas the breeding season in 2001 was poor (Table 1).

The temporal distribution of the reported wings reflects to some degree the pattern of autumn migration. When the hunting season in Denmark opens on 1 September the migration is already in full progress. This means that most of the birds are taken in the first part of the hunting season (Fig. 1).
The geographical distribution of the wings received suggests that the major part of the bag is taken in the western parts of Denmark (Fig. 2). This region still support quite relatively large numbers of wetlands.

Who are we ? Inquiry results

The inquiry that you received in the course of the year 2002 was a good way to get a better knowledge of the topics of interest and the expectations of WSSG members. Many thanks for your numerous and varied answers.

WSSG has around 55 active members spread over 26 countries. Half of these members are interested in woodcocks as well as in snipes, 20 only in woodcocks and 10 only in snipes.

The most of the members are working on breeding biology, hunting bag analysis and population dynamics. The research projects also concern these topics but some new ones have appeared, like the origin of wintering woodcocks by stable isotope analysis, or the acoustic communication.
An interesting question was to know which kind of research you think absolutely necessary to do. Of course, the answers are varied but one seems more frequent than the others : the **impact of hunting**. Different answers can also be gathered under another topic : the **population trends**. These two topics could be a very interesting challenge for the whole WSSG.
Finally, we asked you about your expectations regarding WSSG. A very important part of the members wish to find in WSSG a **centre of information exchange** : up-dated knowledge, on-going projects, available database,... The coordination of research activities and the development of standard census methods were also proposed. This is a challenge for the coordinator. A first answer to your request will be the next workshop in 2003. A second answer could be the set-up of a specific web site inside the WI one.

News from..... **DENMARK**

Wing sampling of Snipes and Woodcock in Denmark
Seasons 2000/01 and 2001/02 - Progress report

IB CLAUSAGER, National Environmental Research Institute, Department of Coastal Zone Ecology, Kalø, Grenaavej 12, DK 8410 Roende
E-mail: ic@dmu.dk

Introduction

Under the provisions of the Danish Game Act all license holders are obliged to provide information about their personal game bag during the past hunting season divided into species and the counties where quarry were shot. However, some species are lumped into groups and thus only information about the total bag for each group is collated. In order to obtain information about the bag size of particular species in the different groups a voluntary wing survey was introduced in 1979 for waders and a few years later also for ducks, geese and gulls. The Common Snipe and Jack Snipe are lumped together in the group 'Snipes' whereas the Woodcock is registrated as a single species in the game statistics.

The Department of Coastal Zone Ecology, Kalø of the Danish National Environmental Research Institute (NERI) carries out the wing survey. The hunters contribute on a voluntary basis and the wings sent in are supplied with exact shooting date and place and hunting

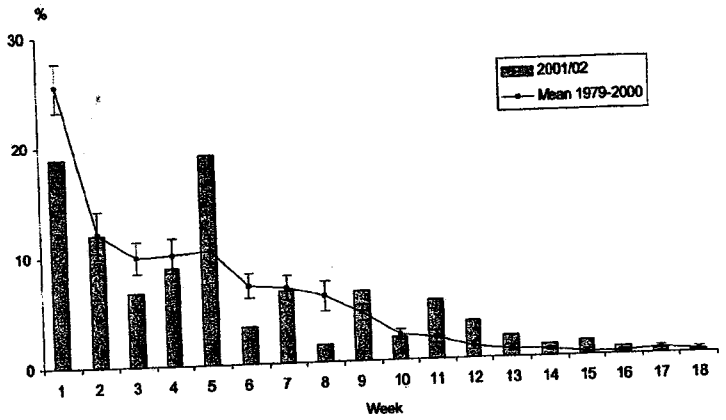

***Figure 1**: Temporal distribution of 520 wings from Common Snipes bagged during the 2001/02 hunting season and the mean temporal distribution of the period 1979-2000 with 95% confidence intervals indicated. Week 1 = 1-7. September, week 2 = 8-14. September, etc.*

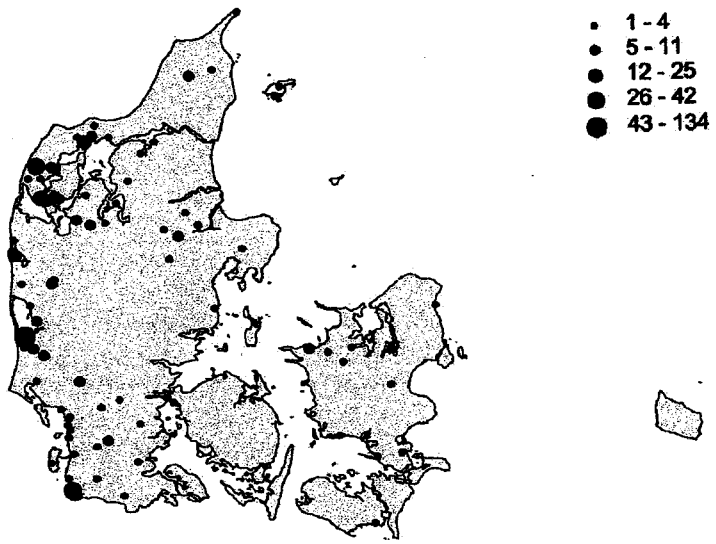

***Figure 2**: Geographical distribution of 525 wings from Common Snipes bagged during the 2001/02 hunting season.*

Jack Snipe

The Jack Snipe does not breed in Denmark, but is rather common during migration and as a wintering species. Until now it has not been possible to find ageing criteria based on plumage characteristics of the wings to age individuals of this species. The autumn migration period of the Jack Snipe is within the hunting season and the temporal distribution of wings received thus reflects the migration pattern.

Very few Jack Snipes are bagged in the first two weeks of September. The migration peaks in the first half of October and declines throughout November (Fig. 3).

The geographical distribution is very much alike that of the Common Snipe, but there is a tendency for more inland records of the Jack Snipe.

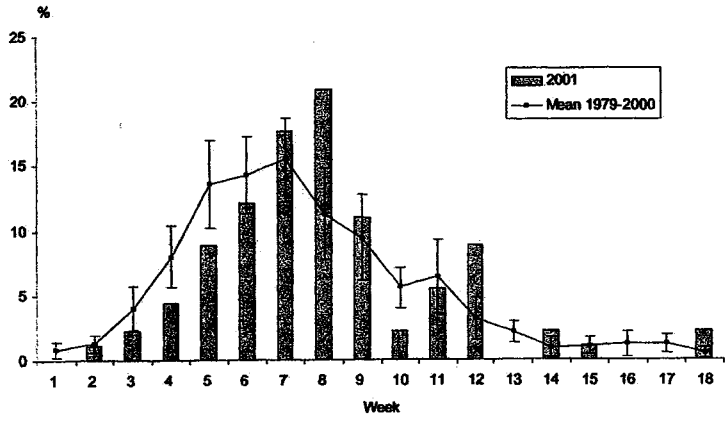

***Figure 3**: Temporal distribution of 91 wings from Jack Snipes bagged during the 2001/02 hunting season and the mean temporal distribution of the period 1979-2000 with 95% confidence intervals indicated. Week 1 = 1-7. September, week 2 = 8-14. September, etc.*

Woodcock

The Woodcock breeds in Denmark. The current population (of c. 2,000 pairs) has increased from nearly none during the past century. On migration the species is very abundant both during spring and autumn.
Wintering birds occur every year, and in mild winters as many as some ten thousands may winter.
The present hunting season extends from 1 October to 31 December. Although prior to 1972 the Woodcock also had an open season in spring (1 March – 7 April).
The Danish Woodcock bag has increased since 1972 and peaked in 2000 with 45,000 birds (Fig. 4), the highest bag ever recorded since the introduction of the bag statistic in 1941. About one quarter of the bag is taken using pointers to flush the birds. The remaining is taken less systematically by hunting with beaters, during Pheasant shoots etc.

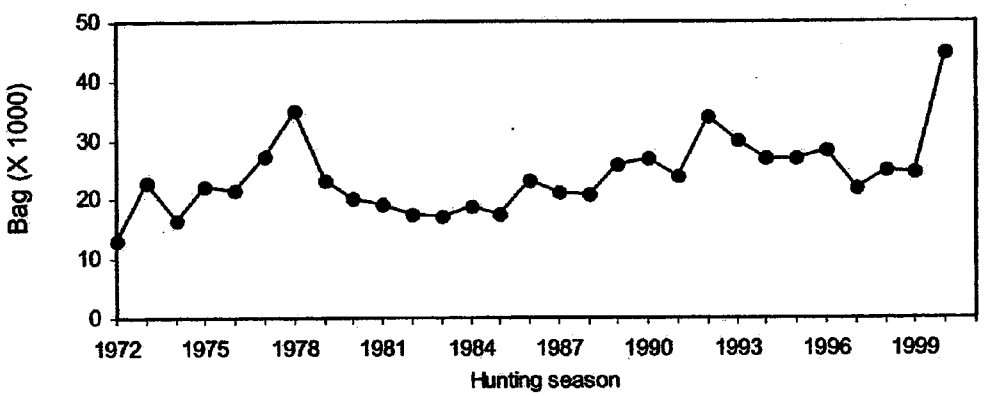

***Figure 4**: Annual bag of Woodcock during the hunting seasons 1972/73-2000/01.*

The breeding season for the woodcock in 2000 was extremely good in contrast to that in 2001 when it was well below average (Table 1).

Analyses of the bag taken during the week shows that more than half of the Woodcocks are shot in the weekends (Fig. 5).

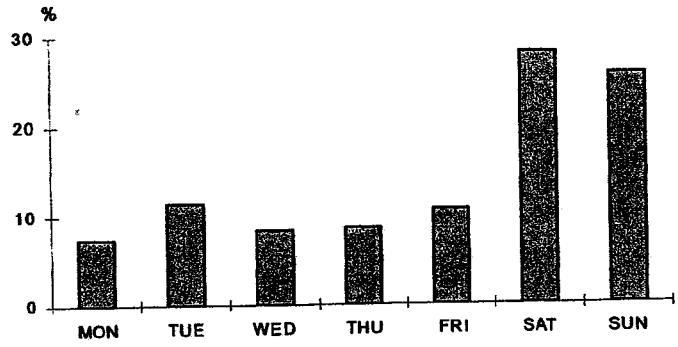

***Figure 5**: Distribution in percent of the Woodcock bag on weekdays.*

The temporal distribution of the Woodcock wings received reflects the migration pattern. The mean migration period in Denmark is from 20 October to 10 November (Fig. 6), but the pattern in any particular year may deviate greatly from the average. The migration is to a high degree dependant on the weather conditions in the regions from which the Woodcocks depart the evening before they arrive in Denmark. Sudden drops in temperature, clear skies and decreasing wind speeds all induce the migratory impulse in autumn.

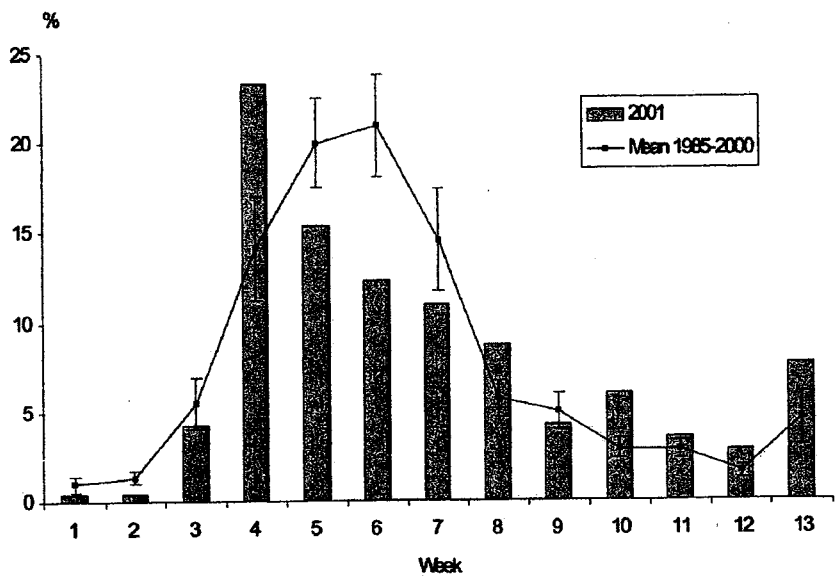

***Figure 6**: Temporal distribution of 1,039 wings from Woodcocks bagged during the 2001/02 hunting season and the mean temporal distribution of the period 1985-2000 with 95% confidence intervals indicated. Week 1 = 1-7. October, week 2 = 8-14. October, etc.*

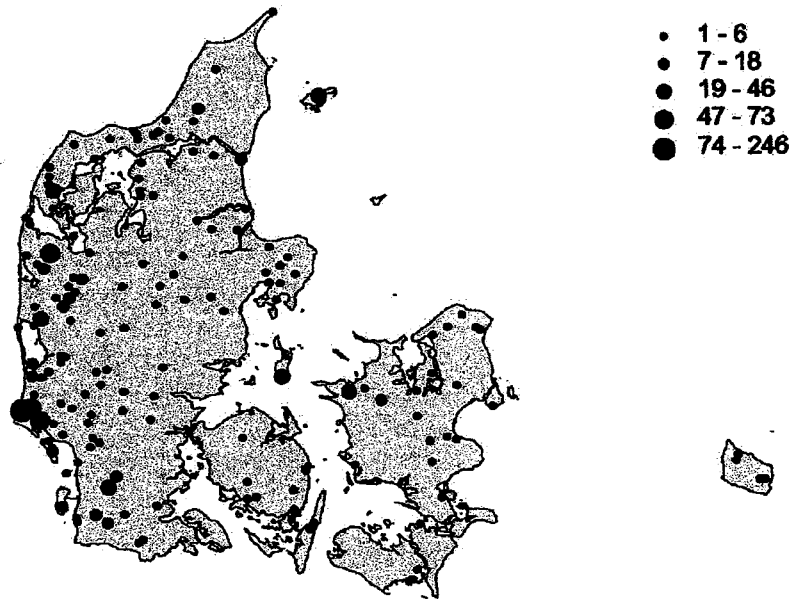

Figure 7: *Geographical distribution of 1,039 wings from Woodcocks bagged during the 2001/02 hunting season.*

The geographical distribution of the Woodcock wings received shows that the large majority derives from coastal areas in the western part of Denmark (Fig. 7). During the past 30 years more and more Woodcocks are taken in the western parts of Denmark and less in the eastern counties (Fig. 8).

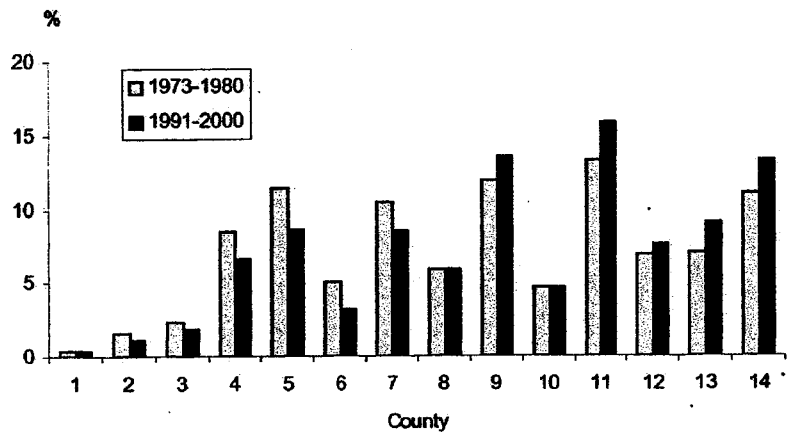

Figure 8: *Changes in the mean distribution of the Woodcock bag to counties during the periods 1973-1980 and 1991-2000. The counties 1 – 7 are situated in the eastern parts of Denmark, the counties 8-14 in the western parts of the country.*

References

Clausager, I. 2001. Vingeindsamling fra jagtsæsonen 2000/2001 i Danmark. Wing survey from the 2000/2001 hunting season in Denmark. – National Environmental Research Institute. – Technical report from NERI, no. 364, 55 pp.
Clausager, I. 2002. Vingeindsamling fra jagtsæsonen 2001/02 i Danmark. Wing survey from the 2001/02 hunting season in Denmark. – National Environmental Research Institute. – Technical report from NERI, no. 403, 64 pp.
Grell, M.B. 1998. Fuglenes Danmark. Danish Ornithological Society, Copenhagen. 825 pp.

Night censuses of the Woodcock, *Scolopax rusticola*, in Finland : a preliminary report

LENNART SAARI, Aasla, SF-21150 Roolä
E-mail :lennart.saari@luukku.com

During 1979-2002 I have censused the night active bird fauna on the Baltic island of Aasla in the southwestern Finnish archipelago (60°17'N,21°57'E). The birds counted include the Woodcock *Scolopax rusticola*. The census starts at about 22.00 hrs Finnish summer time (–2h GMT) and ends at about 04.00 hrs. The transect is about 18 km long.

The only reliable way is to census the woodcock is to count all the roding males, each contact being registered. Very few birds recorded during the census have actually not been roding, contrary to birds flushed from the ground particularly in the beginning or at the end of the census.
The nightly census period covers the whole daily roding period very well, since roding before 22.00 hrs or after 04.00 hrs is rare and probably mainly relates to males flushed for some reason. Males flushed even during midday may make roding calls.
The annual census period between 20 May and 2 July is well within the annual roding period of the woodcock, which starts at the end of March/beginning of April and ends in July or early August in exceptionally dry summers in June. However, in the all 66 census nights (2-3 annually) there were roding Woodcocks.

In mid-summer the sun sets at about 23.00 hrs and rises at about 04.00 hrs. The entire night is so bright that you may walk even in the dense spruce forest without a torch and you are almost able to see what you are writing in your notebook even at midnight without artificial light.

Results

The number of Woodcock contacts during each census is shown in figure 1. Both the annual maximum and the annual means are shown. The annual maxima means are 27.7 ± 6.7 contacts during the night, and the annual means are 21.7 ± 5.4 (n = 24 in both cases).
No long term trend whatsoever is discerned in these data.

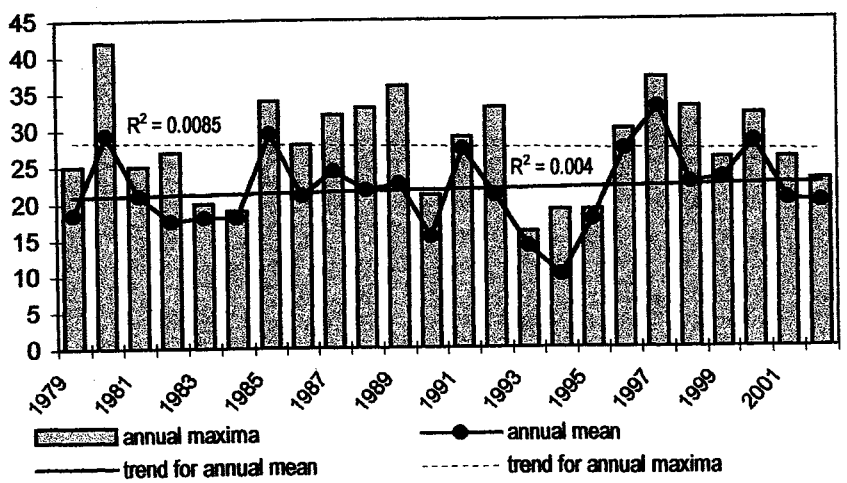

***Figure 1**: Annual means and annual maxima means of woodcock contacts for 1979 to 2002.*

There seemed neither to be any trend in the number of contacts in comparison with the date of the census (fig. 2). Between 20 and 31 May on average 24.3 ± 5.4 (n = 24) contacts

were made, between 1 and 15 June 19.8 ± 9.3 (n = 24), and between 16 June and 2 July 21.3 ± 3.6 (n = 18).

Figure 3 shows the start of roding during 66 nights in 1979-2002. In one census that start exceptionally at 22.30 hrs., roding had started, but otherwise the data reliably show the time of the first roding event. Perhaps a slight tendency is seen to start roding later as the season progresses, but around midsummer the spread of data is much larger. In late May roding started at 14.7 ± 9.4 min after 22.00 hrs (n = 24) , in early June 29.0 ± 17.9 min (n = 24), and from late June onwards 34.0 ± 22.7 min after 22.00 hrs. (n = 18). On average from late May to late June the start is postponed by about 20 min. The earliest start of roding was recorded at 21.58 hrs and the latest at 23.10 hrs. The overall mean for the start of roding was at 22.25 hrs. The time of the last contact during the night was less definitive. It ranged between 00.04 hrs and 04.16 hrs (fig. 4). In late May the last contact was made on average at 03.09 hrs ± 55.0 min (n = 24), in early June at 02.47 hrs ± 53.5 min (n = 24) and in late June and early July at 03.10 hrs ± 48.7 min (n =18). Thus there were no seasonal differences. The overall mean was 03.01 hrs.

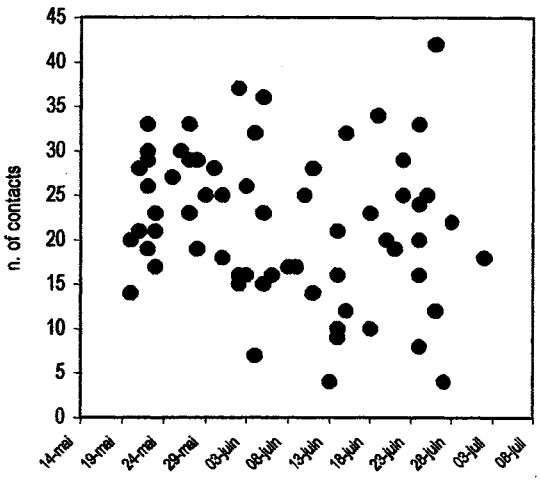

***Figure 2**: Relation between the number of contacts and the date of census.*

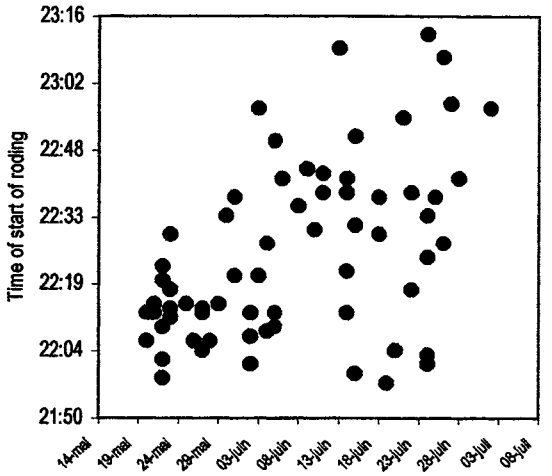

***Figure 3**: Relation between the start of roding and the date of census.*

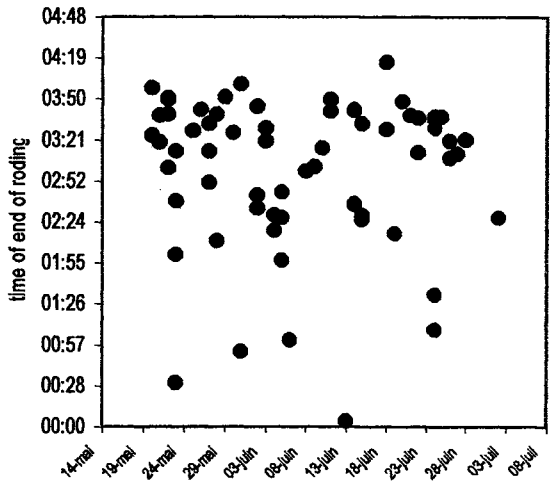

***Figure 4**: Relation between the end of roding and the date of census.*

On the contrary, there were very pronounced differences in the number of contacts during the different 30-min periods (here the few census minutes before 22.00 hrs are included in the period 22.00 – 22.29 hrs). The periods are described as 22a, 22b, etc referring to the first and second half of 22hrs, respectively (fig 5). In period 22a on average 2.67 contacts were made, in period 22b 5.97, and in period 23a 5.74 contacts were made. Between 00a and 03b the numbers were quite stable (between 0.28 and 0.91 contacts per 30 min, except for period 00b with only 0,24 contacts). The minimum numbers were recorded during the darkest part of the night around 01.00 hrs Finnish summer time.

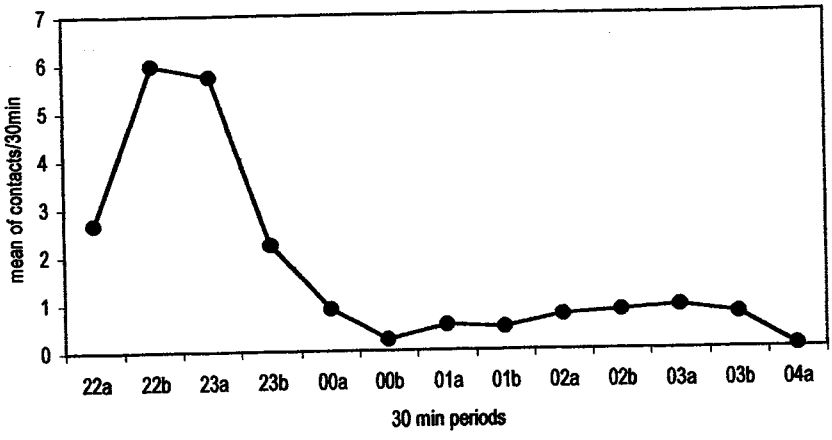

Figure 5: Relation between the number of contacts and the time of roding distributed by 30 mn periods.

During the first half of the nightly census period on average 2.95 contacts were made in each 30-min period. In the second half the corresponding figure was 0.64. Thus 80.9% of the birds were recorded before 01.00 hrs and 19.1% after that time.

Between 22.00 and 23.59 hrs 75.8% of the nightly total was recorded. It thus seems that to establish a reliable index of the population size of the Woodcock one does not have to be out the whole night: 2-3 hours around sunset is probably enough.

Discussion

In southwestern Finland roding usually starts after 22.00 hrs and ends before 04.00 hrs. A night census from one hour before sunset until sunrise practically covers the whole nightly roding period of the Woodcock.

The only reasonable way to treat the data is to count the number of contacts during the night as this does not involve decisions regarding the number of different males actually present. To receive reliable results one does not have to spend the whole night in the field. A standardised 2 or 3 hours count from 22.00 hrs onwards will most probably reveal any regional trends in the woodcock numbers (or at least in the level of local roding activity).

This should be tested on a larger geographical scale. I believe that at least in Fennoscandia a census from 22.00 hrs to 01.00 hrs would give a very reliable index of the local population size. This method might at least also be applied in the northern parts of Russia.

I thus challenge the members of the Woodcock and Snipe Specialist Group to work out a comprehensive and easy method to estimate local abundances of Woodcocks. If the indices could be used to arrive at real density figures this would be all the better. Line-transects grossly underestimate the numbers of Woodcock. In my own line-transect data for 1976-2002 in the same area and for about the same length the mean annual number of counted Woodcocks is well below 1, whereas the annual mean of all night censuses is nearly 22. Thus most of the published density figures for Europe are probably much too low.

Monitoring of roding woodcock in Estonia

JAANUS ELTS, Estonian Ornithological Society, P.O. Box 227, Tartu 50002, Estonia
E-mail: Jaanus.Elts@eoy.ee

Method

According to Ferrand (1993) the presence of roding birds can be detected reliably when the probability to observe a single woodcock is greatest. The greatest probability of detecting roding, even in sites where the abundance of woodcock is low, is from mid-May to the end of June in Estonia. Weather conditions at our latitude could be very variable in May, but are more stable during June. Therefore a single visit to the listening point was made in June as this provides the best chance for measuring relative abundance of the species. A single visit is recommended also by Järvinen and Väisänen (1981) for censusing in large geographical areas.

The costs of organizing and conducting monitoring limit the number of sampling designs. Ferrand (1979) estimated an annual roding area of about 300 ha. To obtain a similar area of sampling unit I used 2×3 centigrade areas (mapping system of coordinates), which are about 356 ha each at our latitude. Only units with predominant forest (at least 90%) were used for sampling. Small forests and sites at perimeters of forests, which are less favorable for roding (Ferrand and Landry 1986), were not used for sampling. All suitable squares (2006 in total) were numbered.

The listening point was selected in the center of the sampling unit or at least remains as close as possible to the center of the unit. Listening points may have to be shifted toward an open area (e.g. a clearing or a crossing of forest roads) to facilitate acoustic and visual observations because woodcocks prefer to fly over open areas. Counting was conducted during good weather, notably in the absence of rain and strong wind that impede visual and acoustic observations.

Because the highest cost is the observer's travel and because the total contacts obtained in one evening are a relative index of abundance, the census was not limited in duration, but was recommended to continue for at least 90 minutes and conducted at least between 21.00-22.30, as during that period roding seems to be most stable at our latitude (Elts 1999).

The sampling squares were randomly selected in each year by a project co-ordinator.

A "contact" which means visual or acoustic observation of a woodcock was the counting unit. If several birds flew together, each of them was considered a separate contact.

Also the habitats around observation points were described. Some weather (temperature, cloudiness, force of wind) conditions were recorded during censuses as well. Among these only cloudiness had an important influence on census results (Elts 1999). The best results were obtained when there was changing cloudiness. The difference between census results during evenings with no clouds and evenings with changing cloudiness was statistically significant (comparison of averages using Student t-test gave the following: $t_{1,2}=2,08$ $p<0,05$).

Results

The average roding activity remained more or less stable in years 1998-2001 (Fig. 1). During the study period this indicator was highest in 1998 and lowest in 1999, wherease that difference is 5.1 contacts per point in average (Table 1). At the same time the maximum number of contacts per census point was registered in 2000 and it was 63 contacts.

The coefficient of variation of the number of contacts was greatest in 2000, when it was 72% and smallest in 2001, remaining at a 52% level.

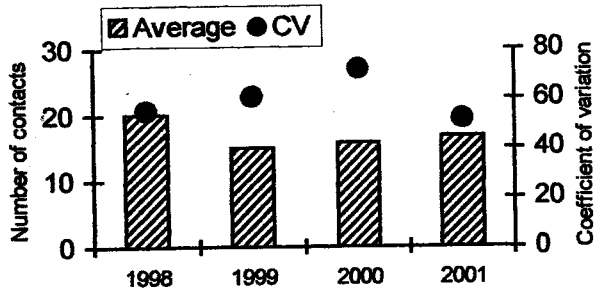

Figure 1: *Number of woodcock contacts registered on average per census point during 90 minutes in June.*

	1998	1999	2000	2001
N. of census points	67	106	110	132
Minimum n. of contacts	2	0	0	0
Maximum n. of contacts	52	44	63	47
Average n. of contacts	20.1	15.0	15.8	16.7
SD of n. of contacts	11.1	9.1	11.4	8.7

Table 1: *Statistics on roding activity of woodcock in June 1998-2001 (per census point during 90 minutes).*

The average roding intensity in 1998 was statistically different from the results of all other years and the statistical significant difference exists also when comparing the average results from years 1999 and 2001 (Table 2). There were no statistically significant differences between results from other years. Therefore we may consider that the average number of woodcock contacts was highest in 1998 during the four-year period under study.

1999	4.77***		
2000	4.09***	0.92	
2001	3.55***	2.14*	0.88
	1998	1999	2000

Table 2: *Comparison of the average roding activity for years 1998-2001 (t-test, *** - $p<0.001$, * - $p<0.05$).*

Woodcock is widely distributed and is occupying a very wide range of habitats. Therefore the so called zero-results are rather exceptional. According to the instructions, observers were asked not to make censuses with bad weather. It is known from previous studies that the only factors having a really negative influence on census results were strong wind and heavy rain. Therefore we may consider that fluctuations in census results are not caused by differences in weather conditions.

In the first census year there were no census points where at least one woodcock was seen. In yhe second and fourth years some census points had zero contacts (less that 1% of all points) and in the year 2000 there were 5% of points without any contacts during the census time (Fig. 2).

Census points with number of contacts 1 up to 5 were defined as *points with low roding intensity*. The highest percentage of points with low roding intensity was in the year 2001 – 16%, and was lowest in 1998 (7.5%).

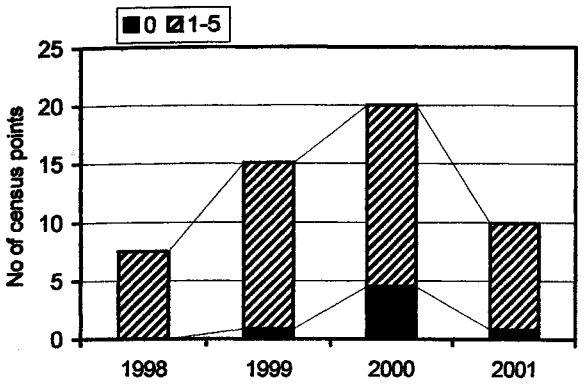

Figure 2. *The proportion of census points with low roding intensity in years 1998-2001.*

When describing the roding activity of woodcock it is not enough to analyse this only from the point of view of average number of contacts per census point but it is important also to describe the distribution of values. This is especially important from the point of view that roding woodcocks may motivate each other to participate in display flight and there may exist an optimal level of group size during these flights.

Most points hold not more than 30 contacts. The actual distribution of the number of contacts is annually different, but its maximum was always between 11 and 15 contacts (Fig. 3).

The annual distributions of the number of contacts were statistically significantly different in 1998 *vs* 2000 and 2000 *vs* 2001. In all other cases the distributions of contacts were not statistically different (Table 3).

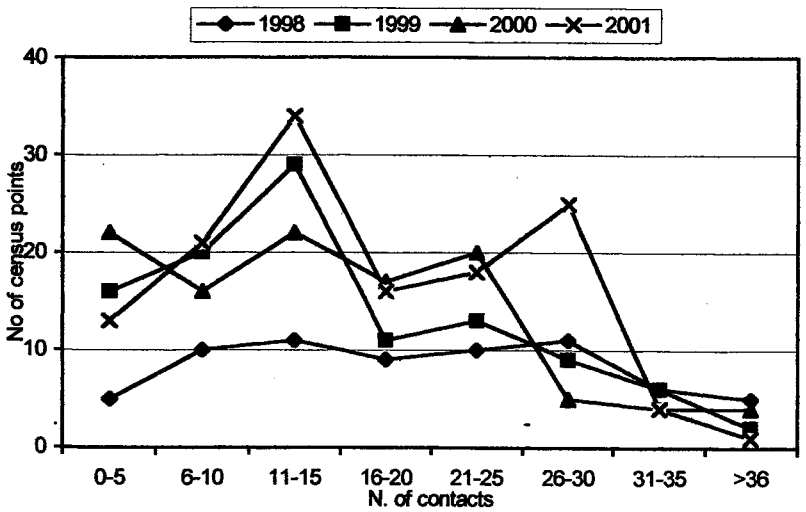

Figure 3. *The distribution of the number of woodcock contacts in years 1998-2001, (June, 90-minute census time).*

	1998	1999	2000	2001
1998	*			
1999	11.041	*		
2000	**14.734**	7.261	*	
2001	12.023	7.982	**18.987**	*

Table 3. *Chi-square test ($h_{0.05,7} = 14.067$).*

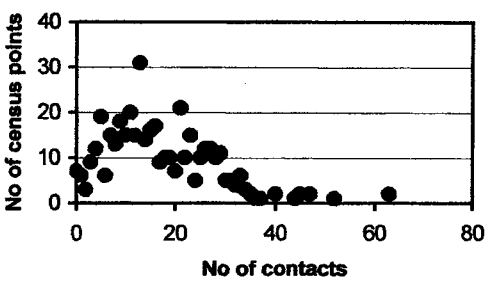

Figure 4. *Frequency distribution of woodcock contacts in 1998-2001 (years pooled) in Estonia (90-minute census period, June).*

During the study period - 1998-2001 - the most common number of heard/seen woodcocks was 13 (31 cases, Fig. 4), a bit less frequent was 21 (21 cases) and 11 (20 cases).

References

Elts, J. 1999. Woodcock studies in Estonia: 1993-1998. Tartu.
Ferrand, Y. 1993. A census method for roding Eurasian Woodcocks in France. Proceedings of the Eight American Woodcock Symposium. US Fish and Wildlife Service. Wildlife Research Report 16: 19-25.
Ferrand, Y. & Landry P. 1986. Répartition spatio-temporelle des bécasses des bois, *Scolopax rusticola*, à la croule en Forêt Domaniale de Rambouillet (Yvelines). Gibier Faune Sauvage 3: 115-141.
Järvinen, O. & Väisänen R.A. 1981. Methodology for censusing land bird faunas in large regions. In: C.J.Ralph and J.M. Scott (eds.). Estimating numbers of terrestrial birds. Studies in Avian Biology 6: 146-151.

Acknowledgement. We thank OMPO for financial support for the project.

News from..... RUSSIA

2002 : a bad season for woodcock in Russia

SERGEI FOKIN, State informational- analytical center of game animals and environment ("Centrokhotkontrol") – Russian Hunting Department – Teterinsky per., 18/8, 109004 Moscow, Russia
E-mail: hunter@online.ptt.ru

One of the main task of the Moscow "Woodcock" group is to conduct the monitoring of woodcock populations in European Russia every year. We study several aspects of the woodcock biology: breeding ecology, roding intensity, spring and autumn migration, hunting bags.

In spring 2002 less woodcocks arrived in Russian breeding areas after wintering. We observed less birds during the spring migration and in summer and autumn as well. Spring was very dry. The storage of snow in the forest was very low after winter. The first roding birds were earlier observed than usually. For example, in the region of Vladimir (110 km to the East from Moscow) the first roding bird was recorded in March, 29, in the region of Moscow in April,1, in the region of Ivanovo (350 km to the North-East from Moscow) – in April, 7, in the region of Kostroma (550 km to the North- East from Moscow)- in April, 11, in the region of Arkhangelsk (1300 km to the North-East from Moscow) – in April, 29. So, everywhere the first roding woodcocks were 7-10 days earlier than usually. In spite of this, during the next 5 -15 days the intensity of roding was low everywhere. The "peak" of migration was in April, 13- 16 in the regions of Moscow and Vladimir and in April, 15-22 in the region of Ivanovo. Only one evening (April, 19) were there many birds in the region of Kostroma. In many regions our local correspondents didn't observe a typical high concentration of birds during migration.

The 10-day spring hunting season was open too early in 2002 in many regions, sometimes before the main migration. For example, hunters could shoot woodcock on roding in the region of Kaluga from March 29 to April, 7 and in the region of Moscow from 5 to 14 April. Usually, the season starts here around the mid-April. So, this spring, the hunting bags were lower (about 100.000 woodcocks) than usually (about 140.000) in Russia.

Roding censuses in 13 quadrats (24x24 km) were conducted by a random method (Ferrand, 1993). The average number of contacts per 2 hour-period of observation was low in 8 quadrats, high in 2 and stable in 1 compared to 2001. In 2 new squares roding intensity was very low.

Since 1999, a national roding census has been conducted in Russia every year during the last weekend of May. Many people (hunters, gamekeepers, ornithologists, birdwatchers)

take part in it. The last census was conducted in May, 25, 2002. We distributed 4.000 forms among 43 regions of European Russia and the Ural and got 1986 forms (49.6 %) back. The average number of contacts per one point in Russia was 7.7 (7.8 in 2001). The number of males was 9.1 (9.2 in 2001). In spite of this, in 12 regions out of 17 (where the roding census took place last year) roding was less intensive than in 2001. A high roding intensity (on average more than 10 contacts per region) was observed in the regions of Kaliningrad, Smolensk and Tver. A lower roding intensity (5.1-10 contacts) was observed in 18 regions and a very low roding intensity (1-5) in 5 regions. However, the number of points with many contacts (more than 30 per evening) decreased. The best roding was noted in some points of Tatarstan (43 contacts), the Ivanovo region (39), Komi Republic (38), Ulianovsk region(33) and some others. For example, in 1999 the maximum of contacts was noted in the Kaliningrad region (64), Ekaterinburg region (54) and Mari-El Republic (54). So, in 2002 many regions must be considered as areas with "mean" roding intensity. Our local correspondents reported that everywhere in Central Russia the roding intensity was less than in previous years.

In **Central Russia**, the breeding season 2002 was favourable at its beginning, but changed to worse from the end of May. Summer was extremely hot and dry. Main brood rearing stations become too dry for the feeding of chicks in the forest and in the open habitats as well. Many forest fires occurred in Central Russia and they continued until the end of September. Roding stopped 2-3 weeks earlier than usually. For example, in 2002 the last roding male was noted in June 29 in the Ivanovo region, in July 6 in Vladimir and July 7 in the Moscow region.

In the **North of European Russia** (North part of Arkhangelsk region) spring came early, but slowly. After a warm period (end of April-beginning of May) a cool period arrived. After a short warm period occurred a coldspell with snow and frost at night. It happened in May, 19. The snow cover (5 cm) stayed only during 2 days in the North part of the area. This phenomenon had no strong influence on adult birds as was the case in spring 2000 when we found some dead and many ill woodcocks along the rivers after a long coldspell with a 50-cm snow cover. In spite of this, in the North Arkhangelsk region roding intensity was lower than previous years and at the best place we observed 1.5 times less birds than usually. Summer was cold, windy and not so rainy. However, the South part of Arkhangelsk and the North of the Vologda region were very favourable this year for woodcock breeding (warm and rainy). This is a large area, but not so big in comparison with the whole woodcock breeding area in European Russia.

In the **Ural mountains** spring was also cold and slow to appear. After a dry warm period in the beginning of May there was rainy weather, mostly at the end of this month. Snow fell in some regions in the beginning of June. This was not good for early broods. Then after a rainy June the weather changed. The first part of July was hot and dry. This was good for late broods. The second part of July and whole August were warm and wet. So, in the Ural there were good conditions mostly for late broods.

Autumn ringing confirmed our conclusions. A total of 299 woodcocks were ringed in Russia (260 by our Moscow group and 39 by the St-Peterburg group in North-West Russia). Among our 260 birds the proportion of juveniles was 74.6% (52% late brood and 48% early brood). But we can take into consideration that among the 128 birds ringed in the Ural (during a French-Russian expedition to the Perm region) this proportion of juveniles extended to 82%, while in Central Russia the value was 67.6% and in the north of the Arkhangelsk region 68%.

Autumn in Russia was very dry in September and too wet in October in most part of the Central regions. In the Ural and North of European part a rainy period began as of 17-20 September. Our ringers reported that the number of birds during migration was significantly less than in previous years. The migration of woodcocks was delayed. The last bird was ringed in October 30, one week later than usually.

So, we suppose, that this year was rather bad for woodcock in Russia. We recommend to pay attention to protect woodcock populations in their wintering stations in Western and South Europe, mainly in harsh periods of the winter 2002/2003.

Results of Woodcock (Scolopax rusticola) autumn census in the Leningrad region, Russia

IVAN V. ILJINSKY, St.Petersburg State University, Russia
E-mail: Iljinsky@II9001.spb.edu
YVES FERRAND, Office National de la Chasse et de la Faune Sauvage, Research Department – Migratory Birds Unit, BP 20, F -78612 Le Perray-en-Yvelines Cedex
E-mail: y.ferrand@oncfs.gouv.fr
FRANÇOIS GOSSMANN, Office National de la Chasse et de la Faune Sauvage, Research Department – Migratory Birds Unit, 53 rue Russeil, F-44 000 Nantes
E-mail: rezobecasse@oncfs.gouv.fr

Introduction

At present the problem of numbers of the European Woodcock population and its dynamics is discussed. Due to this, new methods of census of the birds are elaborated and active woodcock ringing was implemented during the last decade.
Not long ago it was supposed that the number of woodcocks registered in the Leningrad region area in autumn was relatively stable every year (Malchevsky, Pukinsky. 1983). This was confirmed by the fact that during census with dogs in places where the birds stayed for the day the same quantity of birds was annually disturbed. Periodical variations of woodcock numbers during a census with dogs in Karelia were neither observed (Danilov, 1969).
This report contains the results of the autumn census of the Woodcock in the Leningrad region during 1994 – 2001. The census works were implemented by the working group including members of Saint Petersburg State University and the Office National de la Chasse et de la Faune Sauvage, France. Preliminary results of woodcock ringing had formerly been given (Gossmann *et al.*, 2000; Iljinsky *et al.*, 2000).

Methods

Annual autumn woodcock census works in the area of the Leningrad region have been implemented for 8 years, from 1994 till 2001. Control areas for census and catching of the birds were pastures and hay fields bordering upon deciduous or mixed forests. These areas were situated in central districts of the region at a distance of 3-5 to 40-50 km from each other. 10 model areas were chosen among the areas where catching and registration of woodcocks were implemented. Long and regular observations have taken place annually in these areas. In September – October a woodcock search and catching was regularly carried out on certain days, for 1-4 hours, using spot-lamps (Gossmann *et al.* 1986). Additional areas (there were 15 in 2001) were necessary in order to obtain a more complete picture of the distribution and number of birds in the region. The number and location of additional areas change every year.
During the observation period, more than 4.900 woodcocks were registered, about 37% of them were caught. Some birds were caught repeatedly both during one season and in the following years. 1.703 woodcocks were ringed in the Leningrad region from 1994 till 2001.
Ringing, morphometric bird description and also determination of their age was implemented. Determination of the age of young birds is based first of all on the state of moulting of secondary coverts (Fadat, 1981).

Results

At least in August the woodcock evidently flies to feed from forest to the hay fields and pastures. Obviously, in September passing woodcocks appear along with the local birds. The statement that the autumn woodcock migration starts at the end of September in the northern districts of the Leningrad region and in the beginning of October – in the

central and southern ones (Malchevsky, Pukinsky. 1983) should be verified. Today it is known that some individuals ringed in the Leningrad region may be observed in their wintering places, particularly in France, already in the middle of October (Iljinsky *et al.*, 2000). The migration peak is in the first decade of October.

A few last woodcocks may be observed in North-Western Russia before the first heavy snowfall, which usually takes place in the first decade of November. The latest meeting of woodcock in the Leningrad region is dated around the 5th of December (Malchevsky, Pukinsky. 1983).

A comparison of bird census results for 8 years has shown that the highest abundance was registered in 1995 when on average 13 woodcocks (maximum number was 67) were observed in each investigated area. Average number of registered birds per 1 conditional census hour was 8.5 (Table 1). According to the results the previous one of 1994 was close. That year almost all days of bird census had been positive.

Years	Number of investigated places	Total number of registered woodcocks	Total time of observations, in conditional "hours"	Average number of registered birds per 1 hour of census	Average number of birds registered in the same place
1994	43	410	59	6,9	9,5
1995	100	1287	151	8,5	12,9
1996	101	620	149	4,2	6,4
1997	97	415	146	2,9	4,3
1998	96	345	120	2,9	3,6
1999	146	659	178	3,7	4,3
2000	171	708	204	3,5	4.1
2001	114	493	127	3,9	4,3

Table 1: *Results of night woodcock censuses in control areas of the Leningrad region in autumns 1994 – 2001.*

Note: The conditional unit of time during bird census in model areas was the time of work with a spot-lamp with 1 battery (on average 75 minutes) excluding the time for ringing and investigating the caught birds.

The following years were obviously not so good for woodcock. They were notable for protracted cold weather returning in the beginning of summer or for protracted droughty periods in July-August that could influence both reproduction success and food availability. The number of birds registered those years in control areas has noticeably decreased. It influenced woodcock catching results. In spite of an increase in time for the search of woodcocks, the number of birds ringed during these years has decreased in comparison with 1995. Many nights, especially in the first half of September, had negative result, *i.e.* no birds were observed in the pastures.

The change in the number of registered woodcocks was accompanied by some changes in the correlation of caught birds' age groups (Tab. 2, Fig. 1 and 2). The most remarkable differences were registered in 1999 – 2001. These years a noticeable increase of a share of young birds from late broods was observed (Fig.2). It is possible that such phenomenon could be connected to less successful reproduction of early broods and a large number of birds, which had to nest repeatedly or more lately.

Years	Adult		Young from early brood		Young from late brood	
	number	%	number	%	number	%
1994	41	26,8	60	39,2	52	34
1995	109	23,6	227	49	127	27,4
1996	83	35,5	66	28,2	85	36,3
1997	46	34,8	41	31,1	45	34,1
1998	74	41,1	72	40	34	18,9
1999	55	25,4	79	36,4	83	38,2
2000	38	16,4	85	36,8	108	46,8
2001	38	23,4	33	21,2	85	55,4
Total	484		663		619	

Table 2: *Age-ratios of the Woodcock caught in the Leningrad region in autumn 1994-2001.*

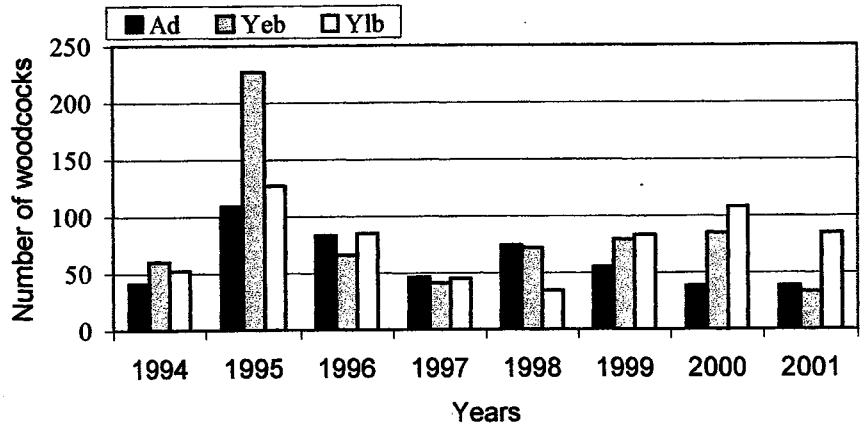

Figure 1 : Age-ratios in numbers of Woodcock caught in the Leningrad region in autumn 1994-2001. (Yeb: young early brood; Ylb: young late brood).

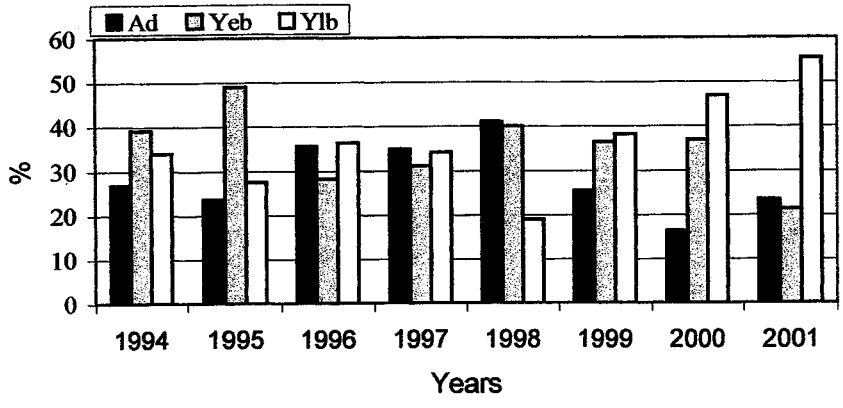

Figure 2 : Age-ratios in percentage of the woodcocks caught in the Leningrad region in autumn 1994-2001. (id. Fig.1.).

It is possible to suppose that the change in the number of woodcocks registered in control areas and the correlation of their age groups is connected not only with regional weather conditions and success of bird reproduction in the region, but also with the redistribution of migrating birds' stations during the long draughty period in the second half of the summer. The subsequent study may answer these questions.

References

Danilov, P.I. 1969. State of number of some snipes (Great Snipe, Woodcock) in Karelia according to data of autumn migration census // Ornithology in the USSR. Materials of the 5th All-Union ornithological conference. Ashkhabad, 1969. Part 2, p. 184-186 (In Russian)

Fadat, C. 1981. Age-ratio des tableaux de chasse de bécasses (*Scolopax rusticola*). Signification biologique et utilization pour la bonne gestion des populations bécassières // Bull. Mens. ONC, No S. Scie. Techn. Nov 1981. P. 141-172.

Gossmann, F., Ferrand, Y., Loidon,Y. & Sardet, G. 1986. Methodes et resultats de baguages des becasses des bois en Bretagne. // Third European woodcock and snipe workshop. Paris. P.34-41.

Gossmann, F., Ferrand, Y., Fokin, S. & Iljinsky, I.V. 2000. Ringing of Woodcock (*Scolopax rusticola*) in Russia from 1991 to 1997 // Fifth European Woodcock and Snipe Workshop - Proceedings of Intern. Symposium of the Wetlands Intern. Woodcock and Snipe Specialist Group 3-5 May 1998. Wetlands Intern. Global Series No 4, Intern. Wader Studies 11, Wageningen (The Netherlands), 2000. P. 10-14.

Iljinsky, I.V. Fetisov, S.A., Ptschelinzev, V.G., Verevkin, V.G., Golovan, V.I., Chistyakov, D.V. & Gossmann, F. 2000. First results of Woodcock (*Scolopax rusticola*) ringing in the north-west regions of Russia // Fifth European Woodcock and Snipe Workshop – Proceedings of Intern. Symposium of the Wetlands Intern. Woodcock and Snipe Specialist Group 3-5 May 1998. Wetlands Intern. Global Series No 4, Intern. Wader Studies 11, Wageningen (The Netherlands), 2000. P. 15-18.

Malchevsky, A.S., Pukinsky, Y.B. 1983. Birds of Leningrad region and adjoining areas: history, biology, protection. Leningrad State University Publishing. Volume 1, p. 480. (In Russian)

Acknowledgements

The implementation of census of autumn woodcock migration would be impossible without the active participation in bird catching and ringing of all members of the working group, in addition to the authors of this article: first of all V.I. Golovan, A.V. Kondratiev, V.G. Pchelintsev, V.A. Fedorov, M.V. Verevkin, D.V. Chistyakov, V.A. Buzun (St Petersburg State University), and also Luc Barbier (ONCFS, France).

The study of woodcock in the Leningrad region was financed by the Office National de la Chasse et de la Faune Sauvage, France, and the European Programme Life-Third Countries in the framework of the project "Lenfauna, for the conservation of wild fauna and natural habitats in the Leningrad Region".

Aspects of post-nuptial migration of Common Snipe in the southern part of Belarus

EDWARD MONGIN, Institute of Zoology NAS, Akademicheskaya str. 27, 220072 Minsk, Byelorussia
E-mail: ed.mongin@mail.com

The Common Snipe, *Gallinago gallinago*, is one of numerous wader species during the autumn migration in Belarus. During passage it represents13-28% of the other migratory waders (Pinchuk and Mongin, 1999). The ringing of snipes in Belarus started only in 1999 within the framework of International Project Wader Wetland Inlands (WWI) targeted on the study of inland migration routes of waders and coordinated by J.J. Seeger A considerable proportion of data on migration dynamics, morphometry and recoveries were collected in 2000-2001. These surveys were part of OMPO's (Migratory Birds of Western Palearctic) regional program on snipes. The main results regarding the different ecological aspects of snipe species were issued in an OMPO special publication (Mongin, 2002).
This article presents four-year study results of Common Snipe migration in the southern part of Belarus including new 2002 data.

Methods

A detailed study of snipe migration was carried out in the same plot in an area about 1.2 km^2 in the Pripyat river floodplain meadows during 4 years (vicinities of Turov, 52^{0}05' N, 27^{0}45' E). For the period of the autumn migration the snipe counts were carried out along permanent routes and 2-5 counts were made during each pentad. Migratory birds were caught in walk-in traps set in favourable feeding habitats. The traps were checked every three hours from dusk to down. All captured snipes were weighed (with an electronic balance to the nearest 0.1 g) and aged (Prater *et al.* 1997). The following morphological measurements were taken: wing length (maximum chord; Evans, 1986) measured to the nearest 0.5 mm with a stop ruler, tail length was measured to the nearest 1.0 mm with a ruler; for the following measurements (to the nearest 0.1 mm) a calliper was used: bill length from the tip to feathering (Bill F) and from the tip to nostril (Bill N), tarsus length (Prater *et al.* 1997), total head length (Green 1980). In addition the length of the outer tail feather (length of the outermost tail feather) was also measured to the nearest 0.5 mm using a ruler with a pin. Fat reserves were recorded using the scale (0-4) developed by Scebba and Moschetti (in press). The status of fat reserves was determined visually in the featherless area under the wing. External criteria (Devort *et al.* 1986, Czajkowski 2002) were used to determine the sex in Common Snipe. The sex of birds found dead and shot by hunters was determined by the type of gonads (Prater *et al.* 1997).

Results and discussion

In total, 355 Common Snipes were ringed and 7 direct recoveries were obtained (Table 1). More than two thousand birds were recorded along the constant routes.

	1999		2000		2001		2002		Total
	juv	ad	juv	ad	juv	ad	juv	ad	
Number of ringed birds	6	13	120	73	69	1	46	27	355
Number of recoveries	-	-	5	-	1	-	1	-	7

Table 1: *Number of recoveries for Common Snipes ringed in the floodplain of the Pripyat River in the last four years.*

The dynamics of the Common Snipe passage is shown in Figure 1. As far as the length of the routes slightly varied during the different field seasons because of the diverse water table in the floodplain during the period of study, migration patterns were estimated by the percentage rate of counted birds with respect to the total number of Common Snipes recorded during season. The most protracted period of observations was in 2000. Migrating birds were recorded already during the third decade of June. This was easily noticed by the increasing number of recorded birds (only 4-5 pairs of Common Snipe annually bred in this plot). The most intensive migration was recorded in the 4-5 pentads of July 2000, the less considerable peaks were registered later, during the 2nd and 4th pentads of August. The main peak of passage during 1999 was recorded in the 3rd pentad of August. The shortest periods of observations were in 2001 and 2002, when the maximal Common Snipe passage took place in the third decade of July. Hydrological conditions of the season affected the general migration pattern in the floodplain meadows. The greatest number of migrating Common Snipes stopped in the floodplain meadows during the season with favourable hydrological conditions. For example, in 1999, when hydrological conditions were favourable during the period of migration, up to 131 birds were recorded along the survey routes, whereas only up to 71 birds were recorded in 2000 along the survey routes of similar length. These floodplain meadows were inundated in 1998 by an unusually high flood from late July to mid-August. Only single birds were recorded here during this period. Up to 100-158 Common Snipes were recorded along the same route when floodwater fell and many places favourable for feeding were created.

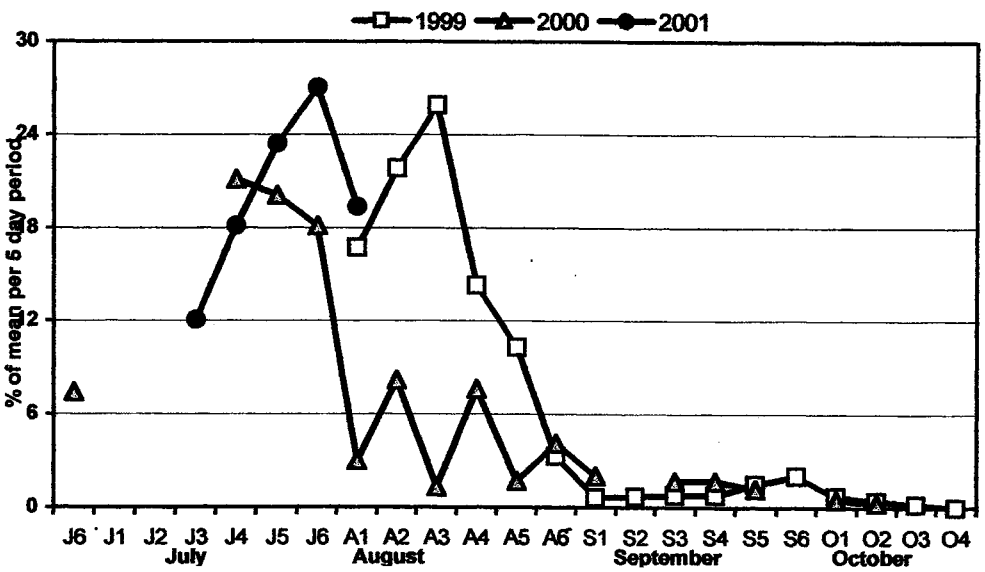

Figure 1: *Passage dynamics of Common Snipe in the floodplain meadows of the Pripyat River during autumn migration. Data grouped by five-day periods.*

Probably, the pattern of autumn migration in the Common Snipe consists of several main waves of passage. The first wave is related with the 2-3 decades of July and the second wave - with mid-August. Moreover, there is probably a small wave in 2-3 decades of September. This has also been confirmed by the Common Snipe surveys in the ponds of fish farm Selets (south-western part of Belarus) during the 2-3 decades of September, where autumn wader migration was studied in 1996-1998. Up to 47.5-55 birds per 100 ha of drained ponds were recorded here during the 3rd decade of September.

Most probably, the peaks of passage in Common Snipe are formed by the different conditions of migration for juvenile and adult birds, as well as the passage of birds from more northern and eastern breeding grounds. The age-ratio of birds captured in 2000 was calculated for each pentad (Fig. 2). There was about 1-2 juvenile per 1 adult bird during the greater part of July. A sharp predominance of juveniles (11.3 juv/ad) was recorded during the

6th pentad of July, and more than a double predominance was recorded during the 4th pentad of August. There were appreciable age-ratio fluctuations during the peaks and dips of passage. It is probably possible to explain peaks and dips in the age-ratio curve not only by the arrival of one age category and the departure of another one, but also by the different speed of migration for adults and juveniles. It was noted by Devort (1997, 2000), that adult Common Snipes travel slower than younger birds. In France the adults gradually arrived in September and October, months in which the age-ratio was less than two juvenile sfor each older birds. At the same time this author found that 97% of the birds crossing France in August were juveniles. Thus, it agrees with supposition that juveniles start their migratory movements in Belarus already in the end of June – beginning of July. During this period we observed a significant increase of foraging Common Snipes. Only one bird was an adult among eight Common Snipes captured on 24-26 June 2000. There is also one recovery from Poland confirming the above mentioned assumption. A juvenile Common Snipe was ringed on the 14th of July 2000 in the Pripyat River floodplain and captured in the Jeziorsko reservoir in Poland on the 20th of July 2000. Thus, the average speed of this migrating juvenile was about 104 km/day.

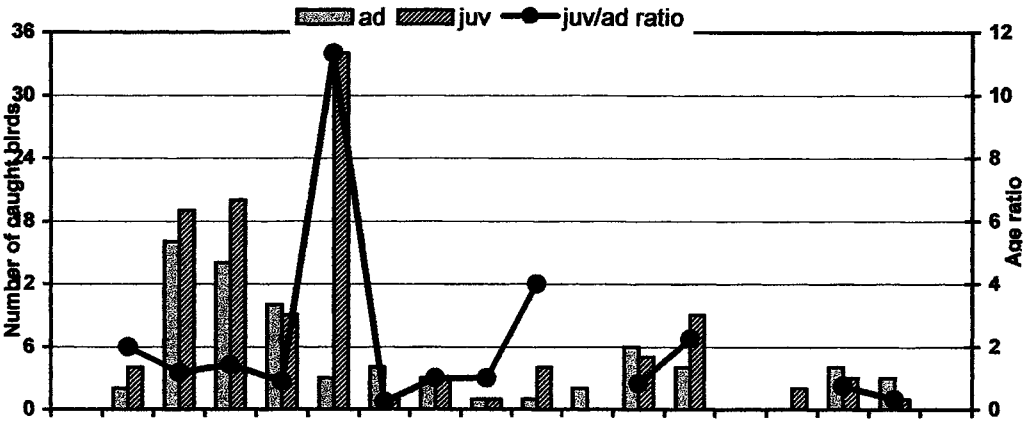

***Figure 2**: Age ratio a numbers of adult and juvenile Common Snip caught during the autumn migration in 2000. Data grouped i five-day periods.*

Five juvenile and three adult birds were repeatedly captured in 2000 and 2002 during the ringing of migratory Common Snipes. Adults were caught 6, 26 and 40 days after ringing. Juveniles were repeatedly captured after 2, 8 and 39 days. In one case the one-day old nestling ringed on 3 July in the migration study plot was repeatedly captured after 23 and 28 days. The body mass of repeatedly-captured and weighted birds increased. In one case the body mass increase in an adult bird was 7.5 g (7% of its initial body mass) per six days, in an other case the body mass of a juvenile bird increased by 15.4 g (16%) per eight days.

So far as adults have to spend a significant part of their energy during the moult, they store fat reserves and increase their body mass more slowly. For example, the body mass of one adult male recaptured 26 days afterwards showed a 4 g increase (4% of initial body mass). Already during the third pentad of July all captured adult birds had moulted primary feathers. As was shown by Prater *et al.* (1997), almost in all wader species moult usually starts with the innermost (1st) primary and progresses outwards. New 1st-2nd primaries (growing feathers in four cases) were found in the majority of adult Common Snipes (n=43) during the second decade of July 2000 and 2002, some birds got new feathers up to the 5th-6th primaries. Moreover, growing tail feathers were recorded in 16 birds. The birds started to moult with central feathers or shed all tail feathers simultaneously.

The changes in average body mass and fat reserves in adults and juveniles during subsequent half-month periods are shown in Figures 3-4. The body mass of juveniles was greater than in adults in the first part of July.

Younger birds were heavier than adults and had also larger fat reserves. Consequently, juveniles were able to start migration earlier than adults. The changes in average body mass and fat reserves within both age groups were undulating. It is possible to observe the resemblance of these cyclical changes and the main waves of passage. Thus, we have observed the departure of birds with accumulated fat reserves and the gradual arrival of Common Snipes from other territorial groups (sub-populations) to store fat reserves or to replenish them after a long period of flight.

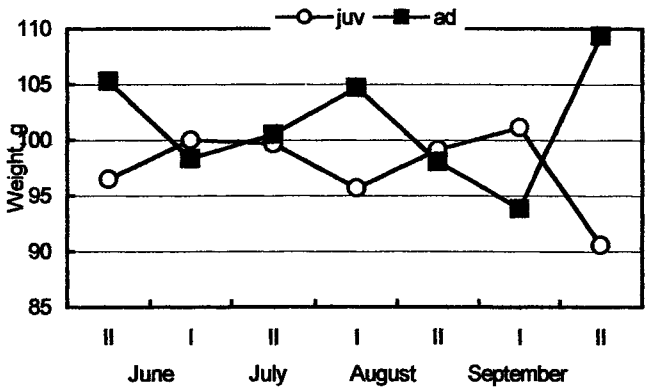

Figure 3: *Average body mass of Common Snipes caught in the meadows of the Pripyat River in subsequent half-month periods.*

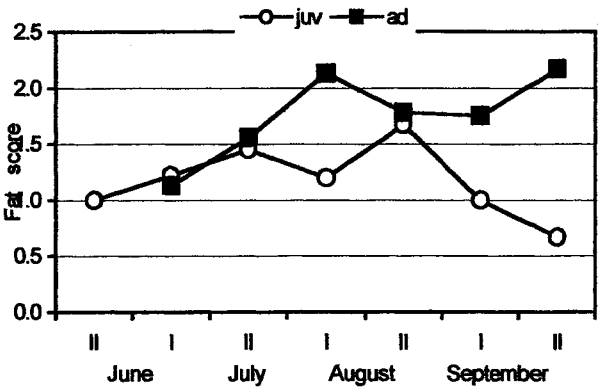

Figure 4: *Changes of fat reserves in juvenile and adult Common Snipes in subsequent half-month periods.*

These data give an evidence of the great importance of floodplain meadows for Common Snipe's accumulation of fat reserves during the post-nuptial migration.

Detailed measurements of caught birds with defined age and sex are shown in Tables 2-3. The same pattern of statistically significant differences was revealed using a T-test for juvenile and adult birds. The length of bill (t=4.8-5.4, p<0.001) and head (t=5.2, p<0.001) was greater in females. The females were also heavier than males (t=5.1, p<0,001), the tarsus length was also higher in females (t=7.4, p<0.001). The length of tail (t=4.1, p<0.001) and the outer tail feather (t=13.3, p<0,001) was greater in males. It was found that the length of the outer tail feather (unplucked) was 52 mm in some juvenile males. The length of the extracted feather was 55 mm in this case. Devort *et al.* (1986), dealing with extracted feathers, pointed out that juvenile birds with length of outer tail feather of less than 56 mm were females. Probably, the reason for some disproportion in this study is twofold: first of all, we have measured live birds (not plucked feathers), and secondly, the tail feathers of some juveniles were not completely grown (although, this is not always clear and obvious).

	Mean		Min		Max		St. Dev.		N	
	f	m	f	m	f	m	f	m	f	m
Wing, mm	136.7	136.0	127.0	129.0	143.0	140.5	3.18	2.72	71	73
Tail, mm	59.3	61.3	52.5	56.0	66.0	69.0	2.92	2.96	70	73
Outer tail feather, mm	52.0	57.2	46.0	52.0	57.0	68.0	2.09	2.52	70	73
Tarsus, mm	33.4	32.0	30.4	29.8	35.9	34.0	1.24	1.00	70	73
Bill N, mm	63.6	61.1	57.4	55.4	72.5	68.2	3.19	2.83	70	73
Bill F, mm	70.7	67.9	63.6	61.2	80.4	74.9	3.37	2.75	70	73
Head, mm	99.6	96.7	91.1	90.0	109.5	104.3	3.59	3.03	70	73
Weight, g	103.1	95.3	84.1	81.5	124.8	115.0	10.43	7.34	69	72

Table 2: *Morphometric parameters of sexed juveniles of Common Snipe.*

	Mean		Min		Max		St. Dev.		N	
	ad	juv	ad	juv	ad	juv	ad	juv	ad	juv
Wing, mm	135.7	136.4	129.5	127.0	143.0	143.5	3.42	2.98	86	277
Tail, mm	60.4	60.1	53.0	52.5	67.5	69.0	3.13	3.00	60	272
Outer tail feather, mm	57.7	54.0	46.0	45.0	66.0	68.0	4.61	3.41	64	268
Tarsus, mm	33.4	33.0	29.2	29.8	36.3	36.6	1.31	1.31	98	277
Bill N, mm	61.6	62.0	53.6	54.8	69.0	72.5	2.80	2.98	98	276
Bill F, mm	68.9	68.9	61.9	60.7	76.0	80.4	2.86	3.09	98	276
Head, mm	97.6	97.9	90.1	88.4	104.7	109.5	2.82	3.28	98	274
Weight, g	100.6	99.4	86.1	81.5	126.8	139.5	8.03	9.47	97	269

Table 3: *Morphometric parameters of Common Snipe adults and juveniles caught during the autumn migration in 2000-2002.*

Statistically significant differences in the measurements of juvenile and adult birds were found in two cases only. The length of the outer tail feather was greater in adult birds (t=7.4, p<0.001). This should confirm the above mentioned assumption about the continuation of tail feather growth in juveniles. The guide-book published by OMPO and CICB (Czajkowski 2002) also indicates that adults and juveniles can be aged by the length of the outer tail feather (juveniles - less than 60 mm, adults – more than 66 mm).

In order to find the differences in the outer tail feathers of juveniles as a result of their growth, time of catching was divided into three month periods from July to September. The tendency of increase of the average value for this measurement was found in each subsequent month (Fig. 5). However, significant differences were not revealed (ANOVA, $F_{(2,187)}$=1.68; p<0.19), but probably this is possible and could be explained by the considerable differences in size of the compared groups.

Also the mean tarsus length was somewhat greater in adult birds (t=2.5, p<0.01), but variations (min and max length of tarsus) were greater in juveniles. Probably, the reasons of these differences are also twofold: Wlodarczyk and Kaczmarec (2000) stated that the differences between adult and juvenile Common Snipes (as well as other species) in tarsus length can be explained in terms of bone calcification. In young birds the tarsus consists mainly of cartilage tissue. When it is replaced by solid bone the tarsus shortens. Probably, in this study we should explain the greater mean length of tarsus in adults by a rather large share of females among the captured birds. There were 26 females and only 16 males among the exactly sexed birds.

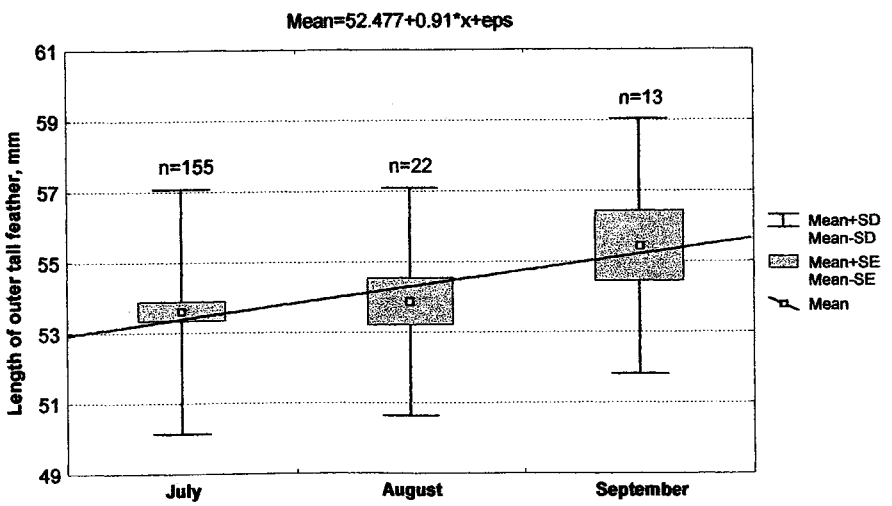

Figure 5: *Average length of the outer tail feathers in juvenile Common Snipes caught in floodplain meadows of the Pripyat River in subsequent months.*

Fifteen Common Snipe recoveries were obtained by the Belarus Bird Ringing Centre before 1993 (Fig. 6). All birds were ringed in the countries of Western Europe during their autumn migration (from 25 July to 2 October). Only one bird was ringed in spring (14 April) in Czechoslovakia. Mean distance between ringing and recovery places was 1,387 km (range 617-2,143 km, St.Dev.= 496.9; n=15). Two birds were shot in Belarus during the breeding period (the ringing and finding places are connected by lines in Figure 7). All other recoveries belong to the period of autumn migration (August). Baumanis (1985) and Kharitonov (1998) pointed out that there were no essential differences between the Common Snipe recoveries in the first and in the following non-breeding seasons, and therefore it is possible that the birds from east and north-east regions of Russia pass through Belarus mainly in a western direction. This agrees with the routes for continental populations shown by Cramp and Simmons (1983), Devort *et al.* (1986).

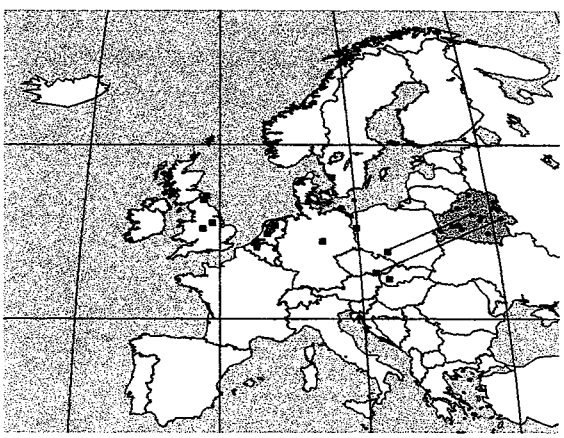

Figure 6: *Common Snipe recoveries from birds ringed beyond the bounds of Belarus according to data of the Belarus Bird Ringing Centre (ringing places and recoveries in Belarus during the breeding season are connected by lines)*

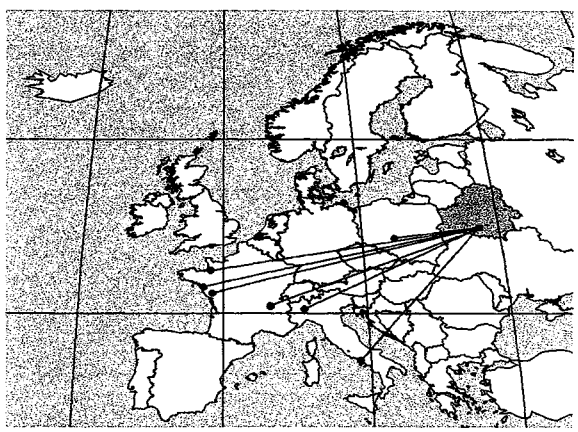

Figure 7: *Recoveries of Common Snipe ringed in Belarus during 2000-2002. All birds were found during the calendar year (direct recoveries)*

Due to the intensive ringing scheme of migratory snipes, which was implemented as part of the OMPO program in 2000-2001 and continued in 2002, another 7 recoveries were obtained (Fig. 7). All recoveries were obtained during the one-year period after the ringing of juvenile birds (direct recoveries). Juvenile birds were ringed from 25 June to 28 July and recovered in July in Poland and in August-December in France and Italy. Mean recovery distance was 1,728 km (range 622-2,190 km, S.D = 549.6; n=7).

Juveniles followed a southwest direction during post-nuptial migration, like the birds shot during the breeding season in Belarus territory. Probably, some of the juveniles ringed during this period were from the local population.

References

Baumanis, J.A. 1985. Common Snipe *Gallinago gallinago* (L.). Pp.240-247. *In: Migrations of Birds of Eastern Europe and Northern Asia: Gruiformes-Charadriiformes.* Il'ichev, V.D., Viksne, J.A., Mihelson, H.A. (Eds). Nauka, Moscow. (In Russian).

Devort, M., Trolliet, M. & Veiga, J. 1986. Les bécassines et leurs chasses. L'Orée, Bordeaux, France.

Devort, M., Chevallier, F., Lethier, H., Olivier, G.N. & Veiga, J. 1997. The Common Snipe: Elements of the action plan. OMPO.

Devort, M. 2000. Some methodological aspects of snipes research: the contribution of long term wing collection and analysis of Common Snipe (*Gallinago gallinago*), Jack Snipe (*Lymnocryptes minimus*) and Great Snipe (*Gallinago media*) to the monitoring of their populations. OMPO Newsletter. No 21 (special issue): 5-24.

Evans, O. 1986. Correct measurements of the wing length of waders. Wader Study Group Bull. 48: 11.

Cramp, S. & Simmons, K.E.L. (Eds). 1983. The birds of the Western Palearctic. Vol. 3. Oxford University Press, Oxford, U.K.

Green, G. 1980. Total head length. Wader Study Group Bull. 29: 18.

Czajkowski, A. 2002. Key to ageing and sexing of the Common Snipe *Gallinago gallinago* by the study of feathers. Publ. CICB and OMPO. Paris, France.

Kharitonov, S.P. 1998. Migration and some population parameters for Common Snipes (*Gallinago gallinago*) in Eastern Europe and North Asia. Pp. 136-155. *In: Proceedings of the Programme: "Study of the Status and Trends of Migratory Bird Populations in Russia".* Zycov C.D. (Ed). OMPO, Severtsov Institute of Ecology and Evolution of Russian Academy of Sciences and Rosohotrybolovsoyus. Moscow, Russia.

Mongin, E. 2002. Snipes in Belarus. *In: Snipes in the Eastern Baltic Region and Belarus.* OMPO special publication. Vilnius: 15-35.

Prater, A., Marchant, J. & Vuorinen, J. 1997. Guide to the identification and ageing of Holarctic waders. BTO. Tring.

Scebba, S. & Moschetti, G. (in press). Migration pattern and fat reserves of Curlew Sandpiper Calidris feruginea in stopover site in southern Italy. International Wader Studies.

Wlodarczyk, R. & Kaczmarec, K. 2000. Preliminary results of the ringing scheme of migratory Snipes implemented on the Jeziorsko reservoir, Central Poland. OMPO Newsletter. No 21 (special issue): 73-79.

News from..... ITALY

Woodcock hunting bags in Liguria (North-West Italy)

SILVIO SPANO & LORIS GALLI, DIP.TE.RIS, Università degli Studi, Corso Europa 26,I-16132 Genova
E-mail: spano@hpe35.dipteris.unige.it

The Italian national law n° 157/1992 has created hunting management units for which the hunters are obliged to choose between hunting in the mountains (the Alps) and hunting in the plains.
Liguria is a small mountainous and forested region (about 500 000 ha) where hunting is prohibited on about 20% of the surface area. So, hunting is allowed on 380 000 ha, 250 000 of which are suitable for the Woodcock. Hunting is open 3 days per week during autumn and winter till the end of January. A bag limit of 3 woodcocks per day and 30 per year is applied.
Each hunter must record in a bag booklet the number of killed game species for each hunting day. We have analysed these data for 1994/95 to 2000/01. The number of registered killed woodcocks is presented in Table 1.

In 1999/00 a special booklet was used that allowed to automatically read the data by an optical system. Unfortunately, this system was only used during this hunting season. Insofar as the optical reading is very reliable, we paid more attention to the data collected in 1999/00. During this hunting season, 9 190 woodcocks were killed by 3 135 hunters, i.e. an average of 2.8 woodcocks per hunter.
Almost half of the successful hunters (49 %) killed only one woodcock (fig.1). Only 548 hunters (17.5 %) killed more than 4 woodcocks. Finally, 13 hunters (0.4%) killed more than 20 woodcocks.

Compared to the 28 802 Ligurian hunters, only 10.9% killed at least one woodcock, 5.5% at least 2 and 1.9% more than 4.
Compared to the available hunting surface, the mean hunting bag is 3.5 woodcocks per 100 hectares.

Age-ratios (% of young) were calculated from wings of woodcock collected in Liguria for the 1994/95 to 2000/01 period. The values greatly fluctuate from 49.2% to 80.6% (Tab. 2).

In conclusion, the Woodcock specialised hunters are not very numerous in Liguria. If woodcock hunting could be reserved to specialised hunters, the hunting pressure on this species would certainly be lower. Finally, it would be very profitable to develop the collection and the analysis of data from all the regions of the country in order to get as complete as possible information leading to a woodcock population management by the same method as for sedentary game species.

Season		1994/95	1995/96	1996/97	1997/98	1998/99	1999/00	2000/01
Number of killed woodcocks	*in Liguria*	8.500	6.404	6.310	7.251	7.251	9.190	8.110
	outside Liguria	-	-	-	-	-	1.948	2.675

***Table 1**: Killed and registered woodcocks in the bag booklets. The distinction of the number of woodcocks killed by Ligurian hunters inside and outside Liguria was only possible for the 1999/00 and 2000/01 seasons.*

Season	1994/95	1995/96	1996/97	1997/98	1998/99	1999/00	2000/01
Age-ratio (% of young)	69.4	49.2	63.0	80.6	73.1	71.4	71.8

***Table 2:** Age-ratio values for woodcock samples collected in Liguria for 1994/95 to 2000/01.*

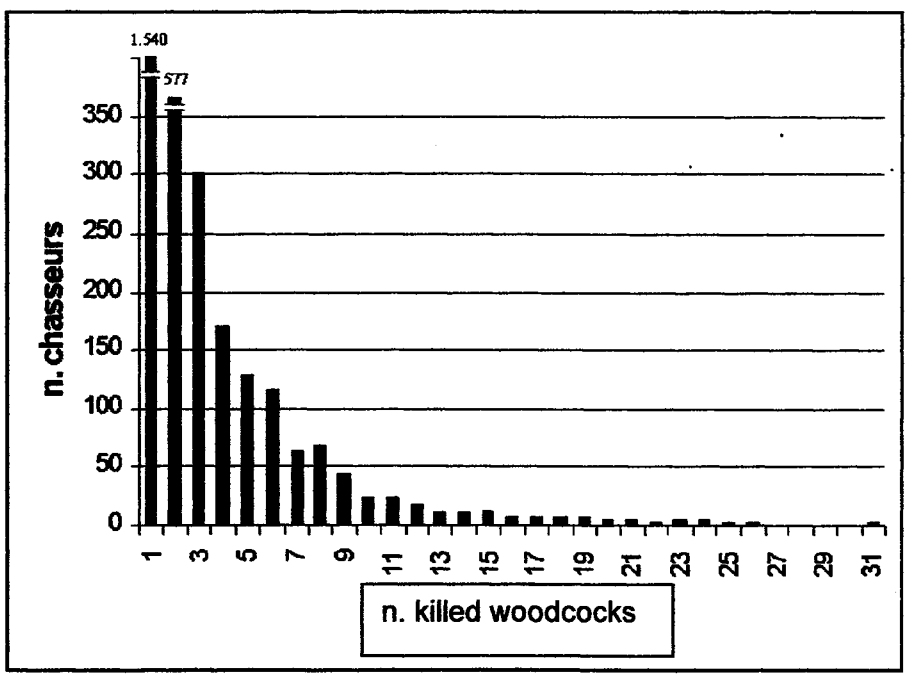

***Figure 1** : Distribution of number of hunters in relation to their woodcock hunting bag.*

Age-ratios for woodcocks killed in Italy during the 2000/01 and 2001/02 hunting seasons

SILVIO SPANO & LORIS GALLI, DIP.TE.RIS, Università degli Studi, Corso Europa 26,I-16132 Genova
E-mail: spano@hpe35.dipteris.unige.it

We have analysed 1.696 Woodcock wings sent by the hunters of the *Club della Beccaccia.* These wings have been collected in almost all the Italian regions during the 2000/01 and 2001/02 hunting seasons (October to January). These data complete those already published for the1976/1999 period (Spanò & Galli, 2000, in the Woodcock and Snipe Specialist Group Newsletter 26).

The age-ratio national means (tab. 1) calculated for the 2 last hunting seasons confirm the significant decreasing tendency already emphasized for the 1976/1999 period ($r = -0.618$, $p<0.01$).

REGION	JUV	AD	% JUV	N
2000/2001				
Piemonte	22	25	46,8	47
Liguria	23	9	71,8	32
Triveneto	17	6	73,9	23
Lombardia	71	33	68,8	104
Emilia Romagna	113	43	72,4	156
Toscana	20	20	50	40
Umbria	48	23	67,6	71
Marche	5	3	62,5	8
Lazio	86	47	64,6	133
Lucania	16	9	64	25
Calabria	72	25	74,2	97
Sicilia	21	12	63,6	33
Sardegna	101	27	79	128
TOTAL	615	282	68,5	897
2001/2002				
Piemonte	38	30	55,8	68
Liguria	54	53	50,4	107
Triveneto	23	45	33,8	68
Lombardia	86	37	69,9	123
Emilia Romagna	52	17	75,3	69
Toscana	27	10	72,9	37
Umbria	30	38	44,1	68
Marche	10	9	52,6	19
Lazio	46	29	61,3	75
Puglia	4	4	50	8
Calabria	12	6	66,6	18
Sardegna	57	82	41	139
TOTAL	439	360	54,9	799

Table 1 : *Age-ratio values for woodcock samples collected in different regions of Italy during the 2000/01 and 2001/02 hunting seasons.*

001-2002 French Woodcock report

RANÇOIS GOSSMANN, Office National de la Chasse et de la Faune Sauvage, Research Department Migratory Birds Unit, 53 rue Russeil, F-44 000 Nantes
E-mail: rezobecasse@oncfs.gouv.fr
YVES FERRAND, Office National de la Chasse et de la Faune Sauvage, Research Department – Migratory Birds Unit, BP 20, F -78612 Le Perray-en-Yvelines Cedex
E-mail: y.ferrand@oncfs.gouv.fr

Ringing results

Quantitative results

During the 2001-2002 season, 3 707 woodcocks were ringed in France (Fig. 1). This result is a little bit less than the previous-year one. In fact the number of contacts was higher than in 2000-2001 but the success rate was lower (25% vs 29% on average in the previous years). The frequency of rains and storms was lower in November and December and hence no optimal conditions for catching existed. Moreover, a cold spell occurred from mid-December to the beginning of January. Because of that and thanks to the harsh climatic conditions, the results were again the best ones on the Channel and Atlantic coasts.
Age-ratio raises to 57.6%. This value again is the smallest registered from the beginning of ringing in France. It may be that the cold spell encouraged a higher number of adults to fly to the French wintering sites.
In the 2001-2002 ringing season, the monthly variation of captures follows a typical pattern with a peak in November and a constant decrease till March (Fig. 2).

2001-2002 ringing season in numbers

N. *départements* :	80
N. ringing sites :	1 080
N. ringers :	300
N. nocturnal trips :	2 295
N. contacts :	16 024
N. ringed woodcocks :	3 707
Success rate :	25%
N. direct retraps :	93
N. indirect retraps :	152
N. direct recoveries :	264
N. indirect recoveries:	482
Annual direct recovery rate:	7.1%
Duration of ring wearing:	26.3 days

(24 days for direct recoveries <20 km; n=211)

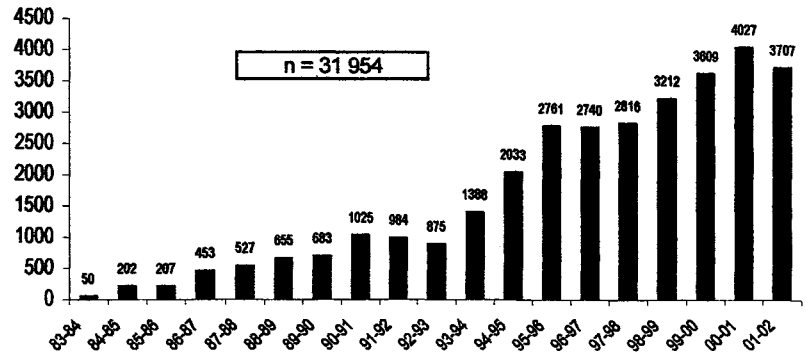

***Figure 1** : Inter-annual fluctuations of ringing results.*

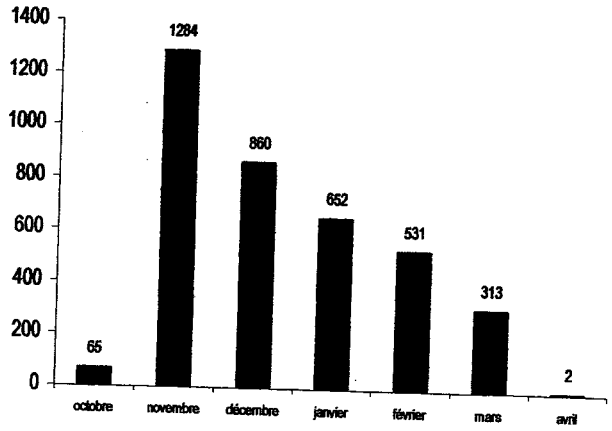

***Figure 2** : Monthly fluctuations of catching during the 2001-2002 season.*

Qualitative results

One question we may try to answer is "Was the 2001-2002 season different from the other ones in terms of abundance?". The number of contacts can be a rather good index as an answer. Close to16 000 contacts have been registered in France in the course of the last autumn-winter.

The mean number of contacts/hour is 2.73 (Fig. 3). It is the best value for the last 6 years. A significant difference with the previous seasons appears (except for 1999-00; Kruskal-Wallis test).

The monthly fluctuation of contacts/hour shows a same pattern for the 1996-97 and 2001-02 seasons (Fig. 4). For these 2 seasons, the peak of abundance in January can be explained by a cold spell. The values in 2001-02 November and January are significantly higher (Kruskall-Wallis test) than in the previous November and January (except for November 1998-99, January 1996-97 and January 2000-01). The values in December are on average those of the last 6 years.

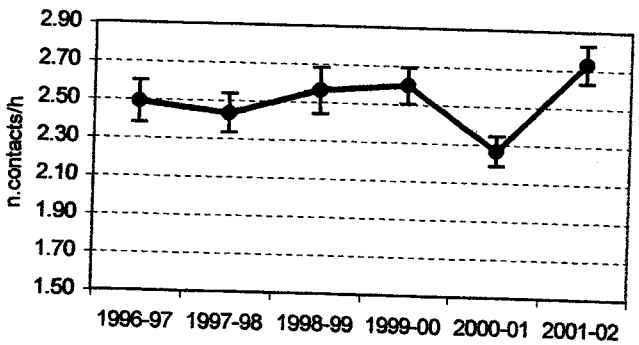

***Figure 3 :** Annual fluctuations of the number of contacts/h.*

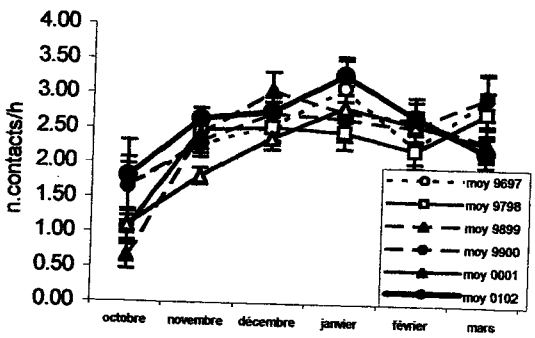

***Figure 4** : Monthly fluctuations of the number of contacts/h during the last-6 seasons.*

The 2001-02 season is mainly characterised by numbers in constant increase from November to January and decreasing till March in the Channel-Atlantic coastal regions and in the centre of France. This pattern is particularly well represented in Brittany and the Loire valley. The refuge effect of cold spells is very clear in Aquitaine and Poitou-Charentes where the peak of January is very sharp. For the whole season, the numbers registered in these regions are on average those of the last seasons.

Logically the lower numbers in January are observed in the North-Eastern part of France then those in November and December are the highest registered since 1997-98. Finally, the numbers of wintering woodcocks in the Mediterranean regions were the lowest of the last 5 years.

Recoveries in foreign countries

In total, 32 recoveries of French rings have been registered in foreign countries in the course of the 2001-02 season. The detail is the following :
Direct recoveries : 3 in Russia, 3 in Spain, 2 in Hungary
Indirect recoveries : 15 in Spain, 3 in Russia, 2 in Latvia, 1 in Austria, 1 in Belgium, 1 in Great-Britain, 1 in Slovenia.
Two recoveries were obtained after a very long delay : 11 years for one woodcock ringed in *Pas-de-Calais* and recovered in Russia, 13 years for a bird ringed in Seine-Maritime and recovered in *Morbihan*.

2001-02 cold spell

A rather strong cold spell was observed in France from the 10th of December 2001 to the beginning of January 2002. The temperatures were lowest along a transect from *Franche-Comté* to *Aquitaine*. Contrary to the previous cold spell, this one reached our country from the Eastern part of Europe and not from the Northern one. No large movements of species which wintered in the North Sea and Baltic Sea regions were observed.
As decided after the last cold spell a special survey was initiated through the French Woodcock network in order to inform about the situation in real time.
High densities were observed at Christmas time in *Haute-Normandie* and especially in *Charente-Maritime*, *Gironde* and *Landes*. In this period the dispersion of woodcocks had already started in Brittany. Always in this period, woodcocks were observed in the Centre of France in spite of the continuous frost. However, the climatic conditions were so harsh in the Eastern part of France that only a few woodcocks stayed in these regions.
No large movements were registered in the Mediterranean regions even if the densities were considered rather high.
In the Atlantic coastal regions concentrations of birds were observed and the risks of an important harvest were very high. On the contrary the numbers of woodcocks were lower in the inside regions and only some small gatherings were registered.
No high mortality event due to the cold spell was observed. However, the weights of 10% to 20% of the birds caught in the second half of December in *Aquitaine* and in the Centre of France were around 260 to 270 g. These low weights show a weakening of the birds due to their movements and because of cold weather and foraging problems. Remember that for woodcock the critical weight interval has been estimated at 240-290 g.
A nomal situation did progressively come back in the first decade of January. But the cold was always intense in this period with a deeply frozen soil in the Eastern part of France, especially in *Champagne-Ardennes*, *Lorraine* and Franche-Comté.

The ringed birds which were recovered during the 2001-02 winter give information on the behaviour of woodcocks during and after the cold spell. The movements were less important during the 2001-02 cold spell than during the 1996-97 one (Fig. 5). However, the proportion of indirect recoveries (>20 km) was as high (34.8%; Fig. 6) as in 1996-97. The birds which were ringed in the previous years, especially in 2000-01 in the Centre and Eastern part of France, moved to avoid the low temperatures.

In summary, this cold spell obliged the woodcocks to move in a lower proportion than in 1996-97. In the Centre and Eastern part of France, the woodcock numbers stayed with rather high densities in spite of the cold.

Hunting has been prohibited in about 50 *départements* for 5 to 26 days during this cold spell.

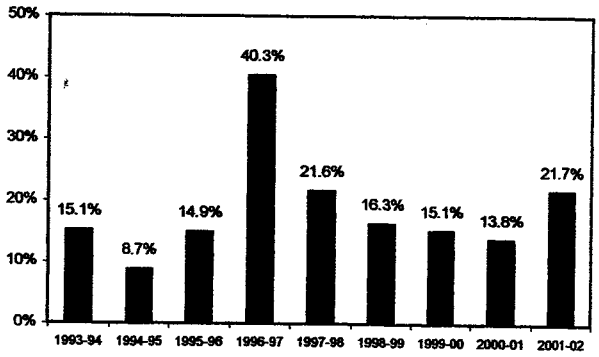

***Figure 5** : Proportion de reprises directes (>20 km) en décembre, janvier et février.*

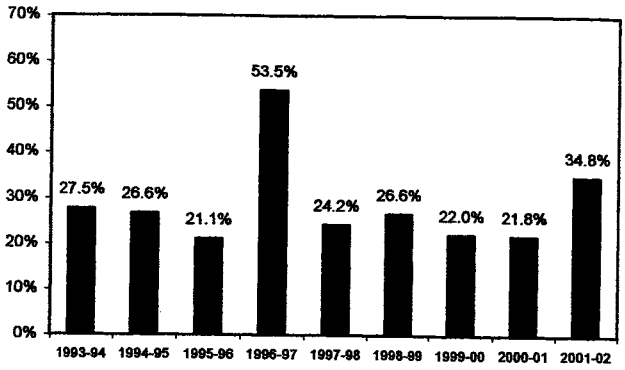

***Figure 6** : Proportion de reprises indirectes (> 20km) en décembre, janvier et février.*

Roding results

In 2001 and 2002, the roding censuses took place respectively in 62 and 63 *départements*. In the total, 945 and 981 listening points were visited.

National occupation rate

Remember that this rate corresponds to the % of listening points where at least one roding male is observed (= positive site). In 2001 and 2002, the values are 0.205 and 0.19 respectively. These are the lowest values registered as of 1988 (except for 0.17 in 2000). The occupation rates for the high abundance sites are 0.073 in 2001 and 0.048 in 2002. Those for the low abundance sites are 0.132 in 2001 and 0.144 in 2002.

Demographic trend

The demographic trend of the French breeding woodcock population has been analysed for a 10 years-period. In the total, 49 *départements* censused roding woodcocks without interruption from 1993 to 2002. The data are given in table 1.

A $\chi^2$of tendency test shows a significant decreasing of the proportion of positive sites during the last 10 years ($\chi^2 = 5.71$; p=0.02; fig. 6). A significant decreasing is also noted for the proportion of the low abundance sites ($\chi^2 = 4.81$; p=0.03; fig. 6). On the other hand, the proportion of high abundance sites is rather stable ($\chi^2 = 0.60$; p=0.44; fig. 6).

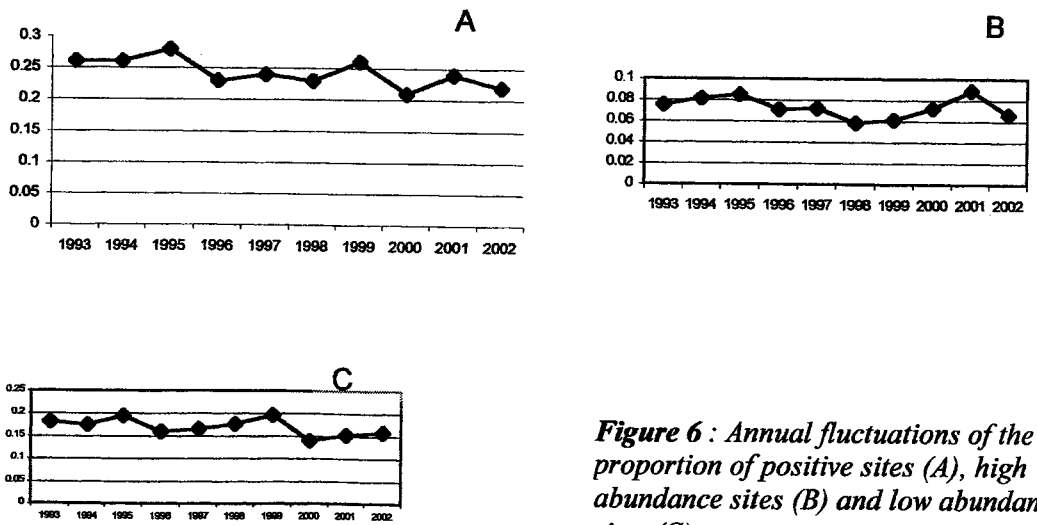

***Figure 6** : Annual fluctuations of the proportion of positive sites (A), high abundance sites (B) and low abundance sites (C).*

The two last-year results are rather pessimistic. Should we be worried ? On the one hand, the decreasing trend is not so strong and on the other hand this decreasing trend is registered only in the sites with weak potentialities. Several hypotheses can be proposed to explain this phenomenon : a bad quality of habitat, a bad reproduction success, a greater hunting pressure on this little population. The main problem is that this tendency seems to be confirmed from one year to an other. And, because of that, we must be vigilant.

News from..... CANADA

Weight of the American woodcock during the hunting seasons (1976 to 1989) in the South-West of the province of Quebec

JACQUES CHARETTE, Club des Bécassiers du Québec, Section Sud, 789 – 24e avenue, Lachine Qc. Canada H8S 3W4

During the Falls of 1976 to 1989, 985 woodcocks were collected in the South-West of the province of Québec, between Drummondville and the border of the state of New York. The birds were shot from the opening day of hunting (generally the third Saturday of September) until the birds leave for the South for wintering (end of October, while some latecomers wait until the middle of November and a few rarely to December).
Sex, age and weight were recorded for each woodcock. 490 males and 495 females were weighed. This large data set now needs to be analysed in a statistical way, especially in regard to monthly fluctuations.

News from..... USA

American woodcock status in Michigan, 2001 (extract of Ruffed grouse and American woodcock status in Michigan, 2001, Wildlife report n°3352, September 2001)

VALERIE R. TUOVILA, STEVEN B. CHADWICK & C. ALAN STEWART, Michigan Department of natural Resources, Stevens T. Mason Building, P.O. Box 30028, Lansing, Michigan 48909-7528
Web site: www.michigan.gov

Ruffed grouse (*Bonasa umbellus*) and American woodcock (*Scolopax minor*) are popular forest game birds that are pursued by about 120,000 Michigan hunters annually. Department of Natural Resources (DNR) surveys indicate that each hunter spends an average of 7 to 8 days hunting grouse and woodcock each year, adding up to almost a million days of recreation in Michigan annually. Non-hunters also place a high value on grouse and woodcock. Many people enjoy listening to or watching drumming male grouse and the courtship displays of woodcock. Additionally, grouse and woodcock are important components of early successional forest habitat and indicators of healthy forest ecosystems.
The DNR uses several surveys to monitor ruffed grouse and woodcock populations, including hunter cooperators and spring breeding surveys. Cooperator surveys are based on a sample of hunters who record numbers of hours hunted and ruffed grouse and woodcock flushed each day. Data obtained from cooperating hunters is summarized as the number of grouse or woodcock flushed per hour of hunting. Flush rates provide an early indicator of harvest, but the final estimates of

hunting effort and harvest come from a mail survey of randomly selected hunters.

DNR personnel and volunteers conduct spring breeding surveys of ruffed grouse and woodcock using roadside routes. Each route has listening stops that are consistent from year to year. The number of ruffed grouse drums or woodcock heard during a fixed interval is recorded at each stop. Because the timing of breeding and habitat preferences differ for the two species, separate surveys are conducted. The woodcock breeding survey is coordinated by the United States Fish and Wildlife Service (USFWS) in cooperation with the DNR. Data for both surveys are summarized as the number of woodcock or grouse heard per survey route (Luukkonen *et al.* 1998). In addition, volunteer woodcock cooperators band over 1,100 woodcocks annually to monitor recruitment.

Review of recent hunting seasons

In 2000, the number of woodcock flushed per hour by cooperators was lower in Zone 1 (Upper Peninsula) and Zone 2 (Northern Lower peninsula) than in 1999, but higher in Zone 3 (Southern Lower Peninsula). Woodcock flush rates were highest in Zone 2, followed by Zones 3 and 1, respectively (Fig. 1 and 2). Woodcock flush rates declined since 1988 in Zones 1 and 2, but have been relatively stable in Zone 3 (Fig. 1). Average flush rates began to decline during the October 16-October 31 period in Zones 1 and 2, but a decline was not evident in Zone 3 (Table 1). Seasonal changes in woodcock flush rates most likely reflect southward fall migrations (Luukkonen *et al.* 1998).

From 1958 to 1976 there was an increase in woodcock harvest in Michigan. In 1976 there was a record harvest of 390,000 birds. Since that all time record harvest, there has been fluctuations in harvest to the present level. Preliminary analysis of 1998 data indicated a Michigan harvest of about 180,000 woodcock (DNR, unpublished data).

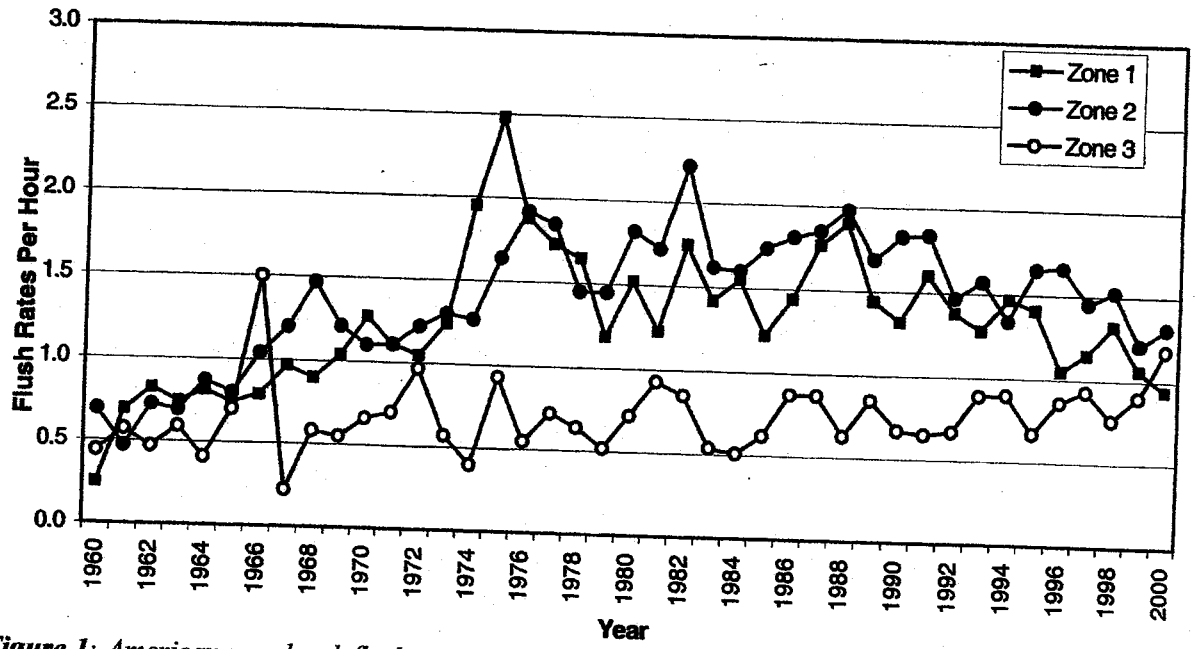

***Figure 1**: American woodcock flush rates reported by cooperating hunters, 1960-2000.*

	Zone 1	Zone 2	Zone 3
September 15 through 30	1.00	1.77	1.18
October 1 through 15	1.16	1.83	1.42
October 16 through 31	.054	1.26	1.38
November 1 through 14	0.18	0.42	1.57

***Table 1:** American woodcock flushes per hour, by two weeks intervals, as reported by cooperating hunters in 2000.*

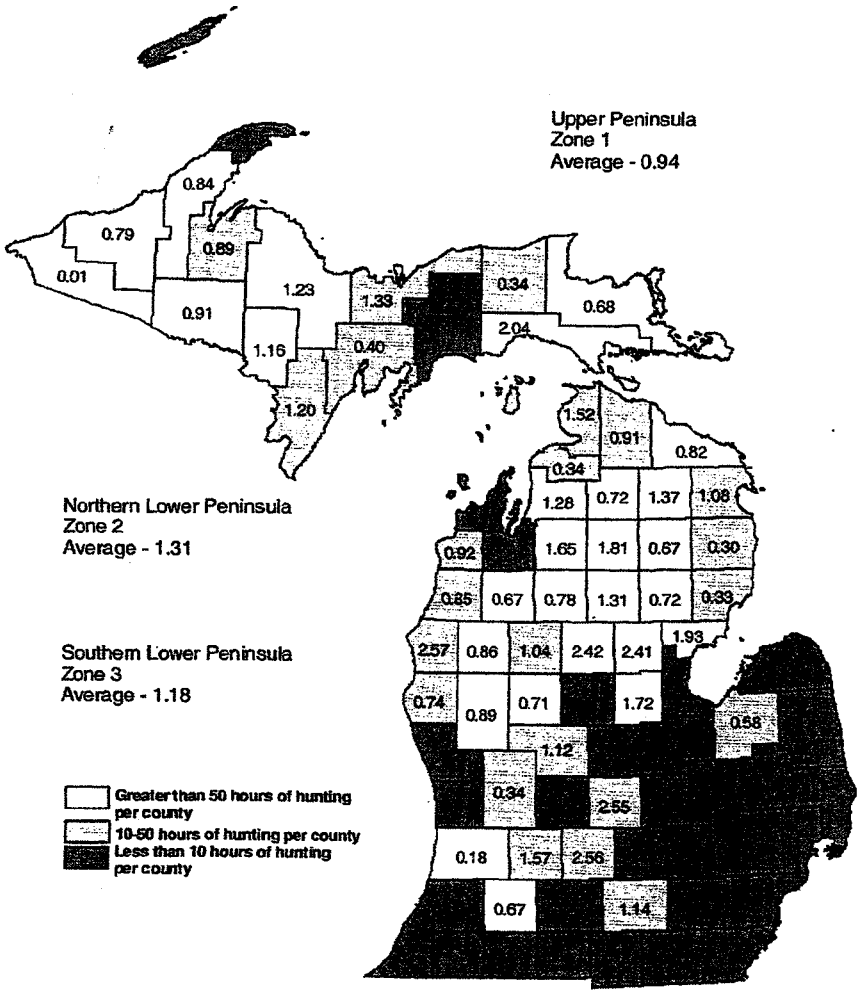

***Figure 2**: American woodcock flushed per hour by cooperators in 2000.*

Spring breeding surveys

Results of woodcock breeding surveys were based on preliminary analysis of data from 86 survey routes (Kelley 2001). Woodcock in Michigan decreased 16.5% from 2000, but this was not statistically significant (P>0.10). The breeding woodcock index decreased 12.9% from 2000 levels in the entire central region (Illinois, Indiana, Manitoba, Michigan, Minnesota, Ohio, Ontario and Wisconsin). However, Minnesota and Manitoba were the only areas that experienced statistically significant decreases. The decrease this year in Michigan's breeding survey corresponds to the state's long-term decline of 1.5% per year since 1968. Overall, an average of 2.22 singing-males were heard per route in the central region (Table 2).

The 2000 woodcock recruitment index of 1.2 immature woodcock per adult female was unchanged from the 1999 index, but 29% below the long-term regional average (Kelley 2001). In 1999, the recruitment index was 1.2. Woodcock banders in Michigan spent approximately 1,900 hours afield in 2001 and banded 1,210 chicks. The average brood size observed was 3.1. There were 77.6 chicks observed and 61.9 chicks banded per 100 hours of search time. Last year, with greater than 2,300 hours of search time, volunteers banded 1,471 chicks. The average brood size observed in 2000 was 2.9. There were 70.7 chicks observed and 48.6 chicks banded per 100 hours of search time. This is the third year of reporting woodcock banding effort for Michigan. Over a longer period this data may be useful as an index of local woodcock production trends.

The long-term reduction in the woodcock population index raises questions and concerns about available habitat and the effects of hunting. The declining availability of quality habitat is believed to be a primary cause for the

decline in the population (Dessecker and Purgslove 2000). In an attempt to halt the population decline, the USFWS has adjusted woodcock hunting season dates or reduced bag limits 4 times since 1968.

Researchers have been examining the effects of hunting on woodcock survival rates in Maine, New Hampshire, Vermont and Pennsylvania (Mc Cabe 2000). Survival rates were similar between hunted and nonhunted sites, which suggests that local hunting effort is not a significant factor in woodcock population declines. More research is needed, however, to determine if the mortality in the nonhunted sites was atypical and also if hunting mortality is excessive in other regions. Similar research will be conducted in Michigan, Minnesota and Wisconsin. Field work will begin in Minnesota this fall. Michigan and Wisconsin are designating their sites this fall and field work will start in 2002. Each state will estimate woodcock mortality on both hunted and nonhunted sites during a 3-year period.

Year	State								
	IL	IN	MB	MI	MN	OH	ON	WI	Total
1968	-	2.29	-	5.87	-	-	6.11	4.15	3.73
1969	-	1.98	-	5.75	4.71	-	6.70	4.10	3.72
1970	0.02	1.88	-	5.49	4.04	3.49	6.37	4.44	3.64
1971	0.03	1.46	-	5.30	4.32	3.54	6.06	3.94	3.50
1972	0.03	1.76	-	5.03	3.68	2.97	6.73	3.76	3.46
1973	0.04	1.80	-	5.17	4.18	2.46	6.01	3.84	3.38
1974	0.03	1.32	-	6.02	4.86	3.16	6.46	3.93	3.52
1975	0.08	1.27	-	6.06	4.24	2.37	5.69	3.81	3.48
1976	0.06	1.25	-	5.59	4.26	2.57	5.47	3.66	3.31
1977	0.08	1.21	-	5.13	4.22	2.93	5.96	3.98	3.39
1978	0.08	1.09	-	5.43	4.23	2.33	6.46	4.16	3.37
1979	0.10	1.21	-	5.35	4.17	1.81	6.22	4.06	3.33
1980	0.11	0.99	-	5.28	4.63	1.78	6.37	3.49	3.15
1981	0.18	1.03	-	4.42	4.25	2.03	5.92	2.99	3.10
1982	0.15	0.75	-	4.67	3.84	1.46	4.49	2.92	2.60
1983	0.23	0.79	-	4.08	3.49	1.85	4.66	2.95	2.82
1984	0.27	0.77	-	4.50	3.11	1.70	4.90	3.22	2.73
1985	0.47	0.63	-	4.71	3.71	1.47	5.01	2.98	2.92
1986	0.39	0.84	-	4.80	3.89	1.15	4.98	3.50	2.92
1987	0.59	0.61	-	4.45	3.73	1.25	5.20	3.48	2.94
1988	0.60	0.58	-	4.85	4.17	1.49	5.12	3.48	2.93
1989	0.73	0.58	-	4.64	3.63	1.02	5.48	3.23	2.79
1990	0.63	0.65	-	4.54	4.15	1.40	5.15	3.15	2.82
1991	0.97	0.67	-	5.36	3.89	1.06	5.12	3.17	2.96
1992	1.30	0.53	2.36	3.82	3.28	0.94	4.93	2.53	2.49
1993	1.57	0.56	3.48	3.84	3.49	0.95	4.47	2.51	2.63
1994	1.60	0.48	2.20	3.49	3.06	0.80	3.87	2.35	2.30
1995	1.50	0.50	2.59	3.76	3.35	0.81	4.84	2.37	2.45
1996	4.73	0.42	2.33	3.59	3.08	0.87	3.54	2.48	2.43
1997	2.12	0.33	1.33	3.51	2.61	0.65	4.08	2.35	1.95
1998	-	0.67	1.66	4.16	3.21	0.70	4.07	2.28	2.42
1999	3.41	0.43	1.59	3.38	3.18	0.55	4.05	2.79	2.31
2000	4.64	0.37	1.78	3.51	3.46	0.61	4.77	2.54	2.29
2001	5.29	0.37	1.92	3.33	3.40	0.53	4.06	2.27	2.22

***Table 2**: Breeding population indices for woodcock from the singing-ground survey for the Central Region, 1968-2001. These indices were based on the 1960-2001 trend (Kelley 2001).*

2001 woodcock hunting forecast

Woodcock hunters this year may expect a season similar to 2000. The USFWS mandated that the woodcock hunting season open no earlier than the Saturday closest to September 22. This year the opening date is September 22. Dry weather may force woodcock into wet habitat, forcing hunters to seek them specifically rather than while pursuing grouse. Hunters may take 125,000 woodcocks this fall. While good numbers of grouse and woodcock can be found in all parts of Michigan, the highest densities are located in the northern two-thirds of the state.

Litterature cited

Dessecker, D.R. & S.R. Pursglove, Jr. 2000. Pages 3-8 in McAuley, D.G., J.G. Bruggink and G.F. Sepik, editors. Proceedings of the Ninth American Woodcock Symposium. U.S. Geological Survey, Biological Resources Division Information and Technology Report USGS/BRD/ITR2000-0009, Patuxent Wildlife Research Center, Laurel, Maryland.
Kelley, J.R., Jr 2001. American woodcock population status, 2001. U.S. Fish and Wildlife Service, Laurel, Maryland, 15pp.
Luukkonen, D.R., J.D. Robinson & J.R. Gormley. 1998. Ruffed grouse and American woodcock status in Michigan, 1998. Michigan Dept. Nat. Resour., Wildlife Division Report 3282. 7pp.
McCabe, R.E. 2000. The peent goes on in the Northeast. Outdoor News Bulletin. Wildlife Management Institute. Washington, D.C.

BIBLIOGRAPHY

Reviews, bibliographies, translations from Russian into English of literature, published on the Woodcock and all Snipe species; inhabited the territory of the former Soviet Union: Dr JEVGENI SHERGALIN, Sopruse pst. 175-58, Tallinn 13413 Estonia. Tel: (3726) 624549; Fax (3726) 599351. *E.mail*: zoolit@hotmail.com http://tele2.ee/birds/

Woodcock (*Scolopax rusticola*)

BOOS, M.,. BOIDOT, P., GOSSMANN F., DUTERTRE, B., BOURSE, J.,WUIGUÉ, A., & J.P. ROBIN. 2001. Determining body fuels and body condition of wintering woodcocks (*Scolopax rusticola*). Poster presented at the XXVth International Congress of International Union of Game Biologists, September 3-7, 2001. Lemesos, Cyprus.
Lipid and protein indices seem to be very helpful for improving management programs of wintering woodcocks. Especially, under freezing conditions, the decision to stop or to maintain hunting activity could now better be justified and programmed.

OMPO (MIGRATORY BIRDS OF THE WESTERN PALEARCTIC) – CNB (FRENCH WOODCOCK HUNTERS' CLUB). 2002. Key to ageing of the Woodcock *Scolopax rusticola* by the study of wing feathers. 8p.

Asian Woodcocks

Globally Threatened Bird Forums : Threatened Asian Birds

Bukidnon Woodcock v classify as Least Concern
The Bukidnon Woodock, *Scolopax bukidnonensis*, was recently described by Kennedy et al. (2001) [Forktail 17: 1-12] based on specimens taken on Mt Kitanglad, Bukidnon Province, Mindanao, Philippines in 1995 and 1999, and from two specimens taken in the 196O's in Dalton Pass, Nueva Vizcaya Province, Luzon. The distribution of these and subsequent specimens, their sightings, and recordings suggest that the species appears to be widespread in central and northern Luzon and on Mindanao in mountain and mountain mossy forest, with or without clearings, from 900 to 2,750 m. It appears to be locally common, but had probably been overlooked because of its crepuscular and nocturnal habits. Given that the mountain forest above 1,000 m is in relatively good condition (except in some parts of the Cordillera Mountains of Luzon and plateaus elsewhere), Kennedy et al. concluded that this species is not – immediately threatened or of conservation concern in the foreseeable future -. It therefore seems appropriate to classify this species as **Least Concern.**

Javan Woodcock v a newly split threatened species ?

In a recent review of Asian woodcocks, Kennedy et al. (2001) [Forktail 17: 1-12] showed that Dusky Woodcock, *Scolopax saturata*, be best considered as two species : the Javan Woodcock, *Scolopax saturata saturata* and the New Guinea Woodcock, *Scolopax rosenbergii*, because of consistent plumage and morphological differences, and the fact that the two populations are separated by 2,500 km. Therefore it is now necessary to assess the conservation status of the Javan Woodcock, and thus we are collating all records of this species and would value comments on its status and distribution.

Woodcocks (*Scolopax sp.*)

ARTOMEU SEGUI, **1999**. A late Tertiary Woodcock from Menorca, Balearic Islands, Western Mediterranean. Condor vol. 101, n° 4, p 909-915.

Scolopax carmesinae n. sp. is described from late Tertiary coastal outcrops of Punta Nati (NW Menorca, Balearic Islands). The species is known from one proximal fragment and one complete humerus. Estimated size is 10-20 % smaller than of living Eurasian Woodcock, *S. rusticola*. Although the osteological features of the humerus are not as specialized as in modern woodcocks, resembling in some aspects *Gallinagininae*, the general *Scolopacinae* conformation is fully recognizable. Differentation of these two subfamilies must have taken place before the end of the Tertiary period. *Scolopax carmesinae* n. sp. might have been the ancestor of *S. rusticola*. Except for the recent Nearctic form *S. minor* and the fossil *S. hutchensi*, the remaining living and fossil species of *Scolopax*, which are all insular endemic forms, probably originated from sedentary, insular populations of *S. rusticola*.

Jack snipe (*Lymnocryptes minimus*)

KALCHREUTER H. 2002. On the population status of the Jack Snipe *Lymnocryptes minimus*

Summary

1. This study was commissioned by the AEWA-Secretariat to update information on the population status of the Jack snipe (*Lymnocryptes minimus*) for final classification of this species in Table 1 of the Action Plan to the AEWA.
2. Because of extremely secretive colouration and behaviour hardly any quantitative information of larger areas or longer time periods can be provided by direct observation or monitoring programs as in other wader species. Published estimates on population size and trends are therefore rather vague and speculative.
3. On the other hand, surveys of bag data organized by snipe hunters provided evidence that this species must be much more numerous than commonly assumed. About 120.000 to 150.000 Jack snipes are harvested annually in Europe and Northern Africa.
4. In order to calculate harvest rates a ringing/recovery analysis has been conducted, based on the data provided by the Euring Data Bank. About 14.000 Jack snipes had been ringed during the 20th century, and 330 recoveries of birds reported as "shot" have been considered in this study.
5. Recovery rate before 1980 (3.2%) was almost three times higher than during the last two decades (1.1%) indicating lower hunting intensities during the latter period.
6. These data suggest up to 10% of the population was harvested before 1980 and less than 5% after 1980. If recent bag numbers comprise about 5% of the birds passing through Western Europe, the total fall population must be in the order of 2.5 to 3 million Jack snipes. They may originate from a breeding population in the order of 500.000 pairs.
7. The results of this study is discussed with those of similar calculations on the Common snipe (*Gallinago gallinago*). From the ratio of both species in the hunting bags, as well as of the numbers ringed, it may be concluded that the size of the Jack snipe population is at least one tenth of that of the Common snipe.
8. While meta-populations at the South-Western border of the range have almost disappeared (or shifted to the North) during the 19th and early 20th century, there is no evidence for a recent decline in the total population. On the contrary, long-term monitoring projects in The Netherlands, as well as bag surveys in France rather point to stability or slight increase. Extensive monitoring projects in the main breeding range have recently been initiated.
9. It is suggested traditional hunting of Jack snipes should continue, since the impact on the population is insignificant and hunters provide most valuable sources of information for better understanding of this secretive species. Moreover, the interest in snipe hunting has proven a strong incentive for conservation of snipe habitats.

Common snipe (*Gallinago gallinago*)

OMPO (MIGRATORY BIRDS OF THE WESTERN PALEARCTIC) – CICB (INTERNATIONAL SNIPE HUNTERS' CLUB). 2002. Key to ageing of the Common snipe *Gallinago gallinago* by the study of feathers. 8p.

VOGRIN, M. 2001. Migration pattern of Common Snipe, *Gallinago gallinago*, on Dravsko polje, NE Slovenia. Wader Study Group Bulletin vol. 95, August 2001

African snipe (*Gallinago nigripennis*)

GICHUKI C.M., OKELO R.O & KAIRU E.W. – The influence of diet and habitat characteristics on the density of African Snipe in a tropical wetland. Communication for the International Ornithological Conference in Bejing (China). August 2002

GICHUKI N.N. & GICHUKI C.M. – The breeding strategies of a tropical Snipe (Scolopacidae) in Kenyan Higlands. Communication for the International Ornithological Conference in Bejing (China). August 2002

Snipes (*Gallinago sp. & Lymnocryptes minimus*)

OMPO (MIGRATORY BIRDS OF THE WESTERN PALEARCTIC). 2002. Snipes of the Eastern Baltic region and Belarus. Published by "OMPO Vilnius". 95p.
Contents :

- Population and habitat studies of the Great Snipe *Gallinago media* in Estonia.
  A. KURESOO, L. LUIGUJOE & A. TAMM
- Snipes *Gallinago gallinago, Gallinago media, Lymnocryptes minimus* in Belarus.
  E. MONGIN
- Snipes *Gallinago gallinago, Gallinago media, Lymnocryptes minimus* in the Kaliningrad Region of Russia.
  G. GRISHANOV & J. YAROVIKOVA
- Spring migration of the Common snipe *Gallinago gallinago* in the Region of the Gulf of Gdansk, Poland.
  W. MEISSNER
- Snipes *Gallinago gallinago, Gallinago media, Lymnocryptes minimus* in Lithuania.
  S. SVAZAS, L. RAUDONIKIS, V. JUSYS & R. ZYDELIS
- Genetic study of Western Palearctic populations of the Common snipe *Gallinago gallinago.*
  A. PAULAUSKAS & S. SVAZAS

SVAZAS, S., JUSYS, V., RAUDONIKIS, L. & R. ZYDELIS. 2001. Les Bécassines (*Gallinago gallinago, Gallinago media Lymnocryptes minimus*) en Lituanie. Publication OMPO et Institut d'Ecologie de Lituanie. Vilnius. 82p.

Woodcock and snipes

Recent publication on waders 76 – April 2001 (compiled by Henk Koffijberg and extracted by Jevgeni Shergalin)

Scolopax sp.

Fetisov, S.A. & V.I. Golovan. 1999. Data on the Woodcock, *Scolopax rusticola*, ecology in the Pskov region: distribution, numbers, arrival, breeding. Russian J. Ornithol. Express-issue 66: 15-25. In Russian.

Kuzyakin, V.A. 1999. Censuses and resources of breeding Woodcock, *Scolopax rusticola*, in European Russia. *In* Tomkovich P.S. & Lebedeva E.A. (eds.). Breeding waders in Eastern Europe – 2000. Vol. 2. – Moscow : Russian Bird Conservation Union, p. 77-82. In Russian with English summary.

Mel'nikov, Yu.I. 1999. Recent status of the Woodcock, *Scolopax rusticola*, populations in Eastern Siberia. Russian J. Ornithol. Express-issue 62: 9-14. In Russian

Ishida, K. & M. Takashi. 1998. Estimation of relative population density and home range of the Amami Woodcock, *Scolopax mira*. Strix 16: 73-88. In Japanese with English summary.

Gallinago sp.

Nijland, F. 2000. A closer look at territory-mapping Common snipes, *Gallinago gallinago*. Limosa 73(1): 1-6. In Dutch with English summary.

Corso, A. 1998. Pintail Snipe, *Gallinago stenura*, in Sicily – a new European bird. Birding World 11: 435-437.

Granit, B., Lindroos, R. & Y. Perlman. 1999. Pintail Snipe, *Gallinago stenura*, in Israel in November 1998. Dutch Birding 21(6) : 329-333.

Mel'nikov, Yu.I. 1998. The discovery of the Great Snipe, *Gallinago media*, in Eastern Siberia. Russian J. Ornithol. Express-issue 43: 6-8. In Russian.

Todd, M.K. 2000. Feeding ecology of Latham's Snipe, *Gallinago hardwickii*, in the Lower Hunter Valley. Emu 100(2): 133-138.

Lymnocryptes minimus

Cenian, Z. & A. Sikora. 1997. Autumn migration of the Jack Snipe, *Lymnocryptes minimus*, in the north-western Warmia and Gdansk coastland in 1996. Notatki Ornithol. 38(3): 215-222. In Polish with English summary.

STAKHEEV, V.A. 2000. Birds of Altai Nature Reserve. Results of inventory of avifauna during 1970-1979. Shushenskoe, Sayano-Shushenskiy Biosphere Reserve. 192 p. In Russian.
Woodcock and Snipe species involved : *Lymnocryptes minimus, Gallinago gallinago, Gallinago megala, Gallinago stenura, Gallinago solitaria, Gallinago media, Scolopax rusticola.*

FEFELOV, I.V., TUPITSYN, I.I., PODKOVYROV, V.A., V.E. ZHURAVLEV. 2001. Birds of Selenga River delta. Irkutsk, Eastern-Siberian Publishing House. 320 p. In Russian.
Woodcock and Snipe species involved : *Lymnocryptes minimus* [very rare passage species], *Gallinago gallinago* [common when breeding, numerous in the migration period], *Gallinago megala* [common when breeding (in the upper part of delta) and a passage species], *Gallinago stenura* [passage species, numerous in spring and common in autumn; data on nesting probably erroneous] , *Scolopax rusticola* [very rare, supposedly breeding species].

ESTAF'YEV, A.A. 1995. Fauna of the European North-East of Russia. Birds. Vol.1. Part 1. Non-Passerines. St Petersburg, Nauka Press. Pp. 177-304. In Russian.
Woodcock and Snipe species involved : *Lymnocryptes minimus* [breeding migratory species], *Gallinago gallinago* [breeding migratory species], *Scolopax rusticola* [breeding migratory species].

KOZLOV, V.P. 2000. The Woodcock breeding in Western Dvina River basin. In Fauna and Ecology of birds of the Western Dvina River basin. Material of the International Scientific Conference. 5-7 December 2000. Vitebsk, Vitebsk State Univ. Press. Pp. 45-47. *In* Russian.
The Woodcock is a common species when breeding and on passage in the territory of the Western Dvina River basin. It occurs in all forest regions.

BABENKO, V.G. 2000. The birds of Lower Cis-Amur River area. Moscow, Promotei Press. 724 p. In Russian.
Woodcock and Snipe species involved : *Lymnocryptes minimus, Gallinago gallinago, Gallinago megala, Gallinago stenura, Gallinago solitaria, Gallinago hardwickii, Scolopax rusticola.*

DOLGUSHIN, I.A. 1962. Order Waders – *Limicolae*. The birds of Kazakhstan. Alma-Ata, Publ. House of Acad. of Science. Vol. 2. Pp 40-245. In Russian.
Woodcock and Snipe species involved : *Lymnocryptes minimus, Gallinago gallinago, Gallinago megala, Gallinago stenura, Gallinago media, Gallinago solitaria, Scolopax rusticola.*

MITROPOL'SKIY, O.V., FOTTELER, E.R. & G.P.TRET'YAKOV. 1990. Order Charadriiformes. The birds of Uzbekistan. Tashkent, Fan Press. Vol. 2. Pp 17-162. In Russian.
Woodcock and Snipe species involved : *Lymnocryptes minimus* [regularly occurs during the autumn and spring passage, in small numbers in winter], *Gallinago gallinago* [numerous on autumn and spring passage; in small numbers but regularly winters in the major part of the Uzbekistan plain], *Gallinago megala* [very rare occurring during the autumn passage, probably winters sometimes], *Gallinago stenura* [occurs very seldom on spring and autumn passages], *Gallinago media* [regularly and irregularly occurring on spring and autumn passages], *Gallinago solitaria* [occurs on spring and autumn passages, regularly winters in the foothills and mountain regions of the Republic] , *Scolopax rusticola* [occurs on passage in the plain parts of Northern Uzbekistan, winters in the foothill regions of Tien-Shan' and Pamiro-Alai, and probably breeds irregularly in the mountain forests of Western Tien-Shan'] .