





Newsletter

Number 34

December 2008





Newsletter 34

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December 2008

This Newsletter is published with financial assistance of Office national de la chasse et de la faune sauvage





This Newsletter seeks to be a contact organ to inform the members of the Woodcock and Snipe Specialist Group (WSSG), a research unit of Wetlands International (WI) and of IUCN, the International Union for Conservation of Nature. The subjects of WSSG are species of the genera *Scolopax*, *Gallinago* and *Lymnocryptes* that in several respects differ remarkably from all other wader species. For this reason a separate research unit was established.

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ent Woodcock and Snipe publications

The major 2008 event for the WSSG was the **first IUCN SSC Chairs' Meeting** which was held in February in AI Ain, Abu Dhabi (United Arabian Emirates). This was the opportunity for your Coordinator to meet other Chairs of SCC Specialist Groups and to talk about our respective difficulties and projects. The SCC Specialist Groups appeared very different from each other in terms of means and number of members but also with regard to the status of the species they are involved in. Of course, very charismatic species are sustained by large groups with a high level of organisation. However, IUCN aims to help any Specialist Group (including the WSSG !), as they are altogether representative of biodiversity. One of the discussed issues was the coordination between Wetlands International and IUCN for the groups belonging to both organisations, such as the WSSG. A work has been initiated to clarify the situation for the long term and an agreement should be signed during the first half of 2009.

An second event which has to be underlined is the **IUCN World Congress in Barcelona** in October. Your Coordinator did not attend this Congress but the WSSG was represented by a poster at the Species Pavilion.

Moreover, Wetlands International seeked information from the WSSG within the framework of its Wing Over Wetlands (WOW) program. BirdLife International also asked the WSSG to provide information on the status of species concerned by the Group. These requests prove the interest shown by International organisations in the Specialist Group and it must be a challenge for us to answer their questions.

The **Seventh Workshop** is still an objective to reach. It will not be organised in 2009 owing to a national Woodcock conference which will be held in France in June and in which the Coordinator and other WSSG members will be involved. Our aim is to be ready for June 2010, probably in Russia, in the Leningrad region. Information will be sent in the course of 2009.

Concerning the work of the **WSSG itself**, I know that all members are carrying on their research and studies on our favourite species. No doubt about that. However, as you can see in the contents of this issue, only a few have proposed papers for our Newsletter. We do not need very long or particularly "sharp" articles. We just need to present ideas, projects, state of research in progress or monitoring results in order to support the Group and to inform IUCN, Wetlands International, other Specialist Groups and any biologist interested in woodcocks and snipes. I would like to ask you to attend to this aspect of our work. I am sure I can rely on you for the next Newsletter.

I wish you a very happy New Year and much success with your scientific work.

Yves Ferrand Coordinator

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2008 Belarus Woodcock Report

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This year the APB-Birdlife Belarus (NGO Akhova Ptushak Batskaushchyny) and the Institute of Zoology continued the monitoring survey of Woodcock on the territory of Belarus. Roding census took place at 60 listening points located in 10 squares (12x12 km) in May – June. Censuses were carried out during 120 minutes at dusk. Woodcock ringing and night counts were undertaken during autumn migration.

Breeding survey

A census of the breeding population from the observation of roding males was carried out at 60 listening points, randomly chosen, during a period of about one-month (mid-May-June). Listening points were located in ten squares (12x12 km) and only units with predominant forest (at least 90%) were used for sampling. Censuses lasted 120 minutes. Roding males were recorded in the majority of listening points. In total, 699 contacts with roding males were registered at the census points. The average number of woodcocks per 2 hours was 11.7 ± 7.93 (12.1 \pm 8.16 in 2007). The maximum number of contacts at one point was 51. The occupation rates of high and low abundance sites are 0.883 and 0.117, respectively (Table 1).

Ringing and survey during the migratory period.

Woodcock ringing and study of migration were carried out in the Berezinsky Reserve vicinities. The main study period was 15 September – 31 October. The first field trip was carried out on 2 September and woodcocks were not observed. Autumn was very humid and warm during September – October. We recorded only several days with a ground frost in the third decade of October. The first decade of November was also warm, with temperatures ranging between $+5^{\circ}$ C and $+10^{\circ}$ C. Nevertheless woodcocks were not registered after October.

We recorded 123 birds during 49 night trips and 44 woodcocks were caught. Among them 2 birds had been ringed one year before at the same place and 2 birds had been ringed the same year. The catching success rate was 31% (29% in 2007).

Passage dynamics according to records of nocturnal contacts at monitoring plots is given in Figure 1. Age ratio (juv/ad) among caught woodcocks was 0.5 and first-year woodcocks represented 33.3% of all ringed birds. This is the second year that we record a very low ageratio among caught birds. This could be related to a low breeding success in Belarus and some

Year	2005	2006	2007	2008
N. listening points	60	60	60	60
High abundance sites (n≥5)	0.867	0.717	0,833	0,883
Low abundance sites (n<5)	0.133	0.283	0,167	0,117
Proportion of positive sites	1	1	0,983	0,983
Average number of contacts	11.6 ± 6.91	10.5 ± 7.56	12.1 ± 8.16	11.7 ± 7.93

Table 1: Proportion of high and low abundance sites and average number of contacts during two-hour counts.

regions of Russia. Passage dynamics of Woodcock according to observations pooled by five-day periods are shown in Figure 2. The main peak of passage was observed between the third and the fifth five-day periods of October. Thus, the main migration wave was recorded later than in 2007. In total, 189 woodcock have been ringed in Belarus during five years (2004-2008) and six recoveries have been received from France and Spain (Figure 3). The majority of them are direct recoveries (i.e. ringed birds were found before return migration).

Acknowledgements

We thank Oleg Ostrovsky, Maxim Tarantovich, Nikolay Cherkas, Marina Dmitrenok, and all the volunteers who participated in the survey. We also thank Alexander Kashtalian and other assisted our work. We are grateful to the *Office national de la chasse et de la faune sauvage* for funding the survey.





Figure 3: Recoveries of woodcocks ringed in Belarus during 2004-2008.

News from.....

RUSSIA

Woodcock monitoring in the forest area of European Russia

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Woodcock numbers in a breeding area can be assumed to be a criterion of breeding success. Regular records are needed to estimate Woodcock numbers and monitor t their trends. The difficulty of the organization and implementation of this work in large areas has led researchers to find reasonable ways of obtaining indirect data for impartial assessment of the Woodcock population status.

For this purpose several methods can be used: annual spring records during roding, autumn records at nocturnal foraging habitats and hunting bag information (collected mainly from hunters who use setters, pointers and spaniels).

Results

Roding censuses

Roding woodcocks were recorded in the Pinega district of the Arkhangelsk region over a period of 15 years (1993 to 2007). Woodcock is not hunted in this area. Every year, the number of roding males (contacts) was recorded during a fixed two-hour period at listening points chosen at random in 12 x 12 km or 24 x 24 km quadrats. In addition, observations of roding males were carried out at fixed points throughout spring. On average, each fixed point was visited on 7 - 8 evenings (max. 17 evenings). During the study period, roding was observed 112 times at the main control fixed point and 1,630 contacts of Woodcock contacts were recorded.

In the same season, the number of woodcocks observed at the same point in different days can vary considerably. For example, the number of woodcocks observed in spring 2006 varied from 11 to 25 at the control point. In spring 2007, it varied from 19 to 26. Therefore, repeated observations seem to be required to obtain reliable information on the number of woodcocks at a listening point.

From 1993 to 2007, the mean number of roding male contacts (Mc) at randomly chosen listening points was 14. Figure 1 shows its annual variations. Two falls occurred in 1994 and 2002 (Mc = 8.7 and 9 resp.) and three peaks were observed in 1993, 1998 and 2007 (Mc = 19.3, 22.8 and 22.1 resp.).



Figure 1: Variations of the mean number of contacts of roding woodcocks over a period of 15 years in Arkhangelsk region.



Figure 2: Inter-annual variations of the number of woodcocks recorded at night at the 100-ha study area over the 1999-2004 period.

Autumn records

Woodcock observations were regularly carried out in autumn from 2000 to 2004 at the same period of the year (18 September - 20 October) in nocturnal foraging habitats in the Tver region. Nearly all the woodcocks of a 100-ha study area (a permanent pasture) were recorded using a headlight. Over the five-year observation period, the number of woodcocks in foraging habitats has undergone considerable changes (Figure 2). Further noticeable reduction in numbers is observed. In 2004, the Woodcock numbers turned out to be three times lower than in 2000. Special mention should be made for 2002, when woodcocks were not observed in open biotopes owing to a severe drought.

In autumn, the number of woodcocks in the nocturnal habitats varies considerably from one day to another. These variations neither depend on the current weather conditions nor on climatic characteristics of the corresponding spring-summer (except for extreme periods). The coefficient of correlation between the number of observed woodcocks and the period of observation period during autumn for different years is equal to 0.85. As an example, the Figure 3 shows the distribution of the mean number of woodcocks recorded in 2000 and 2001 (years of high Woodcock abundance) at the test site of Bortnikovo in the Tver region. This shows a cyclic phenomenon with high and low numbers of woodcock observed in a short time period, and usually at the same period every year. The reasons for such a regularity are unknown so far. This regularity which was also revealed by analysis of daily records leads us to consider that long-term and repeated observations of woodcocks in open land areas are necessary to estimate Woodcock population numbers in autumn. The records made at the test sites of the Tver region met this requirement.

Further woodcock records at Bortnikovo were impossible owing to the sudden cessation of cattle grazing and, therefore, the degradation of Woodcock nocturnal foraging habitats. In 2007, a new test site, Sidorkovo, was established at 200 km to the north of the previous one. Similar daily records were made at this new site (Figure 2). The peaks of Woodcock occurrence at this new site in 2007 appear slightly shifted in dates, maybe due to the different geographic location.



Figure 3: Intra-annual variations of the number of woodcocks observed at night in test sites during autumn migration in Tver region.

Hunting bags

The number of woodcocks in a hunter's bag per season and woodcock numbers significantly change from year to year. Figure 4 shows that, from 2000 to 2006, the mean seasonal Woodcock hunting bag of woodcocks per hunter (n = 150) with a pointing dog gradually decreased in the forest area of the European Russia. In 2005, the hunter's bag made up less than 60% of the maximum number of woodcocks shot by a hunter in 2001 and 2002 and remained at the same low level in 2006, when one



Figure 4: Variation of the mean woodcock hunting bag per hunter over the period 2000-2006.

owner of a pointing dog shot 2.9 woodcocks on average.

A similar trend is shown in the annual variation in the number of hunters actually shooting woodcocks (Figure 5). By 2005, the number of hunters who managed to shoot woodcocks was reduced by half. The situation did not change in 2006, when less than half (44, 4 %) of the owners of setters, pointers, and spaniels took part in autumn Woodcock hunting.



Figure 5: Inter-annual proportion of hunters (owners of pointing dogs and spaniels) who shot at least one woodcock within the 2000-2006 period.

Discussion - Conclusion

The comparison of the data on the trend of Woodcock numbers collected using different methods leads to the following observations.

The variations in the annual Woodcock numbers in foraging habitats and in the annual mean Woodcock hunting bag per hunter in European Russia appear to be consistent over the 2000-2004 period. Under the assumption that the Woodcock hunting bags are correlated with Woodcock numbers, the decrease in Woodcock numbers from 2002-

2003 could signify a more general decrease in the European Russia forest area.

The drought in 2002 changed the Woodcock distribution in nocturnal foraging habitats but it is unlikely to have affected the Woodcock numbers in autumn as shown by the value of the mean Woodcock hunting bag per hunter which was at a maximum level, as high as in 2001.

The annual variations of the number of roding woodcock contacts over the last 15 years does not show any trend in Woodcock numbers in spring.

Age-related differences in the migration distance and wintering places of North-West Russian Woodcock (*Scolopax rusticola*)

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It has been known that first-years in a wide range of bird species migrate further than adults, and over the whole wintering range first-years predominate further away from the breeding grounds (Newton, 2008). Analyses of ringing recoveries have demonstrated that inexperienced juveniles on their first autumn journey show much greater spread in departure directions than adults (Newton, 2008). These migratory and wintering patterns are poorly known in Eurasian Woodcock. We tested hypotheses about age-specific distribution within woodcock winter range and age-specific migratory direction.

Material and methods

Ringing was conducted during 1994-2007 near St. Petersburg, Russia. Woodcocks were captured at night in open field habitats using a spot light technique (Gossmann et al., 1988). All trapped birds were aged (young = first-year hatched during the calendar year of ringing, and adults hatched before the calendar year of ringing) using plumage characteristics, moult and wear, following Clausager (1973) and Ferrand & Gossmann (1995). Local and passage woodcocks were ringed during September and October. Most woodcocks were ringed during autumn migration. According to recoveries during the breeding period

(Vysotsky & Iljinsky, 2007), these migratory birds belong to populations from north-western Russia (Arkhangelsk, Leningrad, Pskov Long-distance regions). recoveries of woodcocks have been gathered for the 1994-2008 period in the Moscow Ringing Centre and in St. Petersburg State University. Longdistance recoveries from November through February are treated as recoveries from the winter range. We analyzed a total of 242 winter recoveries from 2,299 ringed woodcocks. We divided data into two groups as follows: first-winter birds (ringed as young and reported in the first year of life) and wintering adults (ringed as young and reported in the second year of life or later; ringed as adults and reported during any winter). The directions (true azimuths) and distances between ringing and recovery sites were calculated as loxodrome (constant compass course) and orthodrome (great circle) respectively, using program GPS TrackMaker for Windows, v.11.2. The analysis and interpretation of directional data requires specific circular statistics and methods (Zar, 1996; Marques de Sá & Joaquim, 2007). Namely, mean direction is not merely average azimuth. A measure of azimuthal dispersion (the mean vector length or concentration parameter, r) shows how tightly azimuths around cluster mean direction. the

	Mean	Median	Mean	Concentration
	Distance (km)	Distance (km)	direction	parameter, r
First-winter	2472.3	2554.0	246.76°	0.97
n = 125	(1195.5 - 3550.0)		(161.6° – 285.2°)	
Wintering as adult	2392.5	2394.7	245.96°	0.96
n = 117	(1289.0 - 3339.9)		(189.7° – 279.4°)	
Pooled	2433.7	2474.9	246.38°	0.97
n = 242	(1195.5 - 3550.0)		(161.6° – 285.2°)	

Table 1: Summary statistics for woodcock migration distances and directions (range is given in parentheses).



Figure 1: Winter recoveries of the woodcocks from North-West Russia. Triangles: first- winter recoveries; circles: birds recovered in the second year of life or later; star: location of the ringing sites.

Results

Spatial distribution of woodcock recoveries in winter and distributions of the distances between ringing and recovery sites are presented in Figure 1 and Figure 2 respectively. As shown on the map of the winter spatial distribution (Figure 1), woodcocks originating from North-West Russia have a broad main winter range from Great Britain to Greece.

There is a statistically significant difference (Figure 2) between the two distributions (Kolmogorov-Smirnov test, statistic DN = 0.271, P-value = 0.0003). The first-winter

distances exhibit a negative standardized skewness (- 4.7) indicative of a leftward skewed distribution in relation to the normal one and significant departures from normality. Both samples have standardized kurtosis values outside the normal range.

Summary statistics for migration distances and directions are given in Table 1. The median distance from the ringing point to the recovery point within winter quarters in first-winter woodcocks (Table 1) is significantly higher (Mann-Whitney-Wilcoxon test, W = 5711.0, P-value = 0.003) than in adults. However there is no significant difference (Wheeler-Watson test, W = 0.172, df = 2, P-value = 0.92) in the mean directions (Table 1) between age groups.



Figure 2: Frequency histogram of the distances between woodcock ringing sites and wintering sites.

Discussion

Our main conclusion is that first-year woodcocks spend their winter on average further away from the breeding grounds than adults. There are no significant differences in the migratory distances between first-years and adults in the British Isles (Hoodless & Coulson, 1994), where woodcock is a shortdistance migrant. Actually, Norwegian adult woodcocks migrate further away from breeding grounds than first-years (Bakken et al., 2003), but this difference has not been statistically tested. Our results are in disagreement with the above mentioned findings. The mean direction of migration (246.4°) for North-West Russian woodcocks appears to be different from Scandinavian ones (217°- 226°; Clausager, 1974)

It is known that an innate migratory program (direction and distance) enables first-year birds to reach their general wintering area (Berthold, 1996). We suppose that many first-year woodcocks guided by such a program migrate as far as possible and stop at the western edge of the wintering range. High concentrations of young birds in the Atlantic regions of France (Fadat, 1988) and in the southwestern part of England (Harradine, 1988) are consistent with the above mentioned idea. The adults, guided by a previous experience, could reduce their migration routes and remain to hibernate in favourable places.

The hunting pressure on woodcock is different in European countries (Henderson *et al.*, 1993). We believe that adult and first-years woodcock from North-West Russian populations are under a different hunting pressure within their wintering range. The hunting pressure is higher in the Atlantic regions of France than in inner ones, which leads to a higher proportion of long-distance first-year migrants in the hunting bags.

Acknowledgments

Implementation of the census during the 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.A. Buzun, D.V. Chistyakov, V.I. Golovan, V.A. Fedorov, S.A. Fetisov, A.V. Kondratiev, V.G. Pchelintsev, M.V. Verevkin (St.Petersburg State University), and also Y. Ferrand, F. Gossmann, L. Barbier (ONCFS, France). We are also grateful to the Moscow Ringing Center for its help. Study of woodcock in Leningrad region was financed by the *Office national de la chasse et de la faune sauvage*, France. Data analysis was additionally supported by the Program "Russian Biological Resources".

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News from.....

2007-2008 French Woodcock report

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The 2007/08 season was characterized by an early Woodcock arrival in mid-October with a relatively high abundance of birds. This early timing mainly differed from the phenology of migration observed during the very last years. However, we can consider that this was "normal" compared with migration timing over a large period (several decades). The low temperatures registered in the beginning of October in Scandinavia, and then in mid-October in Russia, probably stimulated the long-migrant part of the Woodcock populations.

The woodcocks spread over France, except in some regions where drought was important, for instance in Poitou-Charentes, Pays-de-la-Loire and in the South-East. In December, temperatures were 0.7°C less than the average in the second part of the month. However no movements to the coastal regions were noticed and winter was rather mild, especially in January.

Ringing results

Quantitative ringing results

In total, 5,866 woodcocks were ringed in France during the 2007-08 wintering season (Figure 1). This is the new record in the last 25 years ! A high abundance of woodcocks, very favourable weather conditions for catching with long wet and windy periods and an increasing ringer experience, explain the progress of the success rate (+ 1.5 point

FRANCE

compared with 2006/07) and the high number of captures.

As usual, the majority of woodcocks (73%) were ringed in November, December and January with a peak in November (1,576; 26.9% of total; Figure 2). One should point out that the monthly distribution of captures is of course linked to bird abundance, but also to the number and duration of ringing trips and to the success rate, which is linked to the moon phases and weather conditions. Very good conditions for catching were present from November to January. On the other hand the anti-cyclonic conditions observed in February probably did not encourage the ringers to go in the field. Finally, rain and wind in March along

with an intense spring migration lead to a higher than usual number of ringed woodcocks.

Proportion of juveniles

The proportion of juveniles among ringed birds was 59%. This is one of the highest registered since 2000. This variable is not easy to interpret in so far as the survival rate and the breeding success are interdependent (Gossmann *et al.* 2006*). However, the hypothesis of a high breeding success seems to be confirmed by the high IAN values (cf. hereafter).



Figure 1: Inter-annual fluctuations of ringing results.



2006-2007 ringing season in numbers					
N. départements : N. ringing sites : N. ringers : N. nocturnal trips (hours): N. contacts : N. ringed woodcocks : Success rate : N. direct retraps : N. indirect retraps : N. indirect recoveries : N. indirect recoveries : N. indirect recoveries : Annual direct recovery rate:	90 1,536 352 2,856 (6,058) 21,529 5,866 29 % 175 206 357 604 6.1 %				

Figure 2: Monthly fluctuations of captures and success rate (black line) during the 2007-08 season.

*Gossmann F., Bastat C., Guénézan M. & Y. Ferrand. 2007. 2005-2006 French Woodcock report. WSSG Newsletter 32: 43-47.

Monitoring of abundance during the migratory and wintering period

Two indices allow to monitor Woodcock migratory and wintering numbers in France: the mean number of contacts/hour (IAN) registered during ringing trips and a hunting index [ICA : number of seen woodcocks / standardised hunting trip (duration = 3.5 hours)] collected by the *Club national des bécassiers*.

In 2007-08, IAN was estimated from more than 21,500 contacts noted during 6,058 hours and ICA from a sample of 1,160 hunters and slightly more than 35,000 hunting trips. For this season, IAN amounts to 3.61 and ICA to 1.47 (Figure 3). These values are higher than those of the last season. The IAN value is the second highest for the last 12 years, just behind that of 2005/06 (3.69).

The analysis of trends of IAN and ICA trends for the 1996/97-2007/08 period has been modified from the previous years. Indeed, we identified the cause of the change in the relative position of the curves in 2002/03 (i.e. the IAN curve moves above the ICA curve). This was only due to a change in the rules for IAN calculation when we asked ringers to strictly report the working time spent in the field. Before asking them to apply this rule, estimation of field work time was variable from one ringer to another and lead to an artificial increase of this variable. Consequently, the joint analysis of IAN and ICA trends is now divided into 2 periods, before and after 2002/03. As ICA was not affected by the IAN calculation problem, its trend was analysed as from 1996/97.

The results show a significant but slight increase for ICA (*p*-value = 0.042; nonparametric Spearman test) for the 1996/97-2007/08 period (Figure 3). For the 1996/97-2001/02 period, ICA and IAN seem to be very stable (*p*-value = 0.419 and 0.497, resp.). By contrast, a slight significant increase is shown for ICA and IAN during the 2002/03-2007/08 period (*p*-value = 0.068 for the two indices).

The IAN monthly fluctuations are characterized by a high value in October (2.8; Figure 4). After this early period of intense migration, the IAN values appear to increase more slowly than usual: from 3.7 in November to 3.9 in January. Then the values decrease again very slowly to reach 3.3 in March.



Figure 3: Annual fluctuations of the number of contacts/h during ringing trips (IAN: nocturnal index of abundance) and hunting trips (ICA: hunting index of abundance; Source: Club national des bécassiers).Data have been divided into two periods due to a change in the method of calculation of IAN in 2002/03(see text).

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Figure 4: Monthly fluctuations of IAN from 2002-03 to 2007-08.

In October and November, IAN values were particularly high in the northern part of France [Nord - Pas-de-Calais - Picardy (4.6), Normandy (5.9) and Champagne-Ardennes (7.2)]. In these regions, high numbers of woodcocks remained all winter (mean IAN = 5.8). This was also the case for the Centre – Ilede-France where the mean IAN reached 5.3. In Brittany. Alsace-Lorraine. Burgundy and Franche-Comté, IAN values were more or less stable during autumn-winter but relatively low compared with the northern part of France (mean = 3.7). Except in the South-East where abundance was extremely low, the other French regions received woodcock numbers in the average.

Again in the 2007/08 season, Woodcock migratory and wintering numbers were monitored in the course of the season. Data

were collected every 10 days by electronic mail. 93% of *départments* sent at least one data file by internet. In total, 1,037 files were received. They represented 77% of the final field work time and 79% of the final Woodcock contacts. Data were transferred as quickly as in the last year: 82% in less than 10 days.

The estimates obtained by internet were again very close to the final values. The difference amounts to 0.1 (3.7 for internet IAN ; 3.6 for final IAN). The evolution by 10 day-period is also very similar (Figure 5). The differences registered for each 10 day-period were comprised between -0.5 and +0.5. They are more particularly observed from January to March. From October to December, internet IAN and final IAN are very similar and their differences ranged from -0.2 to +0.15.



Finally, the proportion of juveniles estimated from internet data was only one point below the final one: 58% and 59%, respectively. The differences registered for each 10 day-period were comprised between -2 and +4 points.

During the 2007/08 hunting season, 3 reports were published to inform administration, hunters and ringers on the Woodcock situation. This monitoring quickly showed that woodcocks were in low numbers in Pays-dela-Loire. Poitou-Charentes. Languedoc-Roussillon and in the South-East of France due to drought in September and October. The presence of observers spread over all French regions as well as the joint analysis of internet IAN and ICA estimated in the course of the season by the Club national des bécassiers allowed us to collect relevant information to interpret the situation.

In conclusion, the 2007/08 season was characterised by:

- an early migration in mid-October,
- a rather high Woodcock abundance in the majority of French regions
- a lack of birds in the South-East due to drought.

Roding results

In 2007, roding censuses took place in 56 *départements* and 850 listening points were visited.

National occupation rate

This rate corresponds to the % of listening points at which at least one roding male was observed (= positive site). In 2008, the value was 23.6 %. This is lower than the value registered in 2007 which was the highest since 2000.

The low abundance sites $(1 \le n. \text{ contacts} < 5)$ represent 14.9 % and high abundance sites $(n.\text{contacts} \ge 5) 8.7 \%$.

Breeding population trend

The population trend of the French breeding Woodcock population has been analysed every year for the last 10-year period. In total, 49 *départements* censused roding woodcocks without interruption from 1999 to 2008. No trend was detected in the proportion of positive sites (*p*-value = 0.174; Cochran-Armitage test) but an increase (*p*-value =0.009; Cochran-Armitage test) was noted in the trend of the proportion of high abundance sites in positive sites.

Since 2006, we proposed to analyse and to pool the data by 10 year- sequences to get information for a longer period. Figure 6 shows the variations of the 2 indices (positive sites and high abundance sites) for the last 8 10 year-periods and Table 1 gives the *p*-values of tests for every index.

Results show that after a period of decrease followed by stability we are now in a favourable context with a probable increase of breeding numbers since the end of the 1990's.

period	1992-2001	1993-2002	1994-2003	1995-2004	1996-2005	1997-2006	1998-2007	1999-2008
<i>p</i> -value	0.009	0.015	0.026	0.079	0.71	0.58	0.094	0.174
(positive sites)								
<i>p</i> -value (high abundance sites)	0.55	0.57	0.52	0.116	0.033	0.010	0.004	0.009

Table 1 : p-values of Cochran-Armitage tests for % of positive sites and for % high abundance sites / positive sites for the 8 available 10 year-periods.





Figure 6: Inter-annual variations of the proportion of positive sites and high abundance sites/positive sites for the 8 available 10 year-periods.

Conclusion

Woodcock monitoring in France which concerns either migrating and wintering populations from northern and eastern Europe, or the breeding population, shows that this species does not seem to be endangered at the present time in the Western Palearctic. This is based on a large network concerning a significant part of the European Woodcock population. However, this network could be enlarged to other important wintering regions such as Great-Britain (for Scandinavian birds) and Ireland and Spain where an important part of woodcocks from Central Europe winters.



This report is the result of an important field work carried out by members of the ONCFS/FNC Woodcock network. We thank all of them : professionals of ONCFS, *Fédérations départementales des chasseurs* and volunteers. We also thank the *Club national des bécassiers* for allowing us to use the data collected by Club members.



Photos: Nathalie Chevallier/ONCFS

Evaluation of the 2007/08 Woodcock hunting season in France



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During 14 years, members of the *Club national des bécassiers* (CNB; a French Woodcock Hunter Association) have collected information on the Woodcock hunting bags following the same protocol. The following data are gathered every year: information on hunting trips (date, place, numbers of seen and shot woodcocks), weight and sex from a sample of shot woodcocks and, finally, age from a wing collection.

In 2007/08, 1,289 CNB members participated in the wing collection. In total, 10,020 wings were analysed (from 10,042 wings received), 9,205 birds were weighted and 2,100 were sexed. The data were collected in the major part of the Woodcock wintering area in France (Figure 1).

Hunting index of abundance (ICA)

A hunting index of abundance (ICA) has been defined as the number of different woodcocks



Figure 1: Distribution of the number of Woodcock wings collected in every French département during the 2007/08 survey.

seen during a hunting trip, the standardised duration of which was 3.5 hours (Cau & Boidot, 2005)

In 2007/08, ICA was estimated from the hunting trips of 1,160 Woodcock hunters. Its national annual value is 1.47 [35,107 trips, 122,874 hours and 51,454 woodcocks seen (13,176 shot)]. This value is above the average (1.33) for the 1993/94-2005/06 period (Figure 2).

The variations of the ICA monthly values are shown in Figure 3. Till December the 2007/08 ICA monthly values from October to December appear slightly above the average of those obtained in the last 11 years, then in the average in January and February. However, the monthly distribution is very similar to the average.

ICP is the number of woodcocks shot during a standardised hunting trip. In 2007/08, ICP reached 0.38. This can be summarised as follows: in 2007/08 an "average" Woodcock hunter made 30 hunting trips, flushed 44 woodcocks and shot 11. This is very close to the result of 2006/07 (31,43,11 resp.)

As in the previous years, the 2006/07 Woodcock hunting bags of CNB members were mainly made in November (41%) and December (30%). In January, the bag taken represented 14% of the total, 8% in October and 7% in February.

According to ICA, the geographical distribution of woodcocks in France was heterogeneous (Figure 4). High abundances were registered in the Western part when the South-East was characterized by very low abundances.



Figure 2: ICA annual variations in France from 1993/94 to 2007/08.

Figure 3: ICA monthly variations in France for the 2007/08 *hunting season and average for the* 1996/97 - 2006/07 *period.*

Ratio juvenile/adult

For 2007/08, the proportion of juveniles in the French Woodcock hunting bags is estimated at 63% (n = 10,020). This value is the same as in the last year and in 2001/02. This a rather low value which can be explained in part by the increase of wings provided by inner regions where the juveniles are less numerous during wintering. An estimation of age-ratio weighted by the geographical origin of collected wings could be more appropriate for analysing the inter-annual trend of age-ratio.

In 2007/08, the proportion of juveniles that had moulted completely was 19,3 % (1211/6260) and the proportion of adults that had finished their post-nuptial moult was 42,2 % (1501/3555).

Ratio male/female

In 2007/08, the proportion of Woodcock males in the CNB members hunting bags was 39% (822/2100). This value remained very stable from one season to another (39% in 2005/06 and 2006/07).





Figure 4: Distribution of ICA in every French département during the 2007/08 survey.

Variations in weight

In 2007/08, the mean weight of a shot woodcock was 316 g (319 g for females, 312 g for males). This does not vary much from year to year: 313 g in 2006/07, 317 g in 2005/06.

Adult females were the heaviest, 325 g in average. The mean weights of juvenile females and adult males were 316 g and 314 g respectively. The mean weight of juvenile males reached 311 g.

The mean weights increased after the arrival of birds from the second decade of November (weight loss due to migration) to the beginning of December (staying in wintering sites). From January to February, the mean weights decrease slightly because of a harder and more variable availability of preys due to periods of frost.

Conclusion

According to the ICA values, the 2007/08 season can be considered as "good". Average abundance in the French wintering sites was one of the highest in the last 15 years.



Photo: Yves Ferrand/ONCFS

2007-2008 French Snipes report

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Ringing results

The French Snipes ONCFS/FNC network gathers 110 snipe ringers spread over 43 French *départements*.

In total, 1,284 snipes were ringed in 2007 by the network: 1,177 common snipes (*Gallinago* gallinago), 116 jack snipes (*Lymnocryptes* minimus) and 1 great snipe (*Gallinago media*).

Plumage collection

In addition to ringing, an analysis of Common Snipe and Jack Snipe plumage (wing and/or tail feathers) collected during the 2007/08 season was carried out. This allows us to improve our knowledge on the fluctuations of the proportion of juveniles during the hunting season and to get information on the phenology of migration.

In total, the plumage of 4,587 Common Snipes and 916 Jack Snipes were gathered mainly by the CICB (International Club of Snipes Hunters) members and by the *Fédérations départementales des chasseurs* of *Cantal*, *Lozère* and *Gironde*.

Common Snipe

Geographical distribution of analyzed plumage

As in the last year, the geographical distribution of Common Snipe plumage collected in 2007/08 shows two distinct focuses: north of France and Central massif (Figure 1).

Data were analyzed after dividing the total sample into two parts which corresponding to two flyways: a Fennoscandian one and a continental one (Rouxel, 2000; figure 1). The sizes of each sample are close (2,341 plumage for the Fennoscandian flyway, 2,246 plumage for the continental flyway), which validates this approach.

Temporal distribution of analyzed plumage

Under the same assumption as in the preceding report (i.e. the number of collected plumage (*ncp*) is positively correlated with real numbers; Leray *et al.*, 2007), the main migratory wave took place between the beginning of September and mid-November. Migration was slightly earlier than in 2006 and spread over a longer period with no marked peak (Figure 2).

A smooth evolution of numbers was observed for the Fennoscandian flyway: a quick and constant increase was noticed from the beginning of August to the first 15-day period of September when a peak was reached. After a period of stability, a constant decrease appeared from mid-January to the end of January (Figure 3). In contrast, for the continental flyway, the snipes arrived in great numbers in the beginning of September. Numbers were stabilized till mid-November and then dropped suddenly (Figure 3). This drop remains unexplained in so far as the weather conditions and the quality of wintering sites (in terms of drought) did not change in this region in autumn.



Figure 1: Geographical distribution of numbers of Common Snipes whose plumage was collected in 2007/08 and limit between the two sub-samples corresponding to a distinct migratory flyway.



Figure 2: Temporal distribution (per 15 day-period) of collected plumage and of the proportion of juveniles for the whole Common Snipe sample.

Fennoscandian flyway



Continental flyway



Figure 3: Temporal distribution (per 15 day-period) of collected plumage and of the proportion of juveniles for Common Snipe in each flyway.

Proportion of juveniles

Examination of wing plumage allows to determine the age (juvenile vs adult) of a large proportion of common snipes.

For the whole collected plumage, the proportion of juveniles amounts to 72.4% (ageratio = 2.6). If we do not take August into account (as recommended by Devort, 1997), the proportion of juveniles is 70.2% (age-

ratio=2.4). These values are very close to those of the 2006/07 season and in the average of those estimated since the 1980's (74.4% for all data; 72.3% for data without August; Figure 4).

Juveniles represent 70.8% of birds in the Fennoscandian flyway and 74.1% in the continental flyway.

In contrast to the last season, juveniles are more numerous in the continental flyway. The difference is statistically significant for the whole data set [Fisher exact test (p = 0.0131)] and for data without August (p<0.0001).

As in every season, the proportion of juveniles follows a progressive decrease trend during the season (Figure 2). However, this trend is more pronounced for the Fennoscandian flyway [Cochran-Armitage test ((p<0.0001)]than for the continental flyway (p = 0.067; Figure 3).

Remember that several factors (hunting pressure, weather conditions, annual productivity) can play a role in the proportion of juveniles in hunting bags, making its interpretation difficult.

Consequently, one must rather take into account the relative variations in the proportion of juveniles from one season to a another. From this point of view, the 2007/08 value in France does not differ much from those of the last seasons which suggests that the breeding success in spring-summer 2007 was probably in the average of the last 20 years. In Europe, the weather conditions in June-July 2007 were rather favourable to snipes: temperatures were in the seasonal means, and even higher, and precipitations were above the seasonal means in a great part of the European breeding range (Source:http//www.cdc.noaa.gov/Composites/ Day/index.html).



Figure 4: Inter-annual variations of the proportion of juveniles among Common Snipe plumage collected in the 1986/87 - 2007/08 period for all data and for a sub-sample without August data (No collection in 1999/00 - 2003/04 period).

With Devort (1997) we consider that the proportion of juveniles in Danish hunting bags is probably more reliable for estimating the annual breeding success, particularly for the Fennoscandian flyway. In 2007/08, this value was estimated at 62.4% (age-ratio = 1.7; Source: http://www.vinger.dmu.dk). Although this value is higher than that of the last season, it is still low compared with the mean for the 1983-2006 period (73.3%; age-ratio = 3.4) and this corresponds to a low breeding success which is inconsistent with our previous hypothesis. The reasons of this difference are unclear: the Danish sample is as large as in the past (524 birds, the distribution of this sample

during the hunting season is the same as in the past, and carrying potentialities of migration and wintering Danish sites were normal.

Proportion of males/females

Sex was defined for 1,095 adult birds and the proportion of males was 35.6%. We also defined this proportion for all birds (juveniles + adults), although the determination of sex is much more reliable for adults (Devort, 1989; Rouxel, 2000). In this case, the proportion of males reached 39.2%.

The proportion of males (only for adult snipes) was very close for both flyways: 35.4% for the

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Fennoscandian flyway, 35.8% for the continental flyway [no significant difference; Fisher exact test (p= 0.8995)]. If we add juveniles to the data set, a difference (but non significant; p = 0.0587) appears between the two flyways: 40.7% of males in the Fennoscandian flyway, 37.3 % for the continental flyway.

Jack Snipe

Geographical distribution of analyzed plumage

In 2007/08, Jack Snipe plumage were collected in 32 *départements* in France. As for the last season (Leray *et al.*, 2007), we defined two sub-samples: one for the "coastal flyway" and one for the "inland flyway" (Figure 5). 546 plumage were collected for the "coastal flyway" and 370 for the "inland flyway".

Temporal distribution of analyzed plumage

Under the same assumptions as for Common Snipe data analysis, the pattern of migration was very similar to that of the previous season: a fast increase in numbers at the beginning of the season with a peak in the second half of October and then a constant decrease till the end of January (Figure 6 & 7). The general pattern was the same for the two "flyways" with a small delay for the "inland flyway".



Figure 5: Geographical distribution of numbers of Jack Snipes whose plumage was collected in 2006/07 and limit between the two sub-samples.



Figure 6: Temporal distribution (per 15 day-period) of collected plumage and of the proportion of juveniles for the whole Jack Snipe sample.

Proportion of juveniles

A method of age determination (Devort *et al.*, submitted) allows to classify correctly about 90% of birds (adult vs juvenile).

In 2007/08, the proportion of juveniles amounted to 67.8%. This value is slightly below the average of those estimated since the end of the 1980's (72.1%; Figure 8). The proportion of juveniles was 69% for the "coastal flyway" and 66% for the "inland flyway". The difference is not significant [Fisher exact test (p = 0.392)].

Again, the temporal distribution of the proportion of juveniles appeared to be relatively stable in the course of the season for the whole data [Cochran-Armitage test (p = 0.146); Figure 6)].

Monitoring of hunting bags

The monitoring of hunting bags as an indicator of the fluctuations in numbers lies on the assumption that hunting bags are positively correlated with population size. This assumption is not always verified but if analysis is limited to a sample of hunting territories (reference territories) where it is possible to consider that hunting pressure (number of hunters, number of hunting days) did not vary much, interpretation of results is less problematic. The only uncertainty is the inter-annual variation in these territories in terms of carrying potentialities (mainly water level).

During the 2000/01 - 2007/08 period, CICB collected data in 28 sites mainly situated in the north-west of France (Figure 9). Details of hunting bags are shown in Table 1. The annual mean total hunting bag in the 28 sites amounts to 4,800 common snipes and slightly more than 1,100 jack snipes.

The mean snipe hunting bag per site can work as an annual index of abundance (Figure 10). For Common Snipe, the 2007/08 value (168.7) is in the average of those observed since the 2000/01 season (171.5). Inter-annual variations are rather large but no trend can be defined for the last 8 years (Page test; p = 0.125).

« Coastal flyway »



« Inland flyway»



Figure 7: Temporal distribution (per 15 day-period) of collected plumage and of the proportion of juveniles for Jack Snipe in each "flyway".

Season	Common Snipe	Jack Snipe	Total
2000/01	4 153	778	4 931
2001/02	3 882	1 386	5 268
2002/03	4 439	1 069	5 508
2003/04	5 343	1 449	6 792
2004/05	5 916	1 266	7 182
2005/06	5 688	1 312	7 000
2006/07	4 189	957	5 146
2007/08	4 725	880	5 605
Mean and total	4 791,9	1 137,1	47 432*

*erratum : total in 2006/07 report was wrong ; it was 43 509 and not 66 599.

Table 1: Detail of hunting bags per season for 28 reference sites.(one site not available for 2007/08 was replaced by an other for all the period of analysis). For Jack Snipe, the 2007/08 value is rather low (31.4) compared with the average for the 2000/01 – 2006/07 period (41.9). Only the 2000/01 value (27.8) Inter-annual variations are also observed for this species and often in synchrony with Common Snipe. However, no trend can be defined (Page test; p = 0.457).

Again, the Common Snipe/Jack Snipe ratio is remarkably constant (Figure 11). In 2007/08, this ratio was 84.3%. On average, Common Snipe represents 81% of Snipe hunting bags (73.7% – 85.3%). This value is close to that estimated from a national hunting bag inquiry in 1998/99: 84.7% (Tesson & Leray, 2000). The reasons for this stability remain unknown

On the basis of data collected in 28 reference sites, the numbers of migrating and wintering Common Snipes and Jack Snipes does not show a particular trend since the beginning of the 2000's.



Figure 8: Inter-annual variations of the proportion of juveniles in Jack Snipe plumage collected during the 1993/94 - 2006/07 period (No collection in 2002/03 and 2003/04).



Figure 9: Localisation of 28 reference sites for the monitoring of hunting bags during the 2000/01 - 2007/08 period.







Figure 11: Proportion of Common Snipe in total Snipe hunting bag (Common Snipe + Jack Snipe) collected on 28 reference sites from 1997/98 to 2007/08.



Acknowledgments

This report is the result of an important field work carried out by members of CICB and by the ONCFS/FNC Snipes network. We thank all of them : volunteers, *Fédérations départementales des chasseurs* and professionals of ONCFS.

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Wilson's Snipe at Azores

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The Common snipe (*Gallinago gallinago*) is a game species in the Azores archipelago (36-39° N; 25-31°W; Figure 1). Within the scope of a cooperation program with the regional hunting administration (*Direcção Regional dos Recursos Florestais*), which implies other game species, in October 2006 we started to study the Common snipe population in *São Miguel* island.

Common snipe is a resident species in the Azores; it breeds in the entire archipelago (exceptions are Santa Maria and Graciosa islands; Pereira, 2005; Equipa Atlas, 2008). It is also a regular wintering migrant (Mayaud; 1937; Bannerman & Bannerman; 1966; Le Grand; 1980). In São Miguel, we observed a significant incoming of foreign birds during

autumn-winter (data not published). During many years wintering visitors were assumed to belong to the Eurasian form (G.g.gallinago). In 1984, a snipe ringed at Western Isles (Scotland) in May, as a chick, was bagged in November at São Miguel (Clark & Clark, 1985). To our knowledge, no Wilson's snipe (G.g. delicata) ringed in North America was ever recovered at Azores. Tuck (1972) mentions, without details, that some specimens of Faeroe snipe (G.g. faeroeensis) were observed in these islands. Among eight birds bagged in São Miguel, during the 1999-2000 hunting season, and sent to France for identification (apparently to Michel Devort), four were identified as Wilson's snipes and the others, presumably, as Eurasian common snipes (Pereira, 2005).



Figure 1: Location of the archipelago of Azores (Portugal) and the relative position of its islands.

Recently, the American Ornithologists Union (Banks et al., 2002), recognized the Wilson's snipe as a separate species, on the basis of differences in winnowing display sounds and morphology. In the field, the Wilson's snipe is very difficult to distinguish from Eurasian common snipe or Faeroe snipe in size or coloration (Witherby et al., 1952; Tuck, 1972; Reddig, 1981). Compared to the Eurasian form, Wilson's snipe can be identified in hand by : a more constant number of tail-feathers (normally 16, against 14 in Eurasian form; sometimes 12, 16 or 18 in the latter), narrower outermost tail-feathers, narrower white tips to secondaries (Figure 2), much less extensively white under wing coverts, heavily and regularly barred dark brown and white axillaries; shorter bill (Oberholser, 1921; Witherby et al., 1952; Cramp & Simmons, 1983; McCloskey & Thompson, 2000; Melgar, 2004).



Figure 2: Examples of underwing pattern in Eurasian common snipe (above) and Wilson's snipe (bellow); birds bagged at São Miguel during the hunting season.

The described differences were used to identify snipe subspecies among a sample of birds bagged during the 2006-2007, 2007-2008 and 2008-2009 hunting seasons in São Miguel (Table 1). The hunting season always started in mid-October and ended in mid-January (every Sunday, with a bag limit of 3 birds/hunter/day).

Excluding the 2008/2009 season (not finished yet, consequently sample size is smaller), no difference was observed in the frequencies of both subspecies in the other seasons (χ^2_1 =0.08;

p=0.78). It seems that the Wilson's snipe is important in the bag statistics at São Miguel. Concerning other islands, in a small number of wings, from birds bagged in previous hunting seasons, at Pico (n=25) and Terceira (n=8), Wilson's snipe individuals (n=2) were detected only among Pico samples.

A brief note about Jack snipe (*Lymnocryptes minumus*): though it is not in the hunting species list, a few birds are always bagged during each hunting season (pers. obs.).

Hunting season	G. g. gallinago	G.g. delicata
2006/2007	45% (24)	55% (29)
2007/2008	53% (10)	47% (9)
2008/2009	88% (14)	13% (2)

Table 1: Percentages (and respective n) of Eurasian common snipe and Wilson's snipe within samples of bagged birds at São Miguel, from 2006/2007 to 2008/2009 hunting seasons.

The occurrence of important numbers of wintering birds of the two *G. gallinago* subspecies, each coming from its side of the Atlantic, in addition to the existence of a breeding population, raise many interesting

questions that require further studies to get proper answers. Concerning the breeding population, apparently its individuals belong to the Eurasian form, but that also needs to be confirmed. We will carry on working there.

Acknowledgments

We would like to thank all the hunters that cooperate with this project.

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ARGENTINA

An « ino black brown » South American Snipe

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A South American Snipe (*Gallinago* paraguaie paraguaiae) with an abnormal plumage was shot in February 2008 in Argentina by a member of the Snipe Hunters International Club – CICB. This occurred in the San Javier region (Santa Fé Province). This atypical bird is the first which has ever been observed for this species. A description of its plumage was made by Jean-Paul Boidot, a specialist in this matter.

The phenotype of this bird is dominated by white which means a lack of colour (achromical plumage). A dark brown longitudinal and discontinuous strip is observed on its head which is reddish-brown (phæomelanine). The lore is brown and a brown spot is present under the eye.

Its neck is reddish brown diluted with yellow spots in the upper part. The lower part is dominated by white. The breast is very pale and dominated by white with reddish brown spots. The back is white with well marked mesh-like brown spots. On the white belly, some reddish brown waves are observed. On wings, slight mesh-like reddish brown areas are visible on lesser and median coverts. Primaries and secondaries appear to be uncoloured. Some uppertail-coverts seem to have a mesh-like construction. Tail feathers are diluted reddish brown. The bill is pale on a large part of the upper mandible and very dark on the apex and the lower mandible. Finally, the tarsus is black with colourless claws on the median finger (however the original colour of the tarsus is unknown).

This white plumage with dark brown spots and reddish brown areas corresponds to a "inoblack-brown" one. Snipe is a bird with a melanin-based plumage, i.e. coloured by





melanin pigments (black, brown) and phæomelanin (reddish). Mutations can appear under different forms: dilution, delay or suppression of the distribution of these pigments. Then different types of plumage can be observed: light-bay, pastel, variegated white, white, black, brown, reddish, satin-like, opal, etc...

In the case of this South American Snipe, it is an "ino" mutation which leads to an inhibition of black or brown eumelanin on plumage but also on skin, bill, tarsus and eyes. The "ino" factor has a progressive inhibition effect which stops melanisation almost at the start of feather growth and stops at the end. This depigmentation which acts on the central part of the feather makes the characteristic contrast in the scale drawing of "ino". In the studied case, it is a wild bird carrying the ino mutation, with a heterogeneous distribution and intensity of the mesh-like construction.

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