Wetlands INTERNATIONAL

IUCN SSC Species Survival Commission

Newsletter

Number 40 December 2014

Newsletter 40

Compiled by Yves Ferrand
Coordinator

Office national de la chasse et de la faune sauvage
Research Department
Migratory Birds Unit
39, Bd Albert Einstein CS 42355
44323 Nantes Cedex - France

December 2014

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.

CONTENTS

Page

Editorial

This issue of the WSSG Newsletter is the 40th. This means at least 40 years dedicated to improvement of knowledge on our favourite species. A lot of research has been carried out on different topics and new information has been obtained on the behaviour, migration, population dynamics, distribution and ecology of Woodcock and Snipe species. The species living in European countries and North America were at the first places in this race to knowledge. This represents roughly 5 species on a total of 28 and therefore we can measure all the work we have to do yet. At least, update the distribution of the last 23! An exciting challenge for the future.

A point I would like to underline is the incredible improvement and increase of tools now available to wildlife biologists for performing their research. Biometricians and statisticians have provided a great help to analyse as powerfully as possible data which is often difficult to collect in the field. In this regard, for instance, the recent models relative to exploited populations represent an important step towards a sustainable use of game birds. In another area, new genetic techniques have made easier and cheaper sequencing which is essential, for example, in sex determination, a recurrent problem for our species. New perspectives have provided original results, i.e. use of stable isotopes for specifying the origin of wintering birds or distinguishing residents from migrants.

However, the most exciting new tools are probably the satellite transmitters, the weight of which is now low enough to be fitted on Woodcock species. The first ones were equipped in Spain in 2006 and the results have been just published (Bibliography in this issue). In the following years, about 50 European woodcock were fitted with PTT transmitters mainly in Great-Britain where a program is in progress since 2012. In France, 12 birds should also be fitted in January-February 2015. Finally, in North America, a project was initiated in 2013 and at that time several American woodcock were already monitored during migration. Details are published in this issue. No doubt that the satellite transmitters enjoy a fair wind in different countries.
But technology continues to make great strides and the GPS system will probably be soon as efficient as Argos for our purposes. And, maybe, new ideas will emerge in the brains of biologists in the coming years and present tools will become obsolete. That is science!

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

Yves Ferrand
Coordinator

Office national de la chasse et de la faune sauvage
Research Department – Migratory Birds Unit
39, Bd Albert Einstein CS 42355, 44323 Nantes Cedex - France
Telephone : +33 2 51 25 07 88; Fax : +33 2 40 48 14 01
E-mail: yves.ferrand@oncfs.gouv.fr

A woodcock fitted with a PTT satellite transmitter photographed by chance in Ardèche (France) on February 2012. Possibly a bird equipped in Spain. Photo: ©Brice Barba

Trends of numbers and current threats for the breeding population of the Great Snipe in Belarus

EDWARD MONGIN, APB-Birdlife Belarus, Lyn'kova str. 17A-22, 220104 Minsk, Belarus
E-mail: edward.m@list.ru
ELENA DAVIDYONOK, APB-Birdlife Belarus, Minsk

This year, the two-year project "Breeding population of the Great Snipe in Belarus: Trends, Current Threats and Pilot Restoration of Habitats" supported by the Rufford Small Grant has been completed. The main aims of the project were the determination of current threats for the species, trends of the breeding population and the implementation of pilot restoration of the breeding habitats in the Sporovo Reserve.

During two seasons, censuses of great snipe on the leks were conducted in floodplain meadows of the Pripyat, Neman, Shchara, Svisloch, Berezina, Dvinosa and Gayna Rivers. We also carried out the survey in big fen mires located in southern and northern parts of Belarus. In total, 18 key breeding sites were checked in order to compare numbers of males in these sites with data from previous censuses. The distribution of great snipe leks is shown in Figure 1. According our data, 8 leks have disappeared. The main reasons are the changes of vegetation structure in breeding habitats, cessation of grazing and overgrowing of floodplain meadows. It was a surprise to observe extinction of several leks in the Dikoe and Servech fens where we previously registered stable and favourable conditions for great snipe breeding. Probable causes of disappearance are the increasing density of grasses in the first case and overgrowing open habitats by the reed and willow bushes in the other case. These are connected with the desiccation of fens induced by the decrease of annual precipitation.

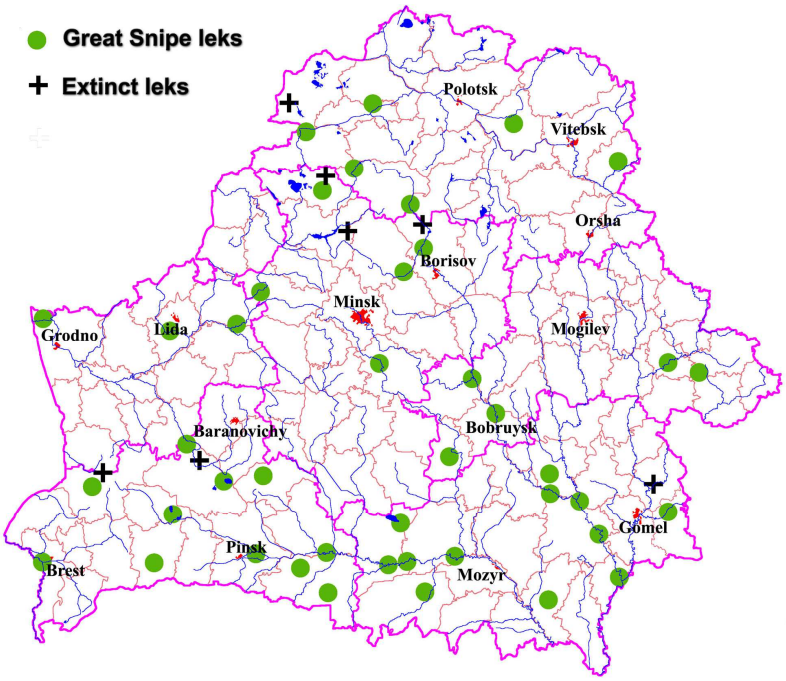


Figure 1. *Distribution of Great Snipe leks in 2001-2014.*

We analyzed data from censuses on the same leks to test for significant differences between mean numbers of males in different years (we used data of years with maximal number of counts). The ANOVA statistic reveals a significant reduction in the number of males on leks (Figure 2). In many cases, we observed that only 2-5 displaying males remained in the former breeding sites. The number of males decreased five times in areas such as the Sporovsky Reserve due to overgrowing habitats and the deterioration of conditions for nesting.

We used the TRIM program (version 3.53) to determine the overall species trend in key breeding habitats for the period 2001-2014. We chose a linear trend model with changepoints at each time point, without covariate (Figure 3). The goodness-of-fit test (LR-test) for this model amounts to 232.81 (poor quality) nevertheless the Wald test for significance of the slope parameter remains reliable (18.10, df 1, $p<0.01$). According to the TRIM program the current trend is classified as steep decline ($p<0.01$). Steep decline is a decline significantly more than 5% per year (5% would mean a halving in abundance within 15 years).

Thus, currently, the reduction of the great snipe breeding population occurs rapidly. The main reasons are loss of habitat through vegetation succession and land abandonment. Therefore it is extremely important to develop a proper management system for key breeding sites and to test management practices.

Pilot restoration of the breeding habitats in the Sporovo Reserve was performed within the framework of the project. About 100 hectares of fen were mowed near the surviving great snipe lek. The implemented works removed bushes and restored the optimal structure of the vegetation in the fen. We found feeding great snipe in these habitats in May 2014. Restoring optimal vegetation structure in these habitats will probably increase the numbers of breeding birds in subsequent years and will preserve breeding habitats in the optimal structure at least in the next five years, even without re-mowing. Optimal regulation of the water level in the reserve which has been carried out in the last 6-7 years will prevent habitats from very quickly overgrown bushes.

The collected data and its analysis allowed the conservation status of the great snipe to be maintained in the new edition of the Red Data Book of Belarus in order to prevent the hunting of this species.

Acknowledgments

We thank Nikolay Cherkas, Alexander Kashtalian, Alexei Tribis and all the volunteers who participated in the survey. We are grateful to the Rufford Foundation for funding the survey.

2014 Russian Woodcock Report (Moscow Group)

SERGEI FOKIN, YURI BLOKHIN & PETR ZVEREV, Russian Society for Conservation and Studies of Birds, Moscow woodcock research group, 70 Nigegorodskaya str., building 1, Moscow, Russia.
E-mail: fokinwoodcock@mail.ru; yuri-blokhin@yandex.ru; peterzverev@mail.ru

This season was the 19th year of studies on Woodcock in Russia with the financial and methodological help of the *Office national de la chasse et de la faune sauvage* (France). Therefore, a long-term monitoring of the woodcock breeding population in Russia has been developed and each year brings us new data which improve our knowledge. The 2014 results are presented hereafter.

Roding census

The 16th National Roding Census was organized by the Moscow Woodcock research group with the help of the Russian Hunting Association "*Rosokhotrybolovsoyuz*", several regional hunting departments and the "Russian hunter newspaper". It was carried out on 31 May 2014.
In total, 2600 forms were sent to 32 regions of the European part of Russia and Ural through the network of hunter societies of *Rosokhotrybolovsoyuz*. The roding census form and the census method remained exactly the same as in previous years.
Around 2 500 forms have been received from 30 regions of European Russia and Ural and 662 were rejected (26.5%). Within the forms retained for the analysis, all regions were more or less represented, but mainly the Central and North regions. In detail, 374 forms came from Vologda, 235 from Ekaterinburg, 135 from Ryazan', 106 to110 from Chelyabinsk, St-Petersburg, Yaroslavl' and Tambov oblasts.
11 298 contacts were registered in 1839 census points and 12 826 roding males were observed (1.1 individuals per contact). No roding was noted in 72 points (3.9%) in 12 regions. The best roding intensity was registered in listening points in Vologda (maximum: 24 contacts 28 males), Yaroslavl' (24/27), St-Petersburg (24/26), Kostroma (24/26), Pskov (23/25). These numbers are similar to those of previous years.

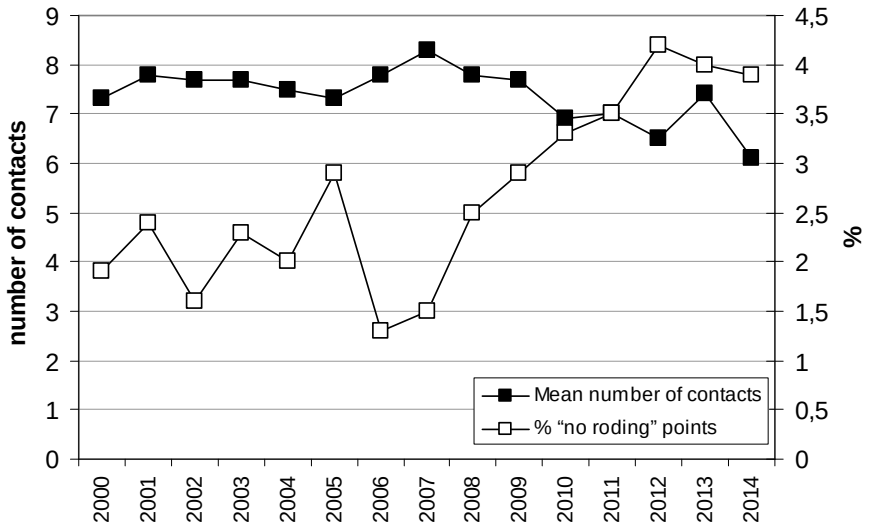


Figure 1. *Inter-annual variations of the mean number of contacts and the proportion of "no roding" points from 2000 to 2014 according to the National Roding Census.*

The distribution of regions in relation with roding intensity is the following:
Weak roding (1.8 – 5.0 contacts per 2 hours of roding) was observed in 10 oblasts: Vladimir, Voronej, Lipetsk, Orel, Penza, Ryazan, Saratov, Tambov, Tula and Ulyanovsk, and in Chuvashya and Komi republics.
Average roding (5.1 – 10.0 contacts) was registered in 10 oblasts: Arkhangelsk, Chelyabinsk, Ivanovo, Kirov, Kostroma, Kursk, Leningrad, Sverdlovsk, Yaroslavl, Vologda and Perm, and in Mordovia republic.
Good roding (> 10 contacts) was recorded in Bryansk and Pskov oblasts.

On average, 6.1 contacts (7.0 males) per listening point were registered in European Russia in 2014**.** This result is lower than the average of the period 1999-2013 (7.4 contacts; Figure 1). The number of points with no roding is higher than the average (3.9 *vs* 2.7). The proportion of points with "poor roding" was also higher than in 2012 and 2013. The regional results are presented in Table 1.

		Total		Mean		Max		
Province	**Points**	**Contacts**	**Birds**	**contacts**	**Birds**	**contacts**	**Birds**	**"no roding" points, %**
Arkhangelsk	7	68	69	9.71	9.86	17	18	0.0
Vologda	374	2779	3141	7.43	8.40	24	28	0.0
Komi	34	153	167	4.50	4.91	16	16	11.8
Leningrad	106	796	917	7.51	8.65	24	26	0.0
Pskov	17	236	258	13.88	15.18	23	25	0.0
Bryansk	24	271	332	11.29	13.83	21	25	0.0
Vladimir	7	33	35	4.71	5.00	8	9	0.0
Ivanovo	41	265	285	6.46	6.95	19	19	2.4
Kaluga	1	11	12	11.00	12.00	11	12	0.0
Kostroma	26	170	194	6.00	6.80	24	26	0.0
Moscow Region	4	24	24	6.00	6.00	11	11	0.0
Orel	58	284	308	4.90	5.31	11	11	0.0
Ryazan	135	603	674	4.47	4.99	21	23	15.6
Tver	14	93	96	6.64	6.86	18	18	0.0
Tula	59	265	280	4.49	4.75	16	17	3.4
Yaroslavl	108	795	875	7.36	8.10	24	27	0.0
Voronej	65	114	136	1.75	2.09	7	8	24.6
Kursk	24	124	167	5.17	6.96	12	18	0.0
Lipetsk	34	159	189	4.68	5.56	18	23	0.0
Tambov	107	461	482	4.31	4.50	14	15	1.9
Kirov	15	130	143	8.67	9.53	22	24	0.0
Mordovya	71	374	435	5.27	6.13	13	16	2.8
Chuvashya	63	293	308	4.65	4.89	20	21	12.7
Penza	15	69	81	4.60	5.40	6	8	0.0
Saratov	24	53	62	2.21	2.58	9	11	50.0
Ulyanovsk	37	185	202	5.00	5.46	18	19	5.4
Bashkortostan	3	23	23	7.67	7.67	10	10	0.0
Perm	19	158	179	8.32	9.42	20	22	0.0
Sverdlovsk	235	1497	1753	6.37	7.46	19	21	0.4
Chelyabinsk	110	803	987	7.30	8.97	16	21	0.9
Total/mean	1839	11298	12826	6.14	6.97	24	28	3.9

Table 1. *Results of the 16th National Woodcock Roding Census in Russia in 2014.*

Ringing

In autumn 2014, 6 teams of ringers (13 ringers and 7 temporary assistants) worked in 6 regions of Russia: Kostroma, Tver', Moscow, Vologda, Ivanovo and Mordovia republic. They registered 372 woodcock contacts during 94 night trips in 20 different sites.
121 woodcocks were ringed and 1 bird ringed in 2013 at the same place was caught. 17 woodcocks ringed this autumn were retrapped.

The success rate was 37.4 % (from total contacts) and, on average, 1.5 woodcock were seen per night (including "zero" trips). All results are presented in Table 2.
The Moscow woodcock research group has been working in woodcock ringing during 22 years since 1993. A total of 2 989 woodcocks have been ringed during this period (Figure 2). 264 rings (8.8%) have been returned through the Russian ringing center.

N. of contacts: 372
N. of ringed woodcock: 121
Proportion of juveniles: 82.6% (100/121)
Proportion of "early brood" juveniles: 78.9% (75/95),
Proportion of "late brood" juveniles: 21.1 % (20/95)
Proportion of "undetermined" juveniles: 5 % (5/100)
N. of direct retraps: 17
N. of indirect retraps: 1
N. of ringing regions: 6
N. of ringing sites: 20
N. of ringers: 13
N. of night ringing trips: 94
Capture success rate: 37.4 %
Abundance index: 1.5 woodcock per night (including "zero" trips)

Table 2. *Main results of ringing in European Russia in autumn 2014 (Moscow Woodcock research group).*

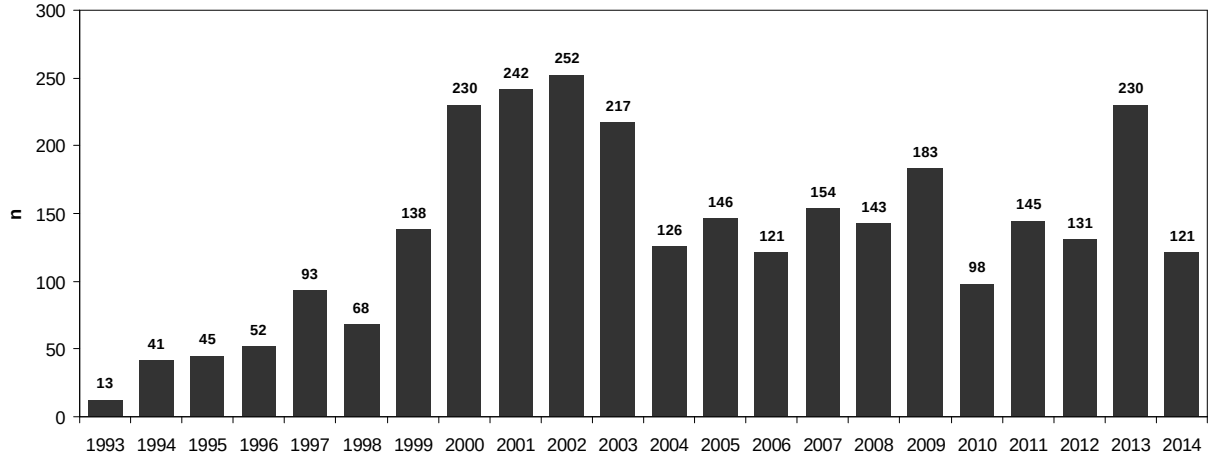


Figure 2. *Number of woodcock ringed in European Russia by the Moscow Woodcock research group from 1993 to 2014.*

Conclusion

In 2014, the weather conditions were not favourable for woodcock:
- little snow in winter and small water storage in the soil in spring;
- dry spring and summer, except June;
- dry autumn (September - October).

So, even if the breeding success was probably not so bad, we consider that juveniles encountered adverse conditions to be in good shape before autumn migration because of low fat deposit.

Most of the hunters with pointing dogs who answered a questionnaire said that this autumn they bagged some woodcock in bad conditions (very thin). The average weight of juveniles ringed by our group this autumn was 334.7 g (n = 69), this is slightly less than usual. For example, in autumn 2013 the average weight of juveniles was 340.0 g (n = 171). In some regions, some juveniles may have died before migration because of the scarcity of food. But this is only our hypothesis.

The numbers of breeding woodcock according to our observations and the results of the National Roding Census were lower than usual. In our opinion, the breeding population of woodcock in Russia could be decreasing. This is the result of the dry summer 2010 and harsh winters 2010-2011 and 2011-2012 in Western Europe. Time will show us if this is a long-lasting trend or not.

In Central Russia, a typical meadow favourable for Woodcock ringing at night (© S. Fokin).

Results of Woodcock autumn census and ringing in the Tver' region (Central Russia) in 2014

MARINA KOZLOVA & JURI ROMANOV, Moscow Woodcock research group, Russian Birds Conservation Union, Moscow, Russia
E-mails: ehadoma@mail.ru; kavra@mail.ru

The Woodcock census and ringing was carried out during 10 years (2005-2014) in the Maksatikha district of the Tver' region (about 350 km N-NW from Moscow). In 2014, as well as in the previous years, woodcock was censused every day at night with a headlight on pastures of the same study area. From the collected data it is possible to compare results from year to year and estimate the trend of numbers.

During the 10 years of field works, weather conditions were variable, both droughty and rainy. Autumn 2005 was particularly wet and water remained a long time in fields. Autumn 2010 was catastrophically droughty and little rain was registered in autumn 2013 (but rains fell during the field works). In 2014, little rain was recorded in spring and summer till 22 September, and then rain appeared on a regular basis till 15 October when the first snow fell.

In 2014, weather conditions were favourable for catching. Forty two woodcock were observed and 16 were caught and ringed (1 adult and 15 "early brood" juveniles). The average weight was 356g, which is higher than in 2011, 2012, 2013 (347, 342 and 332g, respectively). In 2013, 138 woodcock were registered, i.e. about 3 times more than in 2014.

In 2014, the groups of 2 woodcock or more represented 9.5 % among 42 observed birds. In 2012, 23 groups of birds (51 birds in total) were registered (32 % of counted birds) and in 2013, a high woodcock number season, 16 groups (38 birds) were recorded (about 30 % of counted birds).

The beginning of migration can be estimated from collected data. The first migratory woodcock usually appears on 1 October in Tver' oblast. In 2014, migration probably started on 30 September in relation with the increase in numbers (Figure 1). In 2014, 7 birds were registered before the beginning of migration for 7 days of field trips (1 bird per trip on average) then 35 birds were observed during the following 19 days (1.8 birds per trip). In 2013, the pattern was different: 101 woodcock were registered before the beginning of migration and can be considered as local birds, on a total of 138 woodcock seen.

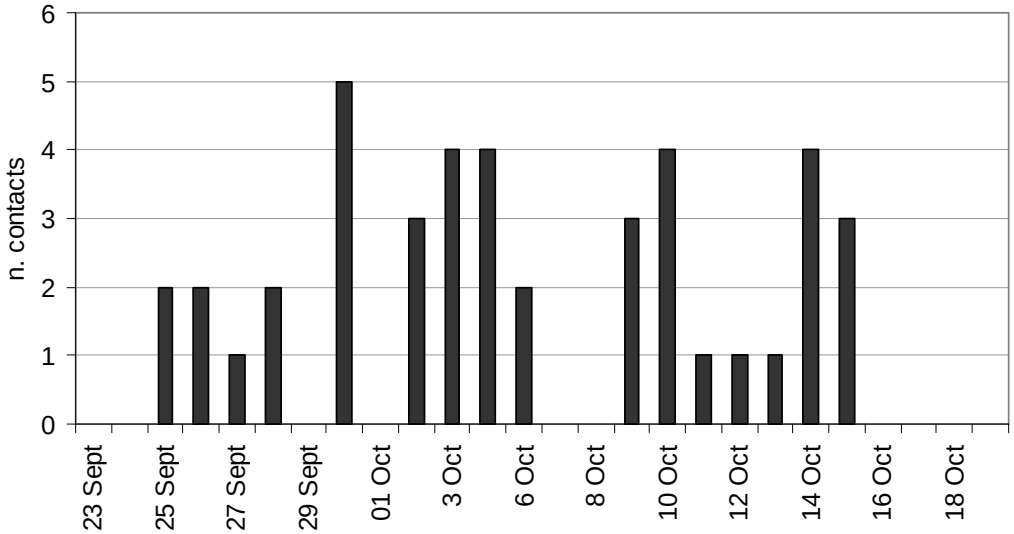


Figure 1. *Number of woodcock in September-October 2014 in a study area in the Tver' region.*

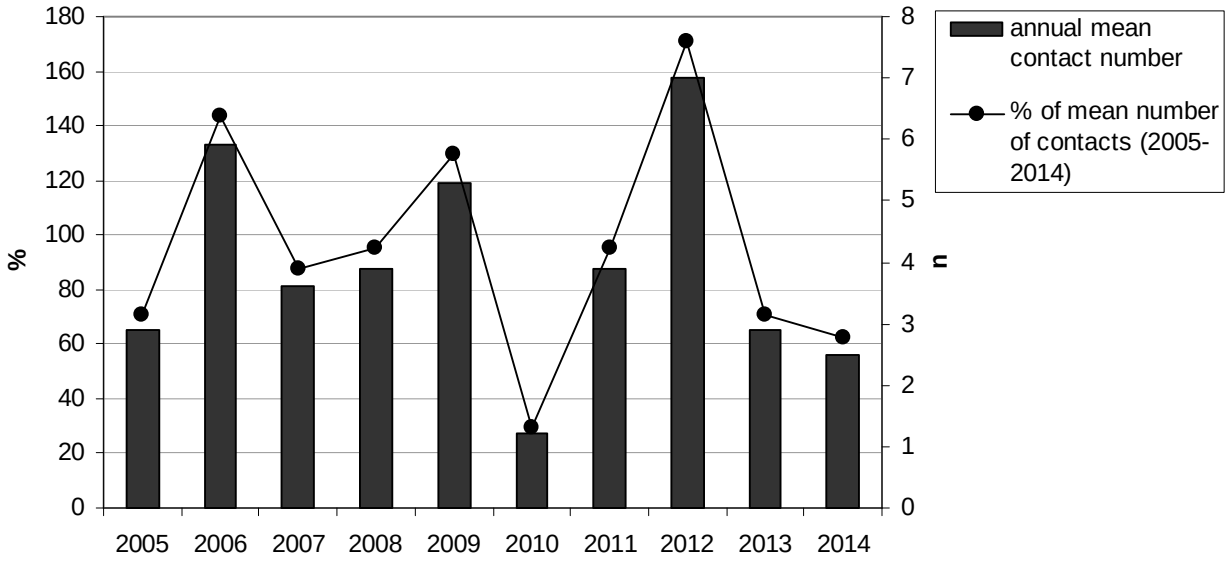


Figure 2. *Inter-annual variations of the annual mean number of contacts and proportion of mean number of contacts from the period 2005-2014.*

In spring 2014, the woodcock numbers in the study area were low. In traditional hunting sites only 2-3 birds were observed per evening (questionnaires with hunters). Besides a low number of woodcock at roding, drought in the breeding period had a negative influence on autumn numbers.

The census method applied from arrival of migratory woodcock was similar from year to year during 10 years: birds were counted every day during ten days, from 1 October to 10 October. Inter-annual variations of abundance are presented in Figure 2 by comparison with the mean number of contacts from 2005 to 2014 (4.1). In 2014, 25 woodcocks were recorded, i.e. 2.5 birds per day on average. This result is the weakest for the 10-years period, except for that registered in the catastrophically droughty 2010 season.

In conclusion, woodcock numbers in autumn 2014 were 3 times lower than in 2013 and the lowest in the last 10 years (except 2010). The proportion of adults was also very low.

2014 Russian Common Snipe Report

YURI YU. BLOKHIN, Russian Society for Conservation and Studies of Birds, 70, Nigegorodskaya str., building 1, Moscow, Russia, *E-mail*: yuri-blokhin@ ya.ru

In 2014, the cooperation between the Russian Society for Conservation and Studies of Birds and *Office national de la chasse et de la faune sauvage* (ONCFS) concerning the monitoring of common snipe (*Gallinago gallinago*) populations in European Russia has been continued. In April–July 2014, the census of "drumming" males of snipe was made at the same control sites and with the same protocol as in 2012 (Blokhin 2012). They were conducted on the territory of 10 provinces of the Russian Federation. Additionally, we have investigated new sites and made a census of snipe in the Pskov province (North-West region) and Karelia Republic (North region). Finally, 129 plots were visited in 2014 for a total area of 93.93 km².

Weather conditions of the 2014 season and their effect on Common Snipe

North region: south tundra and forest-tundra.
Spring was late, cold and prolonged. Summer was also cold, with long periods of dull and damp weather, with strong north wind. Snowfalls were often recorded in early June. The flood occurred late and a very high water level was observed during a long time. On the whole, the weather conditions turned out to be unfavourable for snipe breeding.

North region: north taiga.
After a snowy winter, spring was short and characterized by a high-water level. In the first decade of May, 3 cold spells with snowfalls occurred. Heat appeared from 18 May. Precipitation was regular, and snipe breeding areas did not dry out for the whole time of census works. As a result, the year was especially favourable for snipe breeding.

North-West region: south taiga.
Snowfalls were very scarce in winter. It was cold with strong night frosts up to 20 April. The last decade of April was warm and nearly normal. The first decade of May was cold and rainy, the second was cool. It became warmer only on the first days of the third decade of May. June was cold and rainy. After the snow had melted (22 March), the river floods and moisture of wetlands were insufficient. It became rather damp after rains in July. The water level in Lake Ladoga was close to minimal for the last 30 years. It was also low in rivers.

Central region: south taiga mixed coniferous-deciduous forest and deciduous forest.
An early and prolonged spring came after an abnormally warm winter with little snow. It did not rain in April and May, and no spring floods were observed. Damping of bogs was lower than in 2013 which was characterized by high-water. The snow melted early in the forest, but single depressions and forest bogs remained damp almost until summer. As a result, in this year more snipe were registered in forest biotopes than in 2013. The breeding season was dry.

Volgo-Vyatsky region: mixed coniferous-deciduous forest.
Spring was early but prolonged. Snow melted fast, and the flood was weak. The first half of April was cold with night frosts. The temperatures were within the normal range in late April. It became sharply cold in early May, and May was cool on the whole. Finally, the conditions were favourable for breeding.

Volga region: mixed coniferous-deciduous forest and deciduous forest.
A lot of snow fell in winter, but it melted rapidly in April. In spring, precipitation was low. The flood was early and weak. Late April and the whole of May were characterized by high temperatures. It became sharply cold and rainy in June but soil moisture did not increase. Snipe habitats were revealed to be dry which resulted in low numbers of these birds.

Central Black Earth region: deciduous forest and forest-steppe.
Winter was snowy. Spring came only in the very late March. It became sharply warm, the snow had melted by the second decade of April, most rivers had become free from ice and the flood had reached its peak.

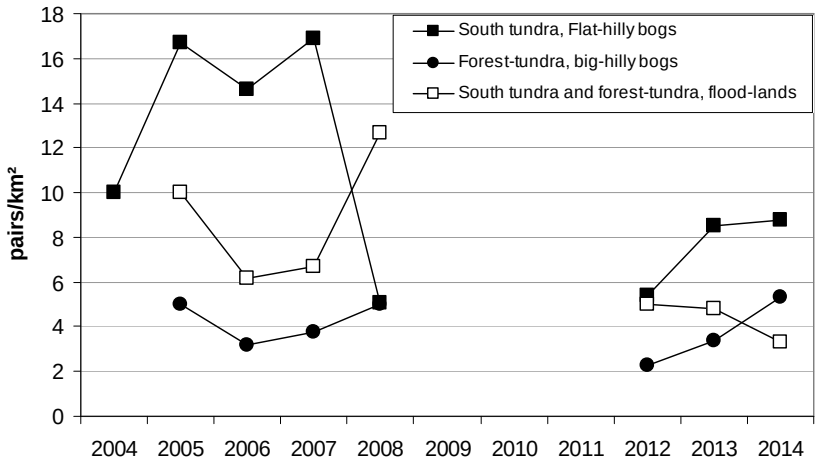


Figure 1. *Breeding density of Snipe in swampy habitats of south tundra and forest-tundra (Pechora basin).*

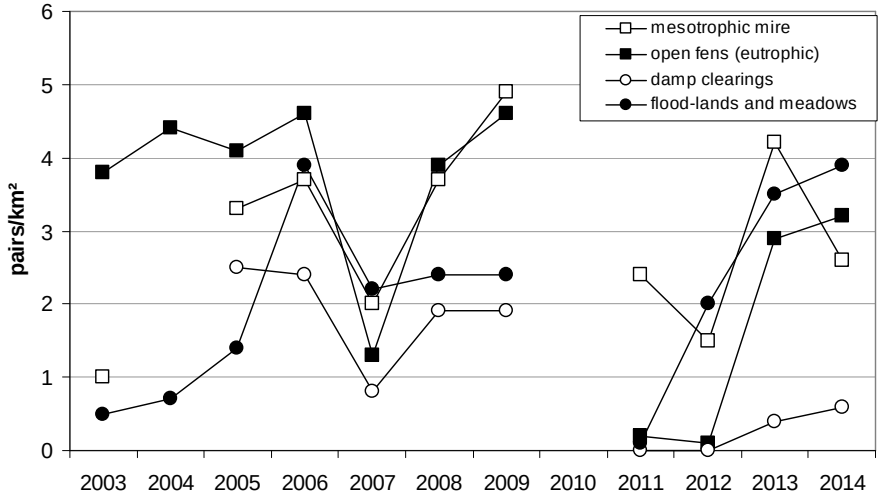


Figure 2. *Breeding density of Snipe in swampy habitats of north taiga (Severnaya Dvina basin).*

Results

South tundra

In the basin of Pechora in the north-east of Bolshezemelskaya tundra (Komi Republic) in watersheds, snipe inhabits peatlands with willow bushes where the density was 8.8 pairs / km^2 (± 2.7). In flood-lands in fen bogs the density was 3.3.

Forest-tundra

In the south-east of Bolshezemelskaya tundra (Komi Republic) in large-hilly watershed bogs, snipe was more rare (5.3 ± 1.8 pairs / km^2), than in valleys and river flood-lands (3.3).

In spite of unfavourable weather conditions, the snipe numbers in south tundra and forest-tundra were higher in 2014 than in 2013 on the whole at control sites (Pechora basin, Usa river). In flat-hilly bogs, the snipe density was the highest of the last 3 years, and in flood-lands it was the lowest of all study years (Figure 1).

North taiga

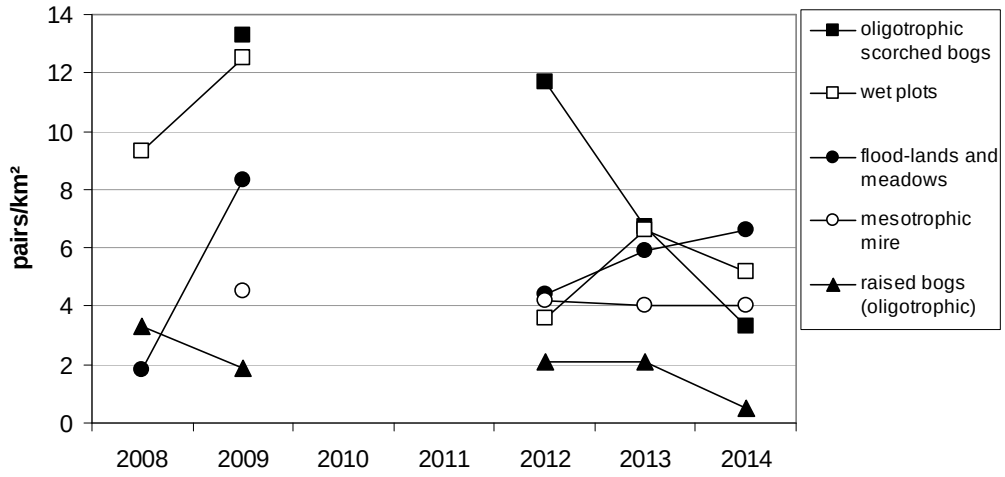
In the basin of Severnaya Dvina (Arkhangelsk province) in damp clearings, snipe was noticeably rarer than in other types of habitats (0.6 ± 0.3 pairs/km^2). In fen bogs, 3.2 ± 0.2 pairs / km^2 were found. In mesotrophic bogs, the snipe density was 2.6 ± 0.9 pairs / km^2 and in damp flood-land meadows and meadows mixed with fen bogs, 3.9 ± 0.9 pairs / km^2 were recorded.

For all the 2014 control sites, the snipe density was higher in comparison with 2013, however not for all habitats. A difference was noted in flood meadows, clearings and fen bogs. In mesotrophic bogs the snipe population has decreased (Figure 2).

Middle taiga

Very few snipe were found at the eastern shore of Ladoga Lake (Karelia Republic) on damp abandoned fields (1.8 ± 0.1 pairs / km^2). The highest density was recorded in wood fen bogs (5.4 ± 1.5) and open mesotrophic bogs (4.7 ± 2.3).

A



B

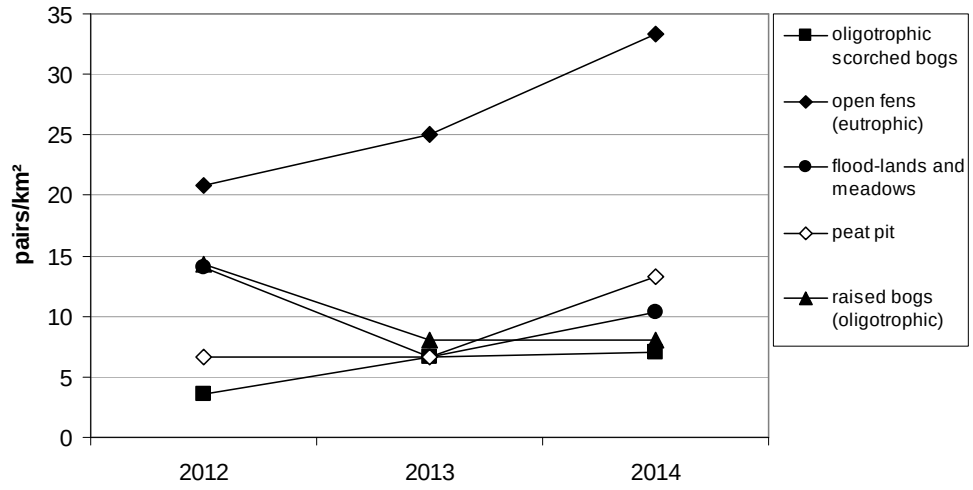


Figure 3. *Breeding density of Snipe in swampy habitats of south taiga (A – Zapadnaya Dvina basin; B –upper Volga basin).*

South taiga

In Pskovsko-Chudskaya lowland (Pskov province), the highest snipe density was registered in transition bogs (13.8 pairs/km²). It was almost twice as low in river flood-lands on fen bogs (7.7) and it was low on high (oligotrophic) bogs (2.3).

In the basin of Zapadnaya Dvina (Smolensk province) the census revealed rather high numbers of territorial males in damp kettles near uninhabited villages and wet spots in farmlands (5.2 ± 1,2 pairs / km²), but the highest density of snipe was recorded in flood-lands where it bred on grass and tussock meadows (5.3 ± 1.7). Outside flood-lands it inhabits edges of high sphagnum bogs (0.5), it also inhabits mesotrophic bogs (3.9 ± 2.7), but reaches its highest density rates in high bogs after fire (3.3).

In the basin of the upper Volga (Ivanovo province) at burnt places the snipe density was 7.0 ± 0.5 pairs / km^2. In high bogs with isolated short pines, territorial males occupied areas closer to bog edges (8.1 ± 2.7 pairs / km^2). In peat quarries fully covered with a floating bog, the snipe density was 13.3 pairs / km^2. In damp flood-land meadows its density was 10.3 pairs / km^2. In a reed eutrophic bog in flood-lands the snipe density was 33.3 pairs / km^2.

At the boundary of the south taiga and coniferous-deciduous forest (Zapadnaya Dvina basin, Yelsha river) the density of drumming males increased in 2014, compared to the previous year, only in flood-land meadows. In other habitats, the snipe population has decreased and remained the same only in mesotrophic bogs (Figure 3A). In other areas of the south taiga (the upper Volga) in fen bogs, flood meadows and peateries, the snipe population has increased in comparison with 2013 (Figure 3B). It has remained the same in high (oligotrophic) bogs and fire-sites over high bogs.

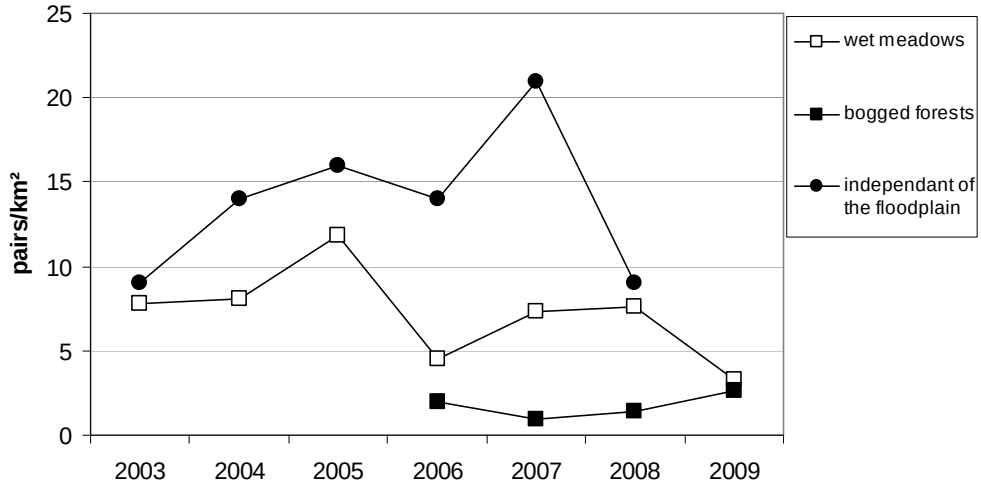


Figure 4. *Breeding density of Snipe in swampy habitats of coniferous-deciduous forest (upper Volga basin).*

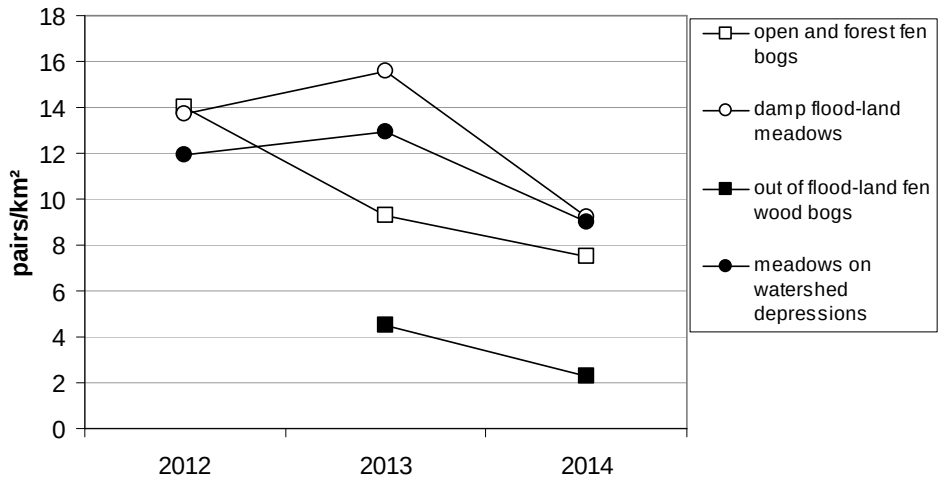
Coniferous-deciduous forest

In the basin of the upper Volga (Vladimir and Ryazan' provinces, the Moscow Region) in flood-lands where flood-land meadows alternate with sedge fen bogs and temporary pools, 6.7 ± 0.8 pairs / km^2 were noted. In dry areas of the flood-land and in flood-land waterlogged forest, 14 pairs / km² and 4.6 pairs / km^2 (± 0.3) were registered, respectively. In watersheds in meadow areas adjoining waterlogged depressions, 5.6 ± 2.1 pairs / km^2 were found. In mesotrophic bogs, 10.4 pairs /km^2 were observed and at waterlogged out-of-flood-land forests, the population density was 2.1 ± 0.1 pairs / km^2. In drainage hollows in farmlands, 3.3 ± 2.4 pairs / km^2 were registered.

In the basin of the middle Volga (Mordovia and Penza provinces) snipe breeds in out of flood-land fen wood bogs (2.3 ± 0.9 pairs / km^2), high (oligotrophic) bogs (2.7), mesotrophic bogs (5.6), river valleys in open and forest fen bogs (7.5 ± 0.6), meadows on watershed depressions (9.0 ± 4.5), damp flood-land meadows (9.2 ± 2.1) and peat pits (11.4).

In the dry breeding season 2014, in watersheds and in areas outside of flood-lands, snipe numbers were low and average, respectively. In flooded flood-lands, the snipe density turned out also low, in comparison with the previous years but was high in waterlogged woods (Figure 4). In the middle Volga almost everywhere on watersheds and floodplains, the snipe numbers were lower than in 2013 (Figure 5 A & B).

A



B

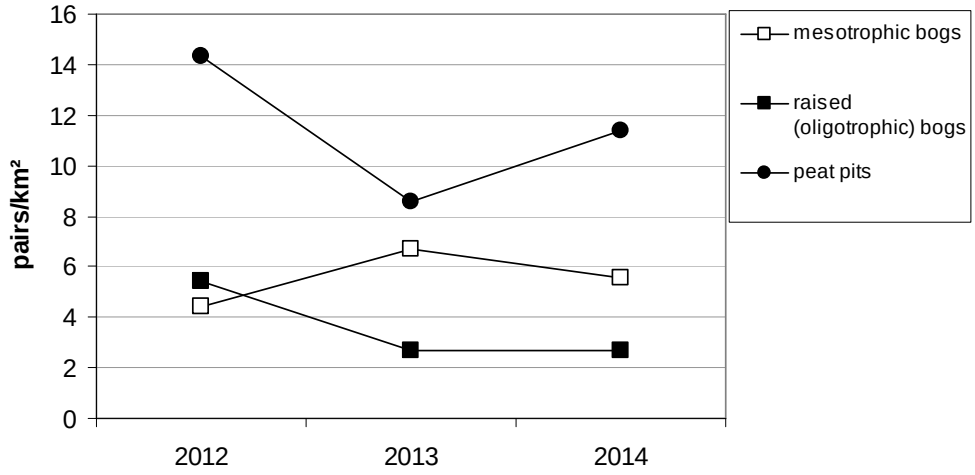


Figure 5. *Breeding density of Snipe in swampy habitats of coniferous-deciduous forest (middle Volga basin).*

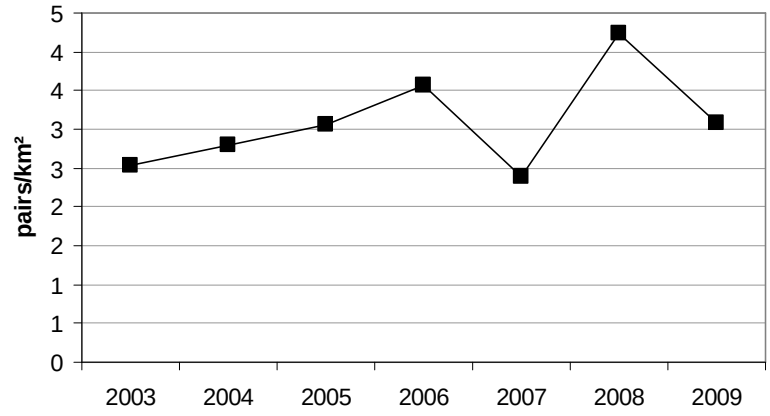
Deciduous forest

In areas of sedge fen bogs in combination with hydromorphic meadows, river flood-lands of the upper Volga (the Moscow Region) 2.2 ± 0.3 pairs / km^2 were noticed. In similar snipe habitats in flood-lands of the middle Volga basin (Penza province), the density was 0.7 ± 0.5 pairs / km^2. In the basin of the middle Volga in a watershed fen bog the snipe density was 2.3 ± 0.9 pairs / km^2.

In flood-lands of the Dnepr basin (Kursk province) the density of snipe in damp meadows in combination with fen bogs, was 5.6 pairs / km^2.

In the dry year 2014, in the deciduous forest subzone, the density of snipe in flood-lands and watersheds was much lower than in the previous year (Figure 6).

A



B

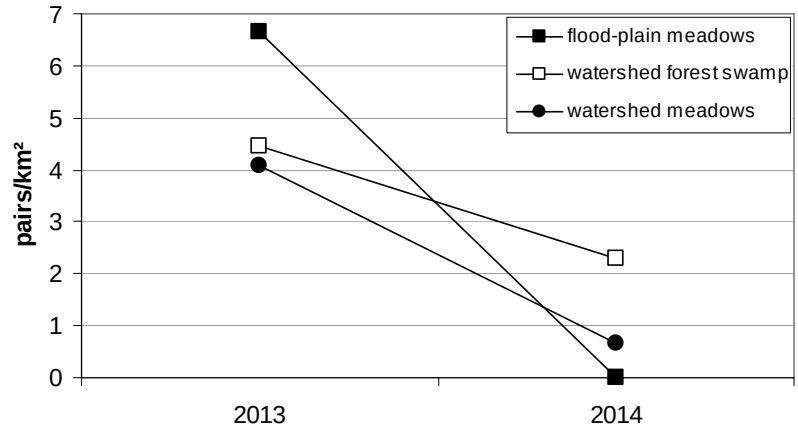


Figure 6. *Breeding density of Snipe in swampy habitats of deciduous forest*
A: Moskva river (flood-lands and meadows); B – Sura river, Volga basin.

Forest-steppe

In flood-lands of the Dnepr basin (*Kursk province)*, the density of snipe in damp meadows in combination with fen bogs was 2.0 ± 0.0 pairs / km^2, and 3.1 ± 0.8 pairs / km^2 in fen bogs.

In 2014, the number of snipe in fen bogs of artificial origin (former peateries and former fish ponds) was a little higher in comparison with 2012-2013. In flood meadows it was distinctly lower (Figure 7).

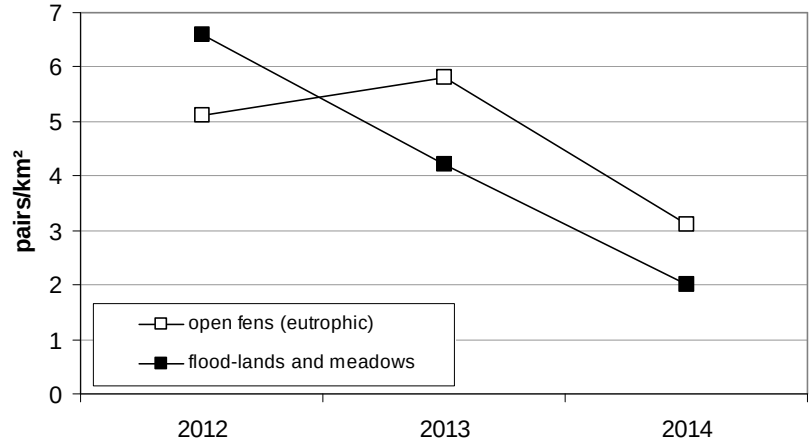


Figure 7. *Breeding density of Snipe in swampy habitats of forest-steppe (Dnepr basin).*

Conclusion

Censuses showed that in 2014 the snipe numbers were a little higher in 2013 in tundra (in various sorts of habitats from 3.3 to 8.8 pairs / km2), in forest-tundra (3.3 – 5.3) and in north taiga (0.6 – 3.9). The numbers remained at the same level in south taiga (0.5 – 33.3). Here and there, the number was higher or lower than the average level. The number was lowest in the coniferous-deciduous forest subzone (2.1 – 14.0), in the deciduous forest subzone (0.7 – 5.6) and forest-steppe (2.0 – 3.1). Among different types of habitats, the breeding density of snipe was the highest in flood-land fen bogs of south taiga (33.3), the lowest in high (oligotrophic) sphagnum bogs in the south taiga subzone (0.5).

Acknowledgements

We thank the project coordinator in France, and all the participants of the census: Dr. S. Yu. Fokin, Prof. A.V. Artem'iev, Dr. S.V. Korkina, M. V. Kozlova, Dr. V. N. Mel'nikov, Dr. A. L. Mischenko, V. V. Morozov, Yu. M. Romanov, Dr. O. V. Sukhanova, Dr. M.V. Sidenko, Dr. S.N. Spiridonov, Dr. T.V. Sviridova, S.V. Jerdeva and Dr. D. E. Chudnenko, Dr. V. V. Frolov, A. A. Esergepov, O.S. Grinchenko, E.A. Hudiakova, V.V. Kontorcshikov, A. P. Mezhnev, L.A. Plusnina, A.M. Rikov, Dr. S.A. Simonova, G. P. Shmeleva, O.A. Zubkova who have taken work on implementation of the Snipe project in the regions.

Reference

Blokhin Yu.Yu. 2012. Monitoring of Common Snipe populations in European Russia in 2012//Wetlands International - Woodcock & Snipe Specialist Group (WI/IUCN-WSSG) Newsletter 38: 13-20.

© M. Benmergui/ONCFS

2013-2014 French Woodcock Report

FRANÇOIS GOSSMANN, CLAUDINE BASTAT, DAMIEN COREAU & YVES FERRAND, Office National de la Chasse et de la Faune Sauvage, Research Department – Migratory Birds Unit, 39 Bd Albert Einstein, CS 42355, F -44323 Nantes Cedex 3
E-mails: francois.gossmann@oncfs.gouv.fr; rezobecasse@oncfs.gouv.fr**;** yves.ferrand@oncfs.gouv.fr

From a meteorological point of view, the 2013/14 season began with a cold period in the last decade of September in Central and North Russia which encouraged the first woodcocks to start their migration.

Then October and beginning of November were mild in the major part of Europe. From 11 to 22 November, a very cold period lead high numbers of woodcock to reach their wintering range. Mild temperatures accompanied by rains occurred again from 10 December. In summary, weather conditions in winter were rather favourable for woodcock.
The prenuptial migration started early in March. West winds, mildness and humidity facilitated the departures and consequently migration was rather fast as shown by early arrivals of woodcock for instance in Russia.

Ringing results

Quantitative ringing results

In total, 6 057 woodcocks were ringed during the 2013/14 season and 395 retrapped. Even if this result is a good one, the number of ringed woodcock is less than in 2012/13. This can be explained by an early departure of birds for prenuptial migration in relation with mild weather conditions. During the 2 993 ringing trips carried out by French ringers (300 less than in 2012/13), 25 580 woodcock were found. The success rate rose to 25 %.
The monthly distribution of captures was slightly different from previous seasons. In November, December and January, the number of ringed birds was rather close from one month to the next (1 426, 1 698 and 1 599, resp.). No clear peak appeared and numbers collapsed in February and March as related before.

Proportion of juveniles

The proportion of juveniles among ringed birds was 61 %, in the average of the 2000s.

Monitoring of abundance during the migratory and wintering period

Two indices allow the monitoring of 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 / standardized hunting trip (duration = 3.5 hours)] collected by the *Club national des bécassiers.*
In 2013/14, IAN was 4.08 (Figure 1). This value is high and close to those of 2009/10 and 2012/13 seasons. ICA estimated from a sample of about 1 200 hunters amounted to 1.73 which is also one of the highest values of the last seasons. This result confirms again the increase trend for ICA and IAN since 2002/03. Woodcock arrived at the end of November and the numbers stayed more or less at the same level from December to February and quickly decreased in March (Figure 2).
As in the last 11 seasons, a monitoring "in real time" was carried out in the course of the 2013/14 season.

<u>2013-2014 ringing season in numbers</u>

N. *départements*:	90
N. ringing sites:	1 546
N. ringers:	371
N. nocturnal trips (hours):	2 993 (5 800)
N. contacts:	25 580
N. ringed woodcocks:	6 057
Success rate:	25 %
N. direct retraps:	170
N. indirect retraps:	225
N. direct recoveries:	345
N. indirect recoveries:	605
Annual direct recovery rate:	5.7 %

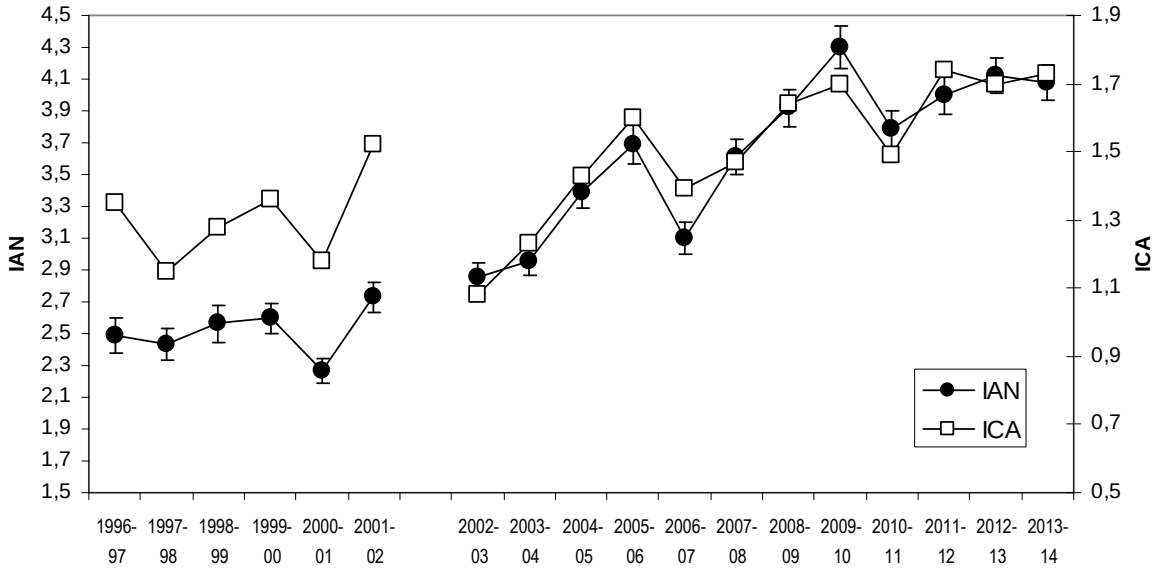


Figure 1. *Annual fluctuations of the number of contacts/h during ringing trips (IAN: nocturnal index of abundance) and hunting trips (ICA: hunting index of abundance; Source:* Club national des bécassiers*). The data were divided into two periods due to a change in the method of calculation of IAN in 2002/03(see Newsletter 34).*

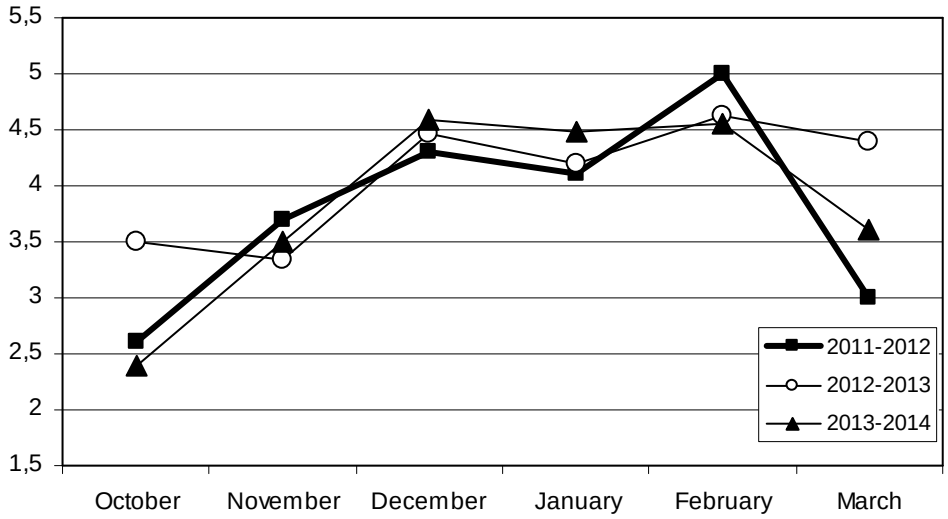


Figure 2. *Monthly fluctuations of IAN in 2011/12, 2012/13 and 2013/14.*

Roding results

The sampling design for roding censuses was revised in 2013 and spring 2014 was the second season under this new design aimed at optimizing the sampling effort while maintaining a good accuracy and taking into account ecological variables. The listening points are now chosen at random in 7 “large ecological regions” (GRECO) defined mainly on the basis of forest habitats. These GRECO are themselves divided into classes of 1:50 000

maps. The number of randomly chosen points on every map is selected on the basis of historical data to weight the sample, but the reduction at a national level is about 30 %. Finally, the listening points are allocated to a French *département*.
In total, 600 listening points were selected at random for the spring 2014 census and 538 (89.7 %) were visited (Figure 3). The results confirmed that the Vosges are particularly important for woodcock breeding in France in so far as around 50% of visited sites were positive. However, woodcock also breeds in rather high numbers in the Jura and the Paris Basin where a third of visited forest sites were occupied. In the Massif Central, woodcock males were observed in 10 % of sites.

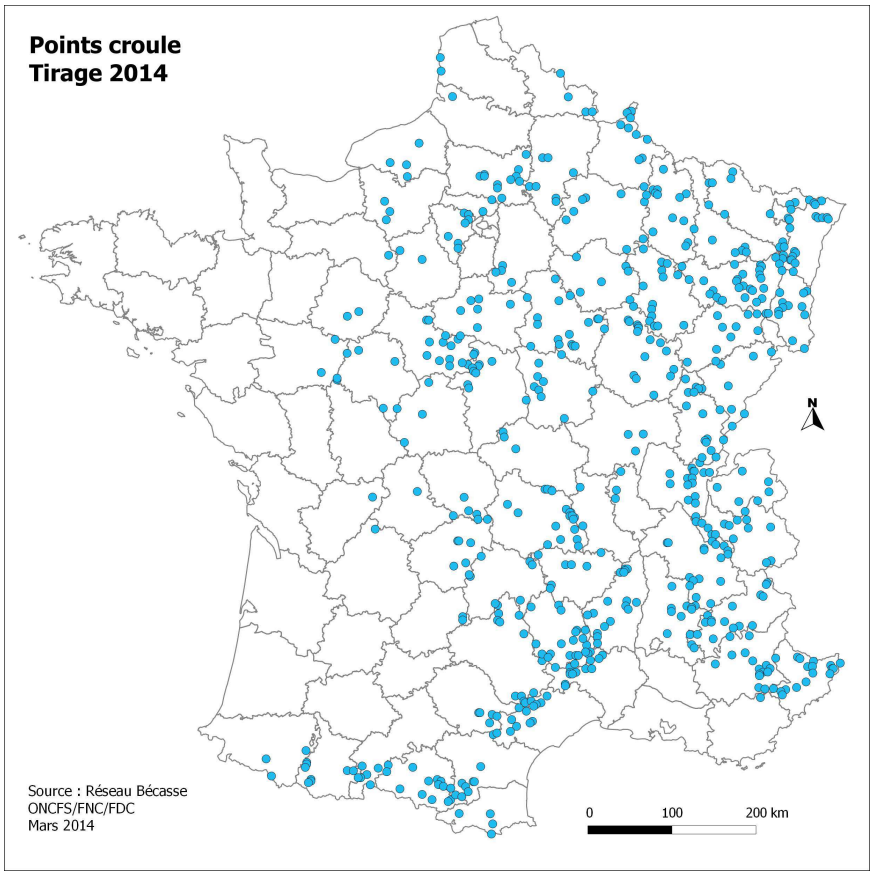


Figure 3. *Location of randomly chosen listening points for the 2014 roding census in France.*

Acknowledgements

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.

Evaluation of the 2013/14 Woodcock hunting season in France

JEAN-PAUL BOIDOT, Club national des bécassiers, Le Moulin du Buis, Beg Aël, 29940 La Forêt-Fouesnant, France - *E-mail:* jpboidotcnb@wanadoo.fr
JEAN-FRANÇOIS CAU, Club national des bécassiers, 17 rue du Général Dumoncel, 50690 Martinvast, France
GERARD AUROUSSEAU, Club national des bécassiers, Villa Kiluma, 771 Chemin de Font Merle, 06250 Mougins, France

This report is carried out by the *Club national des bécassiers* (CNB), a French Woodcock Hunter Association. It is based on the same protocol as in the previous years.
In 2013/14, 1 288 CNB members sent information on their hunting trips and 1 129 participated in the wing collection. In total, 9 792 wings were analysed. 9 112 birds were weighed and 1 621 were sexed. The data were collected in the major part of the woodcock wintering area in France (Figure 1).

Hunting index of abundance (ICA)

The hunting index of abundance (ICA) used by CNB has been defined as the number of different woodcock seen during a hunting trip, the standardized duration of which was 3.5 hours.
In 2013/14, ICA was estimated from 35 061 hunting trips. Its national annual value is 1.73.
This value is the second highest ever registered in the 1996/97 – 2013/14 period (1.74 in 2011/12). The monthly variations of ICA show a peak in December (ICA = 2.05; Figure 2).
In 2013/134, a "mean" French woodcock hunter made 27 hunting trips, saw 47 woodcock and shot 11 of them.

Juvenile/adult ratio

For 2013/14, the proportion of juveniles in the French woodcock hunting bags is estimated at 65.0 %, i.e. 4 points under the average of the 20 last seasons.

Male/female ratio

In 2013/14, the proportion of woodcock males in the CNB members' hunting bags was 38 %. This value is exactly the same as in the last 3 seasons and shows a remarkable stability from one year to another.

Variations in weight

The mean weight of a woodcock shot in 2013/14 was 315g (316g in 2012/13). As usual, the weight of adults was slightly higher than that of juveniles (316g *vs* 310g).
Adult females were the heaviest, 327g in average. The mean weight of juvenile females and adult males was 313g and 314g, respectively. The mean weight of juvenile males reached 306g. These values are noticeably under the average of the last 12 seasons.

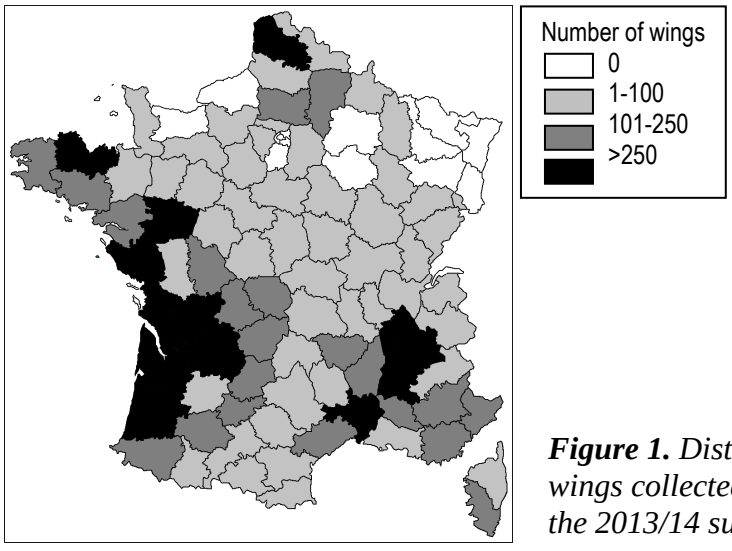


Figure 1. *Distribution of the number of Woodcock wings collected in every French* département *during the 2013/14 survey.*

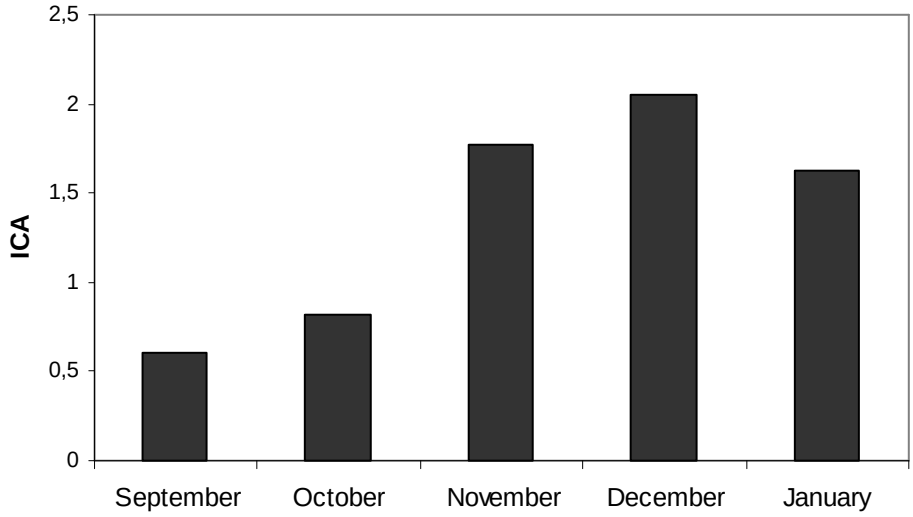


Figure 2. *ICA monthly variation in France for the 2013/14 hunting season.*

Conclusion

The 2013/14 season can be again considered as an excellent one in terms of woodcock numbers in migration and wintering in France. Woodcock were particularly abundant in West and South-West regions. However, age-ratio and weights were under the average.
These results tend to show that the conservation status of this species is rather good in spite of an important hunting pressure in the West half of France. The monitoring by woodcock hunters since the beginning of 1990s does not highlight a decrease of the population. The application of a bag limit since the 2011/12 season should maintain the hunting bags in limits compatible with a sustainable use.

Acknowledgements

We thank all volunteers who contributed to help us in the wing analysis and also the members of CNB scientific and technical commissions or report writers: J.C. Blanchard, P. Launay, J.M. Desbieys, N. Lefeuvre, J.P. Lepetit and J.L. Cazenave.

In France, a bag limit of 30 woodcock / season / hunter is applied since the 2011/12 season. Every shot bird must be marked and registered in a booklet in the fields.

2013-2014 French Snipe Report

DAMIEN COREAU, YVES FERRAND, Office National de la Chasse et de la Faune Sauvage, Research Department – Migratory Birds Unit, 39 Bd Albert Einstein, CS 42355, F -44323 Nantes Cedex 3
E-mails: damien.coreau@oncfs.gouv.fr; yves.ferrand@oncfs.gouv.fr
PATRICE FÉVRIER, Club international des chasseurs de bécassines, 5 avenue des Chasseurs, F-75017 Paris
Web site: http://www.cicb-club.com

Ringing results

The French Snipe ONCFS/FNC network gathers about 140 active snipe ringers spread over the major part of French *départements* where snipe can be observed in migration and wintering. During the 2013/14 season, 2 261 snipe were ringed by the network: 1 946 common snipe (*Gallinago gallinago),* 314 jack snipe (*Lymnocryptes minimus*) and one great snipe (*Gallinago media*) in the *département* of Cantal, in summer 2013. 142 snipe were retrapped: 120 common snipe and 22 jack snipe. These results are the best since the network was founded.

Plumage collection

As in the previous years, an analysis of common snipe and jack snipe plumages (wing and/or tail feathers) collected during the 2013/14 hunting season was carried out.

In total, the plumages of 5 808 common snipes and 1 629 jack snipes were gathered mainly by the CICB (International Club of Snipe Hunters) members and by the *Fédérations départementales des chasseurs* of *Aveyron, Cantal, Gironde, Haute-Loire, Indre, Lozère* and *Puy-de-Dôme*. This collection is the best ever made. Both ringing results and plumage collection show that snipe numbers in 2013/14 were very high in France. A record number of snipe were also ringed in Belarus: 1 500 birds from 10 July to 11 August! This suggests that the breeding success was really good in Central Europe and European Russia.

Common Snipe

Geographical distribution of analyzed plumage

The plumages were collected in 41 French *départements*. As in the past, the total sample was divided in two parts (Figure 1): one corresponding to the Fennoscandian flyway (n = 3 076), the other to the Continental flyway (n = 2 727).

Temporal distribution of analyzed plumage

Under the same assumption as in the previous reports (i.e. the number of collected plumages is positively correlated with real numbers), the post-nuptial migration was characterised by an early arrival of snipe with an unusual peak of abundance in the first half of September (Figure 2). Then, the snipe numbers remained at a high level during 2 months with a second peak registered in the second half of October. A quick decrease was observed in the first half of November. Then, from this period to the end of January, the numbers stayed at a low level.

However, the migration pattern differed between the Fennoscandian and Continental flyways. For the snipe using the Fennoscandian flyway, a peak was clearly observed in the second half of September followed by a continuous decrease till the end of the season. On the other hand, those using the Continental flyway seemed to appear very quickly in the first half of September, then the numbers remained more or less at the same level during 3 weeks and they strongly increased in the second half of October. The densities were relatively high in the first half of November, they collapsed in the second half and stayed at a very low level till the end of January. The two migratory waves were separated by about one month.

Again, the weather conditions probably played a role in the phenology of the postnuptial migration. During the peak of abundance of snipe using the Fennoscandian flyway, temperatures were greatly above the seasonal mean in Scandinavia and Finland. Our

hypothesis is that the potential sites in this region became too dry and, therefore, the birds were obliged to fly to the south-west of Europe. The same scenario could explain the migration phenology of the continental flyway in so far as high temperatures were also registered in Central Europe.

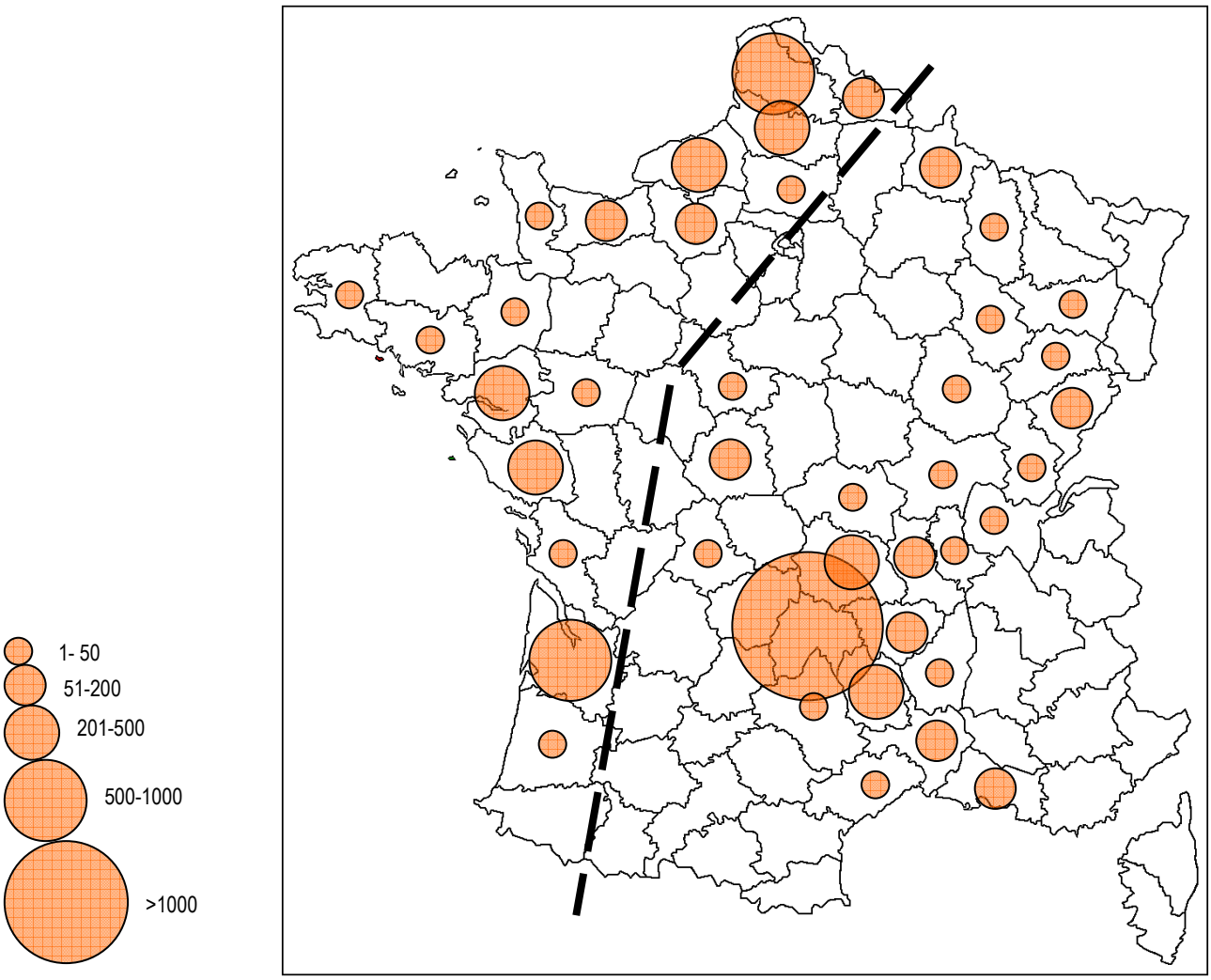


Figure 1. *Geographical distribution of numbers of common snipe whose plumage was collected in 2013/14 and limit between the two sub-samples corresponding to a distinct migratory flyway.*

Proportion of juveniles

The proportion of juveniles among the 5 693 analysed plumages was 73.5 % (age-ratio = 2.8). Without the data collected in August for which almost 100 % of birds are juveniles, this proportion is 70.8 %. These values are in the average of the last 25 years (Figure 3).

Juveniles represent 74.7 % of birds in the Fennoscandian flyway (n = 2 996) and 72.2% in the Continental flyway (n = 2 697). The difference is not significant with or without August data (Fisher exact test; p = 0.016 and 0.403, resp.). This result shows that the breeding success was probably similar in the 2 flyways.

In the 2 flyways, the migration followed a usual pattern: predominance of juveniles in August then decrease till mid-October when a plateau was reached and maintained till the end of January (Figure 4).

Under the assumption that the analysed sample is representative of the breeding success, we can consider that spring 2013 was as good as in 2012. Of course, the results are reassuring in terms of population dynamics and therefore for the snipe conservation status.

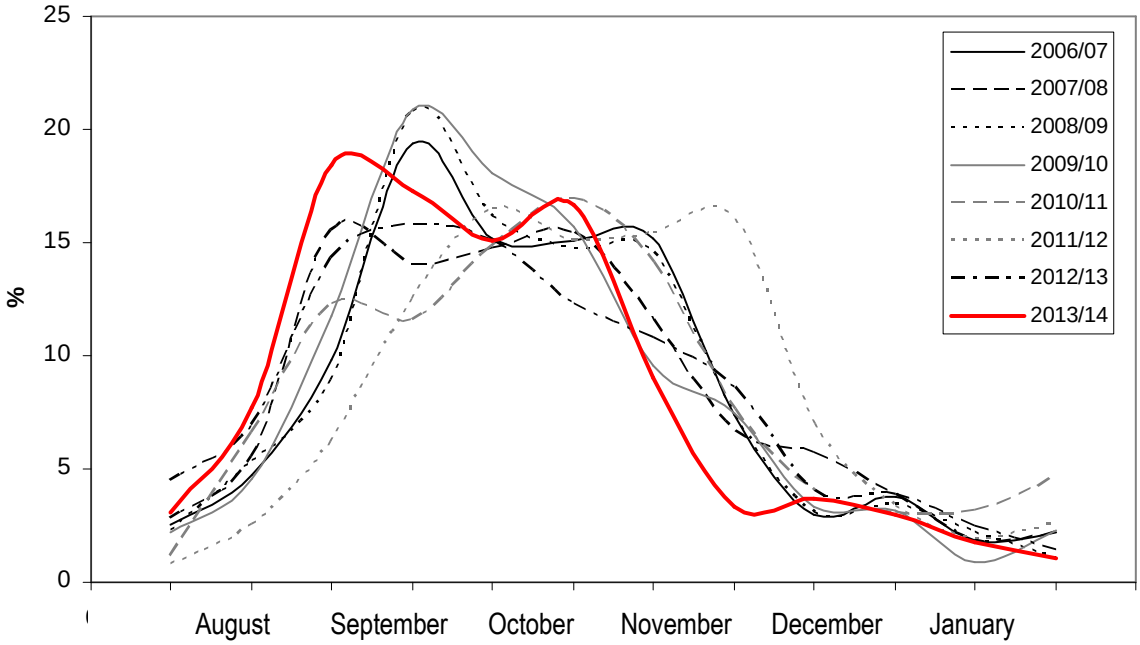


Figure 2. *Intra-annual variations of the proportion of common snipe plumages collected from 2006/07 to 2013/14.*

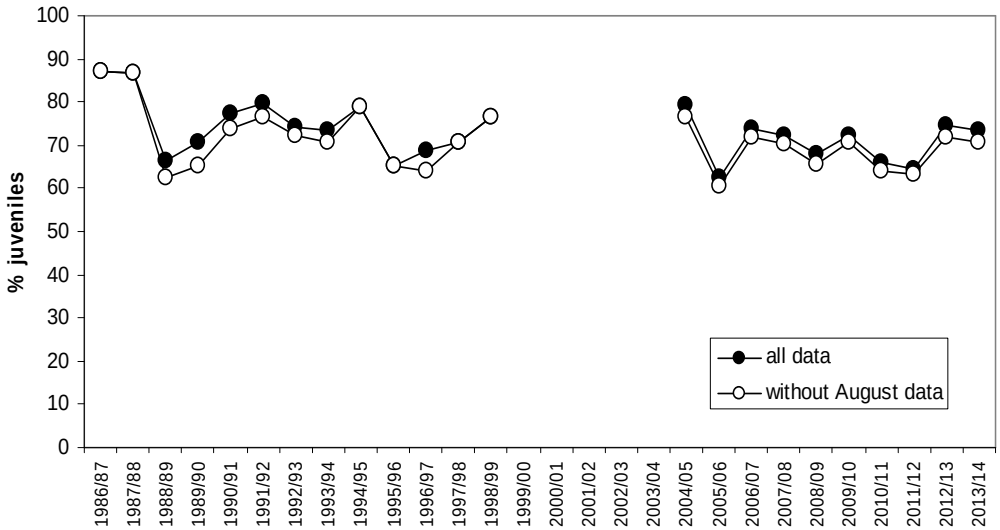


Figure 3. *Inter-annual variations of the proportion of juveniles among common snipe plumages collected in the 1986/87 - 2013/14 period for all data and for a sub-sample without August data (No collection in the 1999/00 - 2003/04 period).*

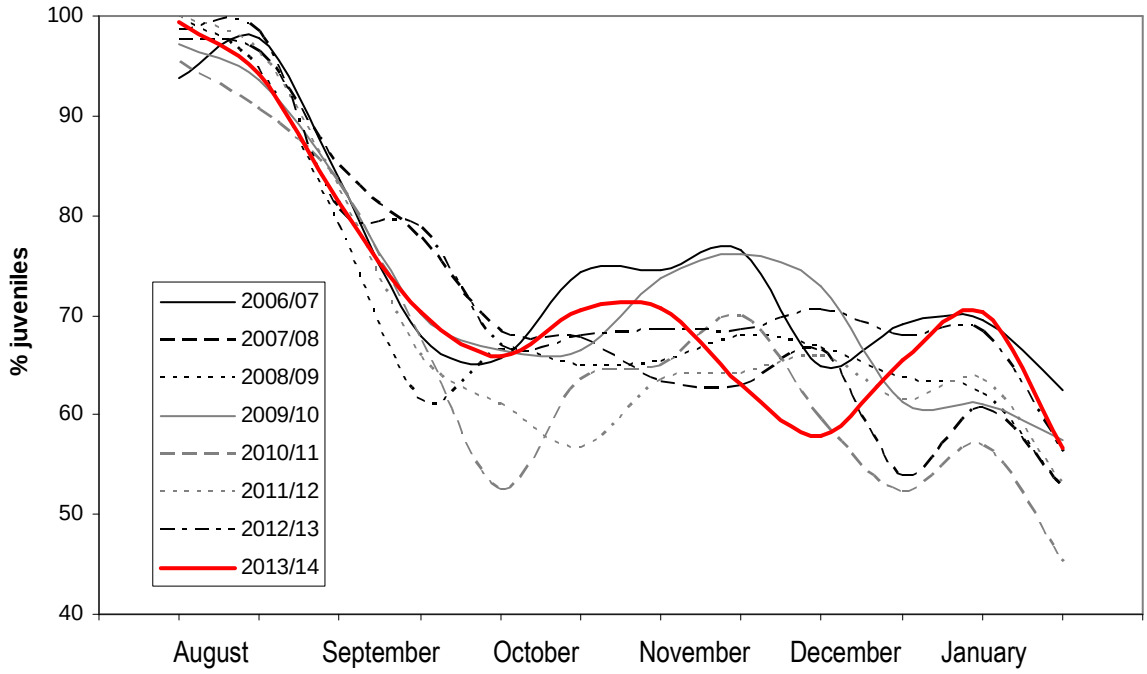


Figure 4. *Intra-annual variations of the proportion of juveniles for the common snipe from 2006/07 to 2013/14.*

Proportion of males/females

Sex was defined for 1 507 adult birds and the proportion of males was 39.6 %. If we take into account all birds (juveniles + adults) for which sex determination was possible (n = 5 125), the proportion of males reached 41.1 %. As for the previous seasons, the deficit in males remains clear. No statistical difference appears between the flyways, taking into account or not the juveniles (Fisher exact test; p = 0.32 and p = 0.15, resp.)

Jack Snipe

Geographical distribution of analyzed plumage

In 2013/14, the jack snipe plumages were collected in 34 *départements* (Figure 5). As for every season, we defined a Coastal flyway and an Inland flyway for which the difference of sample size is rather slight this season: 833 plumages for the Coastal flyway and 793 for the Inland one.

Temporal distribution of analyzed plumage

As for common snipe, the analysis was made under the assumption that the number of plumages is positively correlated with the abundance of birds in the field. In 2013/14, a peak was observed as usual in the second half of October after a constant increase from mid-September. The numbers remained at a rather high level during the first half of November, then decreased and remained stable till the end of January.

The peak of the Coastal flyway occurred between the 1 and 15 October then that of the Inland flyway came between 16 and 31 October. This delay in the two flyways is similar to that of the common snipe.
Whereas the migration phenology recorded from the plumage collection appeared usual, the field observers mentioned an early arrival of jack snipe (second half of September) for the Coastal flyway.

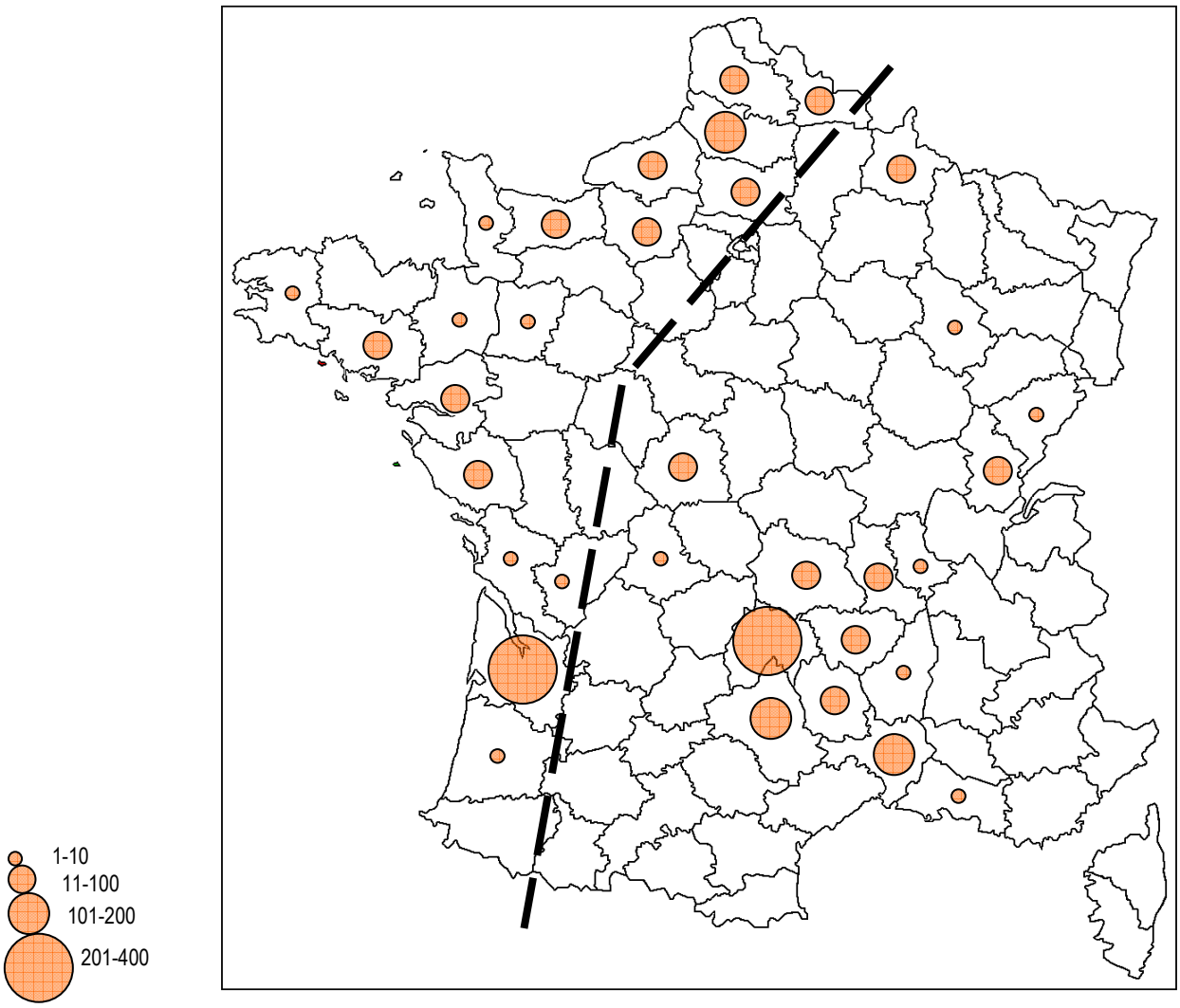


Figure 5. *Geographical distribution of numbers of jack snipe whose plumage was collected in 2013/14 and limit between the two sub-samples.*

Proportion of juveniles

The proportion of juveniles (estimated from examination of tail feathers) in 2013/14 rose to 74.3% (Figure 7). This value is clearly above the average of the last 20 years (69.2 %; no data for 2002/03 and 2003/04). Consequently, we consider that the breeding success in spring 2013 was good for this species. The proportion of juveniles was 78.1 % in the Coastal flyway and 70.3 % in the Inland flyway. The difference is statistically significant (Fisher exact test; $p = 0.0003$).

The temporal distribution of the proportion of juveniles in the course of the season appeared relatively stable in the Coastal flyway but not in the Inland flyway for which a peak could have occurred at the end of the season (Figure 8). However, no statistical differences are observed (Cochran-Armitage test; Inland flyway, $p = 0.687$; Coastal flyway, $p = 0.311$).

Proportion of males/females

According to criteria used in the past year (wing length < 115 mm = female; wing length > 117 mm = male; correction of 1.7 mm because of wing drying), the proportion of males in the whole sample was 42.5 %. Again females were more numerous than males, which can be supported by 2 hypotheses: unsteadiness in the population structure or a differential distribution in relation to sex in the wintering range.

Males appeared more numerous in the Inland flyway than in the Coastal flyway (49.3 % *vs* 36.3 %) and the difference is significant (Fisher exact test; $p < 0.0001$).

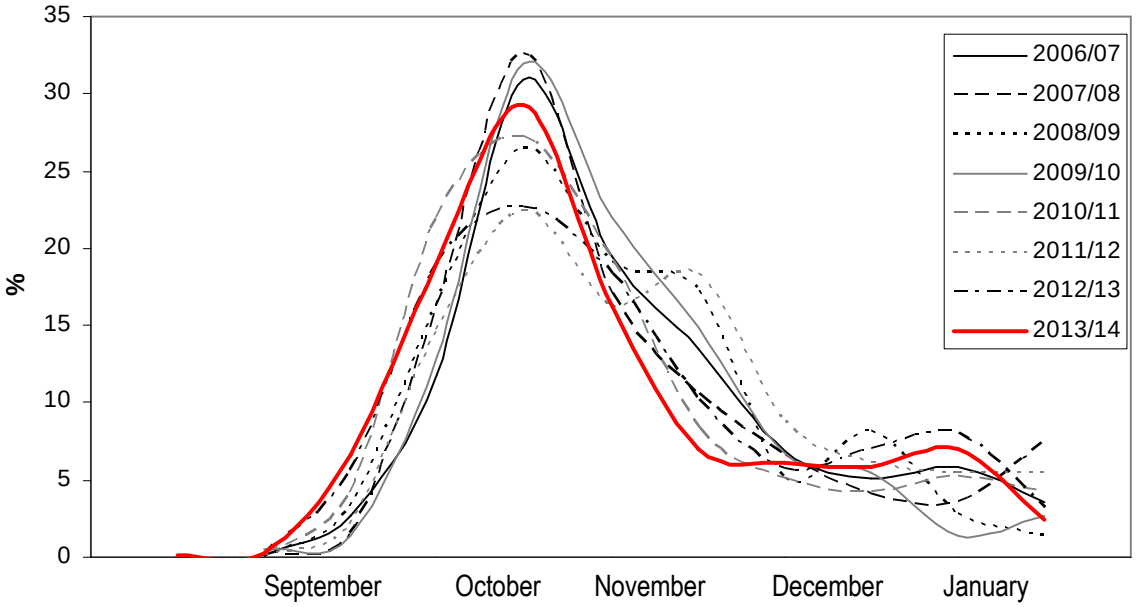


Figure 6. *Intra-annual variations of the proportion of jack snipe plumages collected from 2006/07 to 2013/14.*

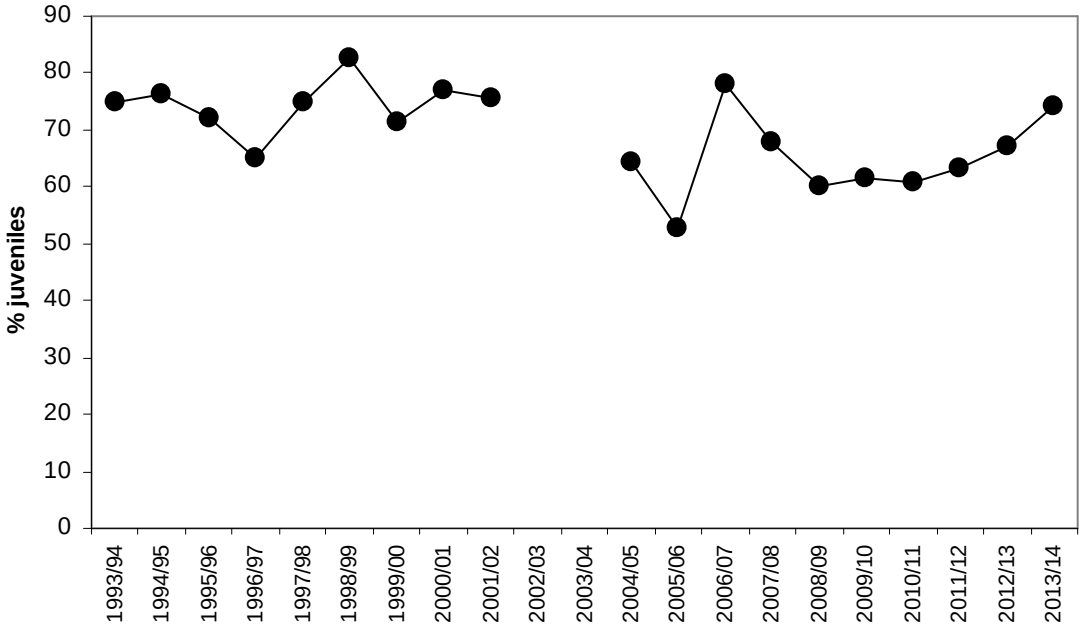


Figure 7. *Inter-annual variations of the proportion of juveniles among jack snipe plumages collected in the 1993/94 - 2013/14 period (No collection in 2002/03 and 2003/04).*

Monitoring of hunting bags

Estimation of the demographic trend for common snipe and jack snipe migrating and wintering in France is not easy. At the present time, the inter-annual evolution of hunting bags in reference territories seems to be the only tool for answering this question. The assumption is that the hunting bags are directly positively correlated with actual numbers.

The network of reference territories relies on the activity of the members of the *Club international des chasseurs de bécassines* (CICB) who, on the one hand, hunt regularly in a large enough or managed territory and, on the other hand, agree to fill in a bag notebook which they provide for this study.

For the 2000/01-2013/14 period, the analysis covers 24 sites. Details of annual hunting bags are shown in Table 1. The annual mean total hunting bag in the 24 sites is about 4 150 common snipe and 950 jack snipe.

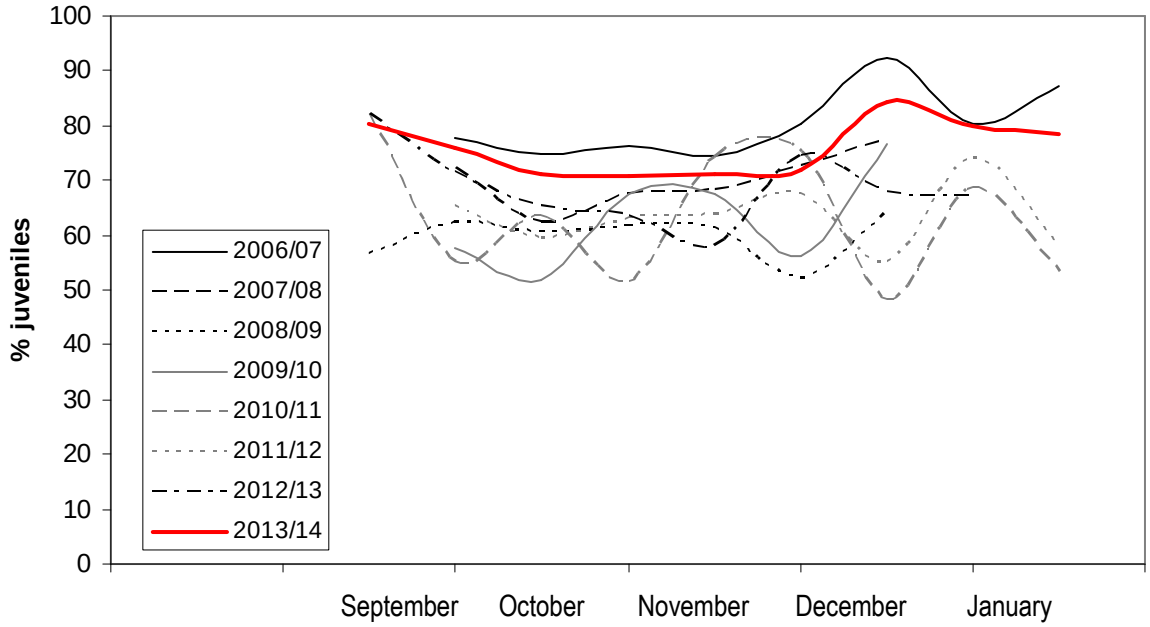


Figure 8. *Intra-annual variations of the proportion of juveniles for the jack snipe from 2006/07 to 2013/14.*

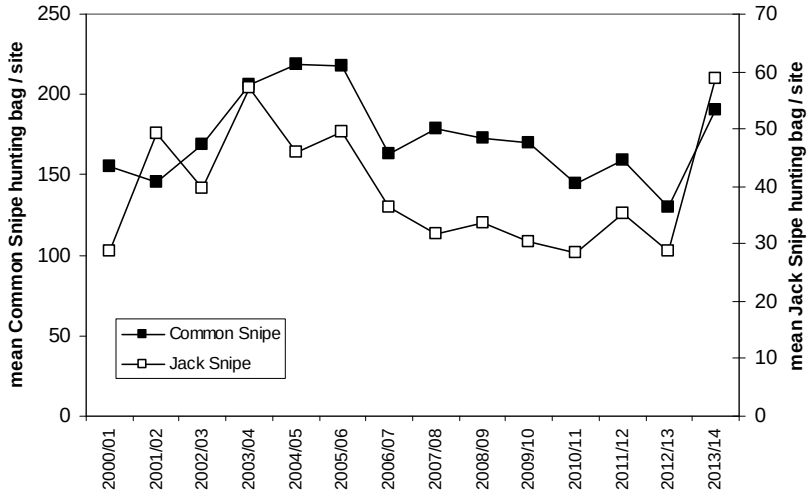


Figure 9*. Average of common snipe and jack snipe hunting bags for a reference site for the period 2000/01 - 2013/14.*

In 2013/14, the bags greatly increased compared with the 3 last years for common snipe and jack snipe as well (Figure 9). The mean bag per site was 191 for common snipe and 59 for jack snipe. These values are above the averages of the 2000/01 – 2012/13 period (172 and 38, resp.). After several years of decrease, these are good news for population dynamics.

The trend test shows a significant stability for jack snipe (Page test; p = 0.075). For common snipe, the stability is close to be significant (p = 0.012). Of course, we have to remain careful because this improvement may prove to be only temporary and to mask a long-term trend observed in the last 8 years.

Season	*Common Snipe*	*Jack Snipe*	Total
2000/01	3715	687	4402
2001/02	3496	1178	4674
2002/03	4066	952	5018
2003/04	4942	1370	6312
2004/05	5247	1105	6352
2005/06	5222	1191	6413
2006/07	3904	871	4775
2007/08	4288	764	5052
2008/09	4137	805	4942
2009/10	4085	726	4811
2010/11	3473	683	4156
2011/12	3832	845	4677
2012/13	3123	690	3813
2013/14	4581	1414	5995
Mean and total	**4150.8**	**948.6**	**71 392**

Table 1. *Details of hunting bags per season for 24 reference sites.*

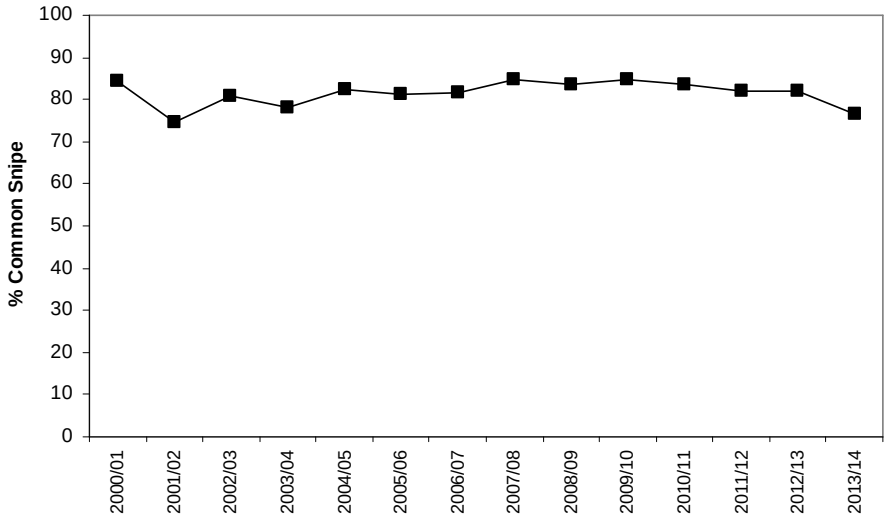


Figure 10. *Proportion of common snipe in the total snipe hunting bag (common snipe + jack snipe) collected on 26 reference sites from 2000/01 to 2013/14.*

As usual, the common snipe/jack snipe ratio is always constant (Figure 10). In 2013/14, the common snipe represents 76.4 % of the total snipe hunting bag, i.e. 5 points less than the average for the 2000/01 - 2012/13 period.

As we mention in every report, it is important to bear in mind that many biases are associated with the monitoring of hunting bags in the 24 reference sites. The reference sites, mainly located in the northwest of France, do not take into account the continental flyways which provide an important part of migrating and wintering snipe. Because of different weather conditions, availability of hunters or habitat quality, they can be in different situations from one season to another. Finally, age of hunters can also play a role in terms of skill. The last season was characterised by a high abundance of snipe early in the hunting season which could have had an effect on the motivation of hunters who could have hunted more often than usual. However, we think that the trends emphasized by our indicators should give a rough estimation of the demographic situation of snipe populations that migrate or winter in France.

Conclusion

The 2013/14 snipe season was one of the best of the last 10 years and many snipe hunters will probably remember it for a long time. Thanks to a mild and rainy autumn, snipe were spread over a great part of France in usual and unusual sites as well.
This season showed us that in terms of population dynamics, the decrease observed in the previous years is not inevitable. Thanks to good weather conditions in spring, these species are able to reach high abundance in migration and wintering. If a constant effort is made to preserve favourable habitats on large areas, and if temperatures in winter remain in normal values, snipe should improve their conservation status from year to year.

Acknowledgements

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.

2013-2014 Woodcock hunting season in mainland Portugal

TIAGO M RODRIGUES, CIBIO/InBIO Laboratório Associado, Centro de Investigação em Biodiversidade e Recursos Genéticos. Campus Agrário de Vairão. Rua Padre Armando Quintas. 4485-661 Vairão, Portugal; Departamento de Biologia. Faculdade de Ciências. Universidade do Porto. Rua do Campo Alegre. s/n. 4169-007 Porto, Portugal; ANCG – Scientific commission; *E-mail*: trodrigues@cibio.up.pt

PEDRO ANDRADE, CIBIO/InBIO Laboratório Associado, Centro de Investigação em Biodiversidade e Recursos Genéticos. Campus Agrário de Vairão. Rua Padre Armando Quintas. 4485-661 Vairão, Portugal; *E-mail*: pandrade@cibio.up.pt

DAVID GONÇALVES, CIBIO/InBIO Laboratório Associado, Centro de Investigação em Biodiversidade e Recursos Genéticos. Campus Agrário de Vairão. Rua Padre Armando Quintas. 4485-661 Vairão, Portugal; Departamento de Biologia. Faculdade de Ciências. Universidade do Porto. Rua do Campo Alegre. s/n. 4169-007 Porto, Portugal; ANCG – Scientific commission; *E-mail*: drgoncal@fc.up.pt

ANDRÉ VERDE, ANCG – Associação Nacional de Caçadores de Galinholas, Largo das Tílias, nº4, 4900-012 Afife, Portugal; *E-mail*: ancg.portugal@gmail.com

This report presents the results gathered by the *Associação Nacional de Caçadores de Galinholas* (ANCG; National Association of Woodcock Hunters) during the 2013/2014 Woodcock (*Scolopax rusticola*) hunting season in mainland Portugal. To improve the collection of data, for this season, the ANCG launched an online form in which the hunters could submit their hunting trip reports. Hunting was allowed from 1 November 2013 to 19 February 2014, on Sundays, Thursdays and national holydays, with a bag limit of three birds/hunter/day. These regulations are the same since the 2009/2010 hunting season, when ANCG started to collect information to evaluate the Woodcock hunting season in mainland Portugal.

Hunting trips

We received 525 hunting trip reports, performed by 46 different collaborators in 16 districts (Figure 1a). Roughly, these figures denote an improvement in relation to the previous hunting season (343 hunting trip reports, 30 collaborators, and 16 districts), probably as a result of the implementation of the online form (e.g. 502 hunting trip reports were submitted online). For 11 of the 16 districts represented, there were more than 10 hunting trips reported. Viana do Castelo (n=161), Santarém (n=88) and Évora (n=70) were the three best sampled districts. The mean (±SE) time spent per hunting trip was 3.47±0.05 hours (n=525), and more than a half of the hunting trips (56.2%) was performed by hunters hunting alone.

We estimated a hunting index of abundance (ICA - "Indice Cynégétique d'Abondance") which corresponds to the number of different woodcock seen, per hunter, during a standard hunting trip of 3.5 hours. The ICA mean value (±SE) for the 2013/2014 season was 1.34 ± 0.07 (Figure 2). Since the 2009/2010 hunting season (Figure 2), the abundance of woodcock in mainland Portugal varied significantly between seasons (K-W test: $H_{4,\ 1820} = 25.38$ $p<0.001$), namely between the 2011/2012 season and the hunting seasons of 2009/2010 ($z=2.67$; $p<0.010$), 2012/2013 ($z=-3.91$; $p<0.001$), and 2013/2014 ($z=-4.11$; $p<0.001$).

The ICA variation throughout the hunting season (Figure 3) was probably a result of woodcock movements/migration. During November 2013, the Woodcock abundance showed a progressive increase, possibly corresponding to a crescent number of birds in migration to, or in passage through Portugal, and reached a maximum value during the first decade (period of ten days) of December. An important decrease in abundance was immediately observed in the second decade of December, probably reflecting a reduction in the migratory flux, and then, the values remained stable until the end of January, followed by a decrease in the beginning of

February. Roughly, excluding the decrease in February, the variation in Woodcock abundance during the hunting season 2013/2014 was similar to the average season in Portugal, but with relatively high levels of abundance during most of the season (Figure 3).

Woodcock were seen in all the 16 districts analysed, but, as observed for previous hunting seasons (Rodrigues *et al*. 2013), their abundance was not uniform across the country. Considering the districts with more than 10 hunting trip reports available (Figure 1b), there was a tendency for higher abundance in the south of Portugal.

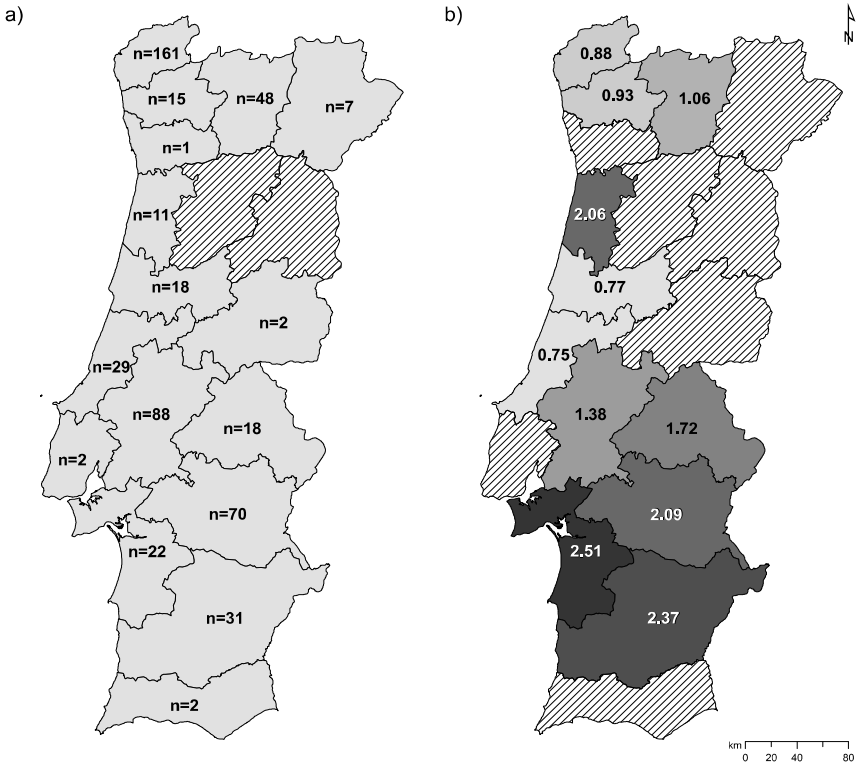


Figure 1. a) *Distribution of the number of woodcock hunting trip reports analysed in mainland Portugal, during the 2013/2014 hunting season, by district (in grey).* ***b)*** *Variation in the mean value of abundance of woodcock (hunting index of abundance = number of different woodcock seen, per hunter, during a standard hunting trip of 3.5 hours), in mainland Portugal, by district, in the 2013/2014 hunting season (only districts with 10 or more reports were considered).*

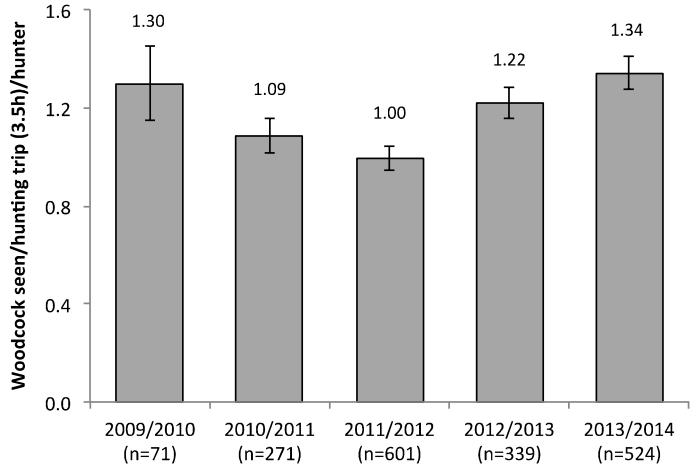


Figure 2. *Variation, by hunting season, of the mean (±SE) value of abundance of woodcock (hunting index of abundance = number of different woodcock seen, per hunter, during a standard hunting trip of 3.5 hours), in mainland Portugal; n = number of hunting trips analysed.*

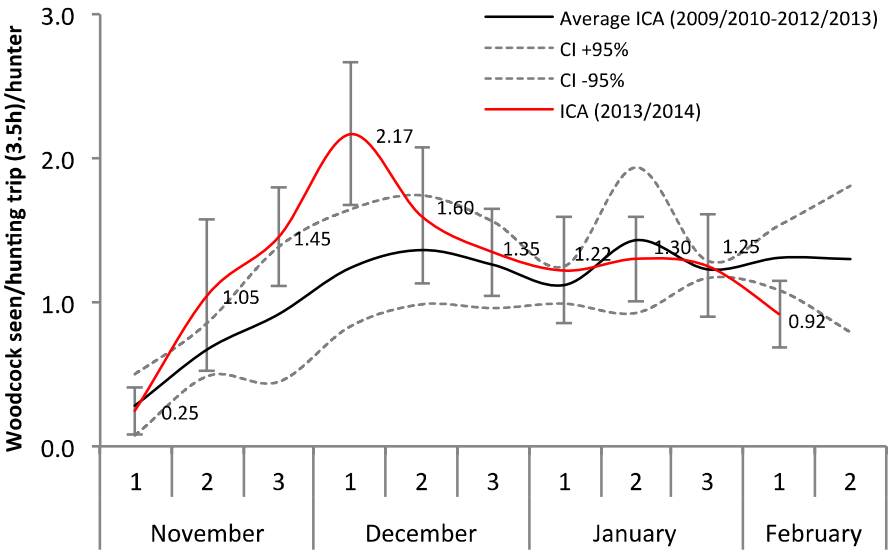


Figure 3. *Variation, by decade (period of ten days), of the mean value of woodcock abundance (hunting index of abundance, ICA = number of different woodcock seen, per hunter, during a standard hunting trip of 3.5 hours), in the hunting season 2013/2014 (red line; vertical lines: ± CI 95%v- 95% confidence interval), and the average for the seasons 2010/2011 to 2012/2013 (dark line; dashed line: ± CI 95%) in mainland Portugal.*

Wing collection

We analysed 277 wings, collected by 20 different collaborators in 12 districts (Figure 4). Compared with previous hunting seasons, despite the reduction in the number of collaborators sending wings, and in the number of districts represented, the hunting season of 2013/2014 was the one for which more wings were analysed. For 9 of the 12 districts there were more than 10 wings available, a situation that never occurred in the past (the best figure was 6 out of 16 in 2012/2013).

The age class [young (<1 year old) or adult (>1 year old)] was determined by wing examination, according to Ferrand & Gossmann (2009), and hunters were asked to determine the birds' sex by gonad examination (Table 1). The percentage of young birds was 56.7 %, and the percentage of males was 44.0 %.

The percentage of young birds was lower than that recorded in 2012/2013 (66.1%) but close to the values observed in the other three previous seasons. The sex ratio of the woodcock in mainland Portugal continues to be close to one (Rodrigues et al. 2013). For the five hunting seasons studied, the proportion of males and females showed no significant variations (χ^2=1.06; p>0.05; d.f.=4).

Additionally, the hunters determined the weight of the woodcock shot. The mean body weight (±SE) of the birds in the 2013/2014 hunting season was 297.9±1.7 g (Table 2). The body weight presented significant variations among hunting seasons (K-W test: $H_{4,423}$=28.38; p<0.001): the woodcock from 2012/2013 had lower values than the birds from 2009/2010 (z=3.36; p<0.01), 2010/2011 (z=4.34; p<0.001), and 2013/2014 (z=3.34; p<0.01).

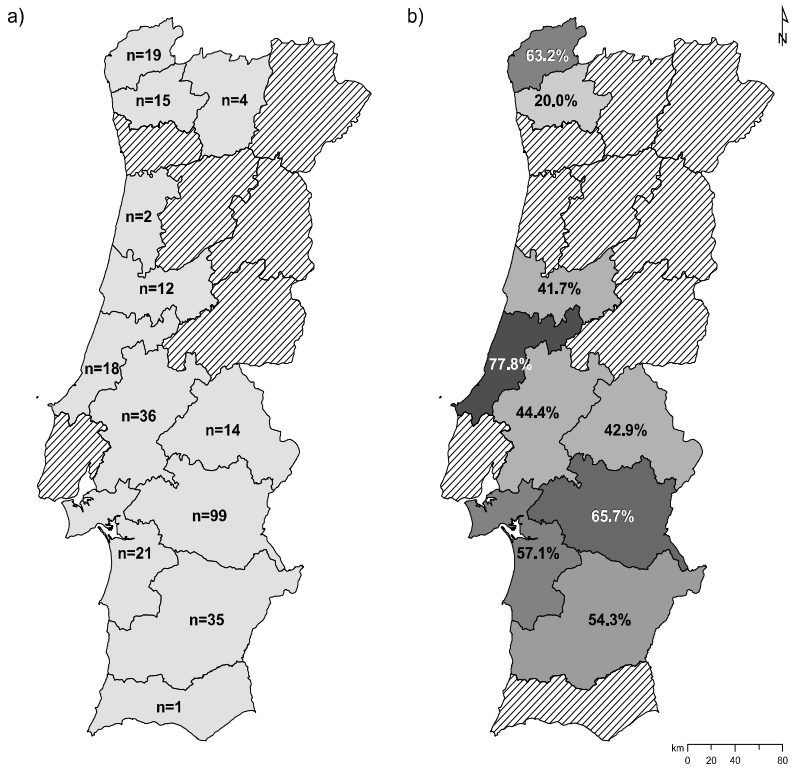


Figure 4. a) *Distribution of the number of woodcock wings collected in mainland Portugal districts (in grey), during the 2013/2014 hunting season.* ***b)*** *Variation in the percentage of young woodcock, in mainland Portugal, by district, in the 2013/2014 hunting season (only districts with 10 or more wings were considered).*

		Age		
		Adults	Young	Total
Sex	Females	36	72	108
	Males	42	43	85
	Undetermined	42	42	84
	Total	120	157	277

Table 1. *Frequencies of age and sex classes among the woodcock analysed in the 2013/2014 hunting season.*

	Weight (g)				
	Mean	Median	Minimum	Maximum	SE
Adult females (n=31)	295.6	297.0	198.0	371.0	5.6
Young females (n=69)	300.1	300.0	205.0	370.0	3.3
Adult males (n=40)	304.2	307.5	240.0	350.0	3.9
Young males (n=40)	298.2	298.0	260.0	330.0	2.9
Total (n=230)	297.9	300.0	198.0	371.0	1.7

Table 2. *Weight of the woodcock analysed in the 2013/2014 hunting season, by age/sex class.*

Conclusions

In the 2013/2014 hunting season in mainland Portugal, the implementation of an online form to report the hunting trips resulted in an increase in the number of collaborators and in the proportion of districts with more than 10 reports available, providing one of the best years, to date, in terms of number of hunting trips reported. Nearly 96% of the reports were submitted online.

The global ICA mean value observed in the 2013/2014 hunting season, 1.34 woodcock seen/hunter/hunting trip, was the highest since the ANCG started to collect data in 2009/2010, but was only statistically different from the value recorded in 2011/2012. Since 2009/2010, in mainland Portugal, we have been observing different patterns in the phenology of woodcock movements. Last season's pattern resembles that of 2010/2011 due to the peak in woodcock abundance observed during the first decade of December (Gonçalves *et al*. 2011), but unlike that season, the birds seem to have arrived in good numbers during November, and not between the last decade of November and the beginning of December.

In the 2013/2014 hunting season the percentage of young birds, 56.7%, was close to that observed before 2012/2013. As in all the other seasons studied, the sex ratio was not different from one. The birds were heavier than those shot during the previous hunting season (2012/2013).

Acknowledgements

We would like to thank all the hunters who provided the data used in this study.

A typical Woodcock wintering habitat in Portugal ((© D. Gonçalvès).

References

Ferrand Y. & F. Gossmann. 2009. Ageing and sexing series 5: Ageing and sexing the Eurasian Woodcock *Scolopax rusticola*. *Wader Study Group Bulletin* 116(2):75-79.

Gonçalves D., Rodrigues T., Verde A. & M. Russo. 2011. 2010/11 Woodcock hunting season in mainland Portugal. *WI/IUCN-WSSG Newsletter* 37: 36-38.

Rodrigues T.M., Gonçalves D., Verde A. & M. Russo. 2013. The Woodcock in mainland Portugal: results of four hunting seasons monitoring. *WI/IUCN-WSSG Newsletter* 39: 42-46.

American woodcock migration characterized by satellite telemetry

JOE MOORE, Arkansas Cooperative Fish and Wildlife Research Unit, Department of Biological Sciences, University of Arkansas, Fayetteville, AR 72701-1201
Email: jdm046@uark.edu

An ongoing project conducted among the U.S. Geological Survey Arkansas Cooperative Fish and Wildlife Research Unit, U.S. Geological Survey Minnesota Cooperative Fish and Wildlife Research Unit and the U.S. Fish Wildlife Service is studying the migration ecology of the American woodcock (*Scolopax minor*) using satellite telemetry.

American woodcock are a species of conservation concern across eastern North America, in part due to long-term population declines in both the Eastern and Central Management Regions as documented through the Singing-ground Survey (Cooper and Rau 2014). One aspect of American woodcock life history that is currently poorly understood relates to migration, especially patterns of migration, habitat use, and survival during migration. Understanding American woodcock migration as it relates to population ecology is a high-priority information need (D.J. Case & Associates 2010), but to date, better understanding American woodcock migration ecology has been limited by available technology. We are deploying both 9.5 and 5g solar-powered PTT satellite transmitters on American woodcock in their breeding and wintering grounds of the Central Management Region of the United States, which include the woodcock habitat west of the Appalachian Mountains (Coon *et al.* 1977, Cooper and Rau 2014). Other cooperators providing assistance and funding are the Ruffed Grouse Society and American Woodcock Society, Texas Parks & Wildlife Department, The Glassen Foundation, Michigan Department of Natural Resources, Louisiana Department of Wildlife & Fisheries, Minnesota Department of Natural Resources, the University of Arkansas, and Woodcock Limited.

Our objectives are to: (1) document timing of migration initiation, rate of migration, stopover length, routes taken, and final destination for both spring and fall migration, (2) describe land use characteristics at stopover sites, and (3) if sufficient numbers of both adults and young are marked, breakdown objectives 1 & 2 by age. This project will generate data on both American woodcock migratory stopover habitat characteristics and migration routes used. Combining the information from both spatial scales will allow us to identify priority areas to focus habitat management and acquisition efforts for American woodcock along these routes. An increased understanding of the timing of migration initiation and migratory routes can be used to fine-tune hunting-season dates.

In fall 2013 we initiated a pilot project to evaluate the potential for investigating American woodcock migration ecology using satellite transmitters. We refurbished eight, 9.5g PTTs available to us from an unrelated project on king rails (*Rallus elegans*), and with an exception from the U.S. Geological Survey Bird Banding Laboratory regarding transmitter mass restrictions, attached these PTTs to six adult female American woodcock with mass >200g through March 10, 2014. We attached PTTs to American woodcock using a modified thigh harness (Rappole & Tipton 1991). The harnesses were made with tygon tubing through which two strands of elastic plastic chord was threaded, crimped with metal rings and then super glued. We deployed one PTT on a female captured in September 2013 at Tamarac National Wildlife Refuge in northwest Minnesota (Figure 1), four PTTs to females captured at Sherburne Wildlife Management Area in Louisiana in January 2014, and one PTT to a female captured at Ozark National Forest in northwest Arkansas in March 2014 (Figure 2). With the exception of one marked female in Louisiana, which we believe was killed by an owl upon release, all

females (n = 5) successfully migrated; the Minnesota female migrated both during the fall and spring (Figures 1 & 2). All three females marked in Louisiana migrated to the Eastern Region whereas the Arkansas and Minnesota females migrated within the Central Management Region. All surviving females were apparently nesting as of May 2014.

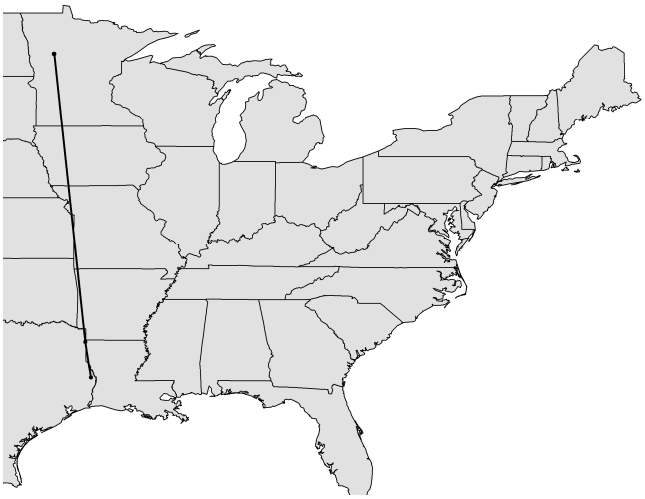


Figure 1. *Fall 2013 migration of 1 American woodcock.*

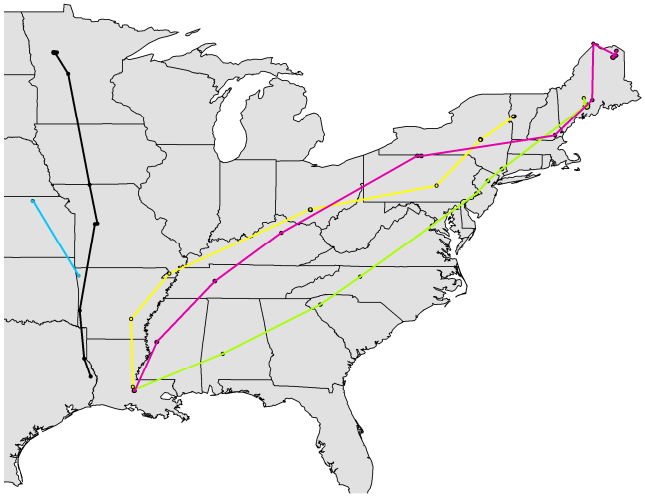


Figure 2. *Spring 2014 migration of 5 American woodcock.*

We deployed three additional PTTs on American woodcock at Sherburne National Wildlife Refuge, Minnesota during fall 2014. We also received data from three of the PTTs previously deployed. As of 9 January 2015, the latest recorded locations of these birds are in Texas, Louisiana, Mississippi, Missouri, Tennessee, and Virginia (Figure 3). These results suggest: (1) that larger females can successfully migrate with a 9.5-g PTT, (2) that the harness attachment method does not inhibit 'normal' migration, and (3) that the solar-powered units are receiving sufficient light energy to recharge the battery.

In the winter of 2015 we plan on deploying 8 additional 9.5g PTTs as well as 10.5 g PTTs in Texas and Louisiana. We plan to deploy an additional 25 PTTs on woodcock in their breeding grounds in 2015 and their wintering grounds in 2016.

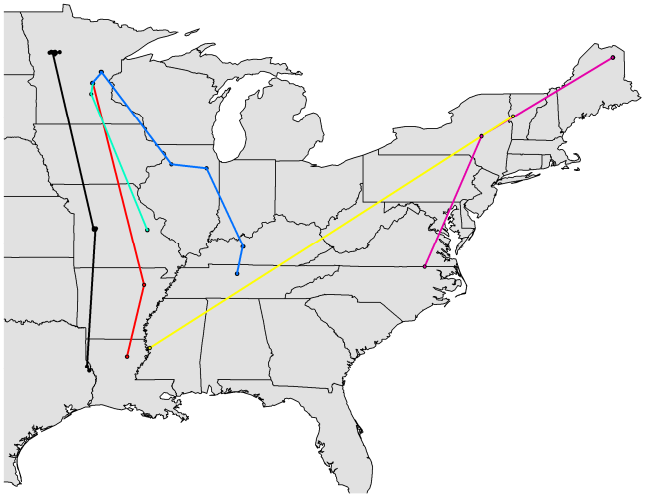


Figure 3. *Fall 2014 migration of 6 American woodcock.*

References

Case D.J. and Associates (editor). 2010. Priority information needs for American woodcock: a funding strategy. Developed for the Association of Fish and Wildlife Agencies by the Migratory Shore and Upland Game Bird Support Task Force. 16pp.

Coon R. A., Dwyer T. J. & J. W. Artmann. 1977. Identification of potential harvest units in the United States for the American woodcock. Proceedings of the Woodcock Symposium 6:147–153.

Cooper T.R. & R.D. Rau. 2014. American woodcock population status, 2014. U.S. Fish and Wildlife Service, Laurel, Maryland. 16 pp.

Rappole, J.H. & A.R. Tipton. 1991. New harness design for attachment of radio transmitters to small passerines. Journal of Field Ornithology 62:335–337.

Recent Woodcock and Snipe publications

ARIZAGA J., CRESPO A., TELLETXEA I., IBÁÑEZ R., DÍEZ F., TOBAR J.F., MINONDO M., IBARROLA Z., FUENTE J.J. & J.A. PÉREZ. 2014. Solar/Argos PTTs contradict ring-recovery analyses: Woodcocks wintering in Spain are found to breed further east than previously stated. Journal of Ornithology, DOI10.1007/s10336-014-1152-7

IQBAL M., ABDILLAH H., NURZA A., WAHYUDI T. & G. IQBAL. 2013. A review of new and noteworthy shorebird records in Sumatra, Indonesia, during 2001-2011. Wader Study Group Bull. 120(2): 85-95. (concerned species: Swinhoe's Snipe *Gallinago megala*, Common Snipe *Gallinago gallinago*)

MISCHENKO A., SUKHANOVA O. & C. ZÖCKLER. 2014. Rewetting the Vinogradovo Floodplain, Moscow Region, Russia: a project in support of wader populations. Wader Study Group Bull. 121(2): 77-80. (concerned species: Great Snipe *Gallinago media*, Common Snipe *Gallinago gallinago)*

VON ULRICH D., STRAUB F. & J. TRAUTNER. 2014. Windkraft über Wald – kritisch für die Waldschnepfenbalz? NuL 46(3): 69-78.