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Compiled by Yves Ferrand
Coordinator

Office national de la chasse et de la faune sauvage
Research & Expertise Department
Migratory Birds Unit
Parc d'activités de la rivière, 8 Bd Albert Einstein, CS 42355
44323 Nantes Cedex 3 - France

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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

In 2015, the study of Woodcock migration has still progressed thanks to the deployment of satellite transmitters in Great-Britain and France. The results largely confirm our knowledge on the origin of birds wintering in Western Europe even if a Siberian origin appears larger than expected. In this issue you will also find the announcement of a research project on Latham's Snipe using geolocators and then satellite transmitters. Clearly, the recent technical developments open the field of research for scientific questions that are hard to solve and/or for new species that are hard to study using classic methods.

As exciting as they are, the new research tools do not have to overshadow the other ones. Let us not forget that ringing results are always needed in a very important part of our research: population dynamics modelling. Monitoring, genetic studies, bag statistics, etc. are also research fields which we fundamentally need to ensure a sustainable use of these species. The methods are continually renewed but they are often based on a proven approach which always makes sense.

Whereas the renewal of research tools is underway, 2016 will also be a year of change for the Woodcock & Snipe Specialist Group.

My current commitment with the IUCN Species Survival Commission will end in 2016 on the occasion of the IUCN World Conservation Congress. After some 15 years as Coordinator, I decided to step down and to make way for the new generation of researchers. However, although I leave my place as coordinator, I remain a WSSG member as long as I am active at ONCFS.

During all these years, it has been a great pleasure for me to work with all the WSSG members with whom I share the same passion for these fabulous birds. We exchanged our experiments, our skills and, I am sure, contributed greatly to advancing knowledge on these species. Of course, our efforts were largely focused on European and North American species because of the major interest they represent among hunters in these areas. The strong connection of Woodcock and Snipe populations with hunting is certainly an important characteristic we have to take into account. As they are exploited species, our responsibility is to avoid over-hunting and to keep them in the best status of conservation as possible.

On this matter, I totally trust in my successor: Dr David Gonçalvès. David is professor and researcher at the University of Porto and at CIBIO (Portugal). He is involved in research on Woodcock and Snipe as well as on other migratory bird species like Common quail and Wood pigeon. He is also a hunter and is in touch with hunters' associations in various European countries. Finally, he speaks very well English, French, Spanish,…and Portuguese! David met the UICN and Wetlands International staffs in September 2015 in Abu Dhabi.

Besides this huge change, a small one also occurred for our group. Because of the financial means that we have, we are from now on forced to limit our publication to a pdf version. In my view, it is a pity because a printed version is probably easier and more pleasant to use. But that is the new economic World and many organisations have chosen this way for their publication. No doubt, we shall survive this new formula!

Finally, I am glad to announce that our next WSSG Workshop is planned for 2017. It should take place in Azores Islands and David will be the "Big chief" for its organisation. You'll receive more information as soon as possible.

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
Parc d'activités de la rivière, 8 Bd Albert Einstein , Bat. B, CS 42355, 44323 Nantes Cedex 3 - France
Telephone : +33 2 51 25 07 88; Fax : +33 2 40 48 14 01
E-mail: yves.ferrand@oncfs.gouv.fr

The Latham's Snipe project

DAVID WILSON
Environmental consultant
www.davidwilsonconsulting.com
Email: djdwilson@gmail.com

The Latham's Snipe Project was started by a group of passionate ornithologists to better understand the ecology of the Latham's snipe *Gallinago hardwickii* and their use of wetlands.
The efforts focus on the Port Fairy area in south-western Victoria, Australia, breeding areas in Hokkaido, Japan and the migration patterns along the East Asian-Australasian Flyway.
A range of techniques will be used to better understand the species: observations, habitat monitoring, geolocators and satellite tracking. Funding has been provided by the Australia Japan Foundation which has allowed the researchers to purchase 40 geolocators to put onto snipe at Port Fairy wetlands in spring (September / October). In November 2015, 13 birds have been caught, and released with leg-flags and geolocators.
The Project's proponents engage the communities where they work to encourage ownership and protection of the local environment that the Latham's snipe relies on.
They also love to hear any observations on Latham's snipe: first or last record for the year, sightings in unusual numbers, historic records or interesting locations.
You can contact them via email: djdwilson@gmail.com
or b.hansen@federation.edu.au.
Don't hesitate, have a look on **https://lathamssnipeproject.wordpress.com** to get news…and participate.

Woodcock researches in the Vitebsk region (Belarus) in 2015

EDWARD MONGIN, ALEXANDER KASHTALIAN, NIKOLAI VOROBEI, Research Laboratory "Krasny Bor", Interservice Ltd., 211625 Izubritsa, Verhnedvinsk district, Vitebsk region, Belarus
E-mail: edward.m@list.ru
ELENA DAVIDYONOK, APB-Birdlife Belarus, Minsk, Belarus

During the last ten years, the study of Woodcock was conducted within the framework of the project "Research programme on the Woodcock (*Scolopax rusticola*) in Belarus" with the support of ONCFS. The work was not carried out in 2014 due to a lack of funding. This year, the investigation focusing on breeding numbers and migration of Woodcock has been continued in the Research Laboratory "Krasny Bor" which was founded in 2015.

The investigation was carried out on the territory of the Krasny Bor hunting farm and Krasny Bor Wildlife Reserve (Figure 1). They are located in the northern part of Belarus and occupy an area of about 590 km².The territory is a unique landscape shaped by the impact of the last glaciation. The relief is highly fragmented with numerous lakes, raised bogs and hills. Different types of forests cover about 80% of the study area, and boreal coniferous forests dominate among them.

Roding census

Censuses of roding males were carried out at 17 listening points which were located in 16 sampling plots (2x2 km). Roding males were observed in all listening points. In total, 344 contacts with roding males were registered. The average number of woodcocks was 20.2 per 2 hours. Maximum contacts at one point were 33. The most intensive roding of males was observed in mixed forests with black alder and common birch. Despite dry weather, the proportion of high abundance sites and the average number of contacts were higher than in 2005-2008.

Figure 1. *Study area and location of ringing places.*

Autumn migration and ringing

Woodcock ringing and study of migration were conducted on several plots with grazing meadows in the Verhnedvinsk district from the 20th of September to the 23rd of October. This autumn was moderately warm and dry. Total rainfall during mid-September – October was lower than the last year (36/65 mm). Strong ground frosts occurred in the second decade of October.

This year, 123 contacts were registered during 58 hours and 33 woodcocks were caught. The catching success rate was 26.8%. High abundance of woodcocks was recorded during night trips in the third decade of September (Figure 2). Passage dynamics of woodcock according to grouped observations by pentads are presented in Figure 3. The peaks of migration were recorded in the end of September and the fourth pentad of October. A similar migration pattern was observed in the Berezinsky Reserve in 2013.

The mean number of contacts per hour recorded during the ringing trips was 2.1. We recorded such a low value in years with unfavourable conditions for migratory woodcocks (Figure 4). The proportion of juveniles among caught birds was 63.6%. Juveniles of late broods represented 33.3% of the total juveniles.

The unfavourable conditions for feeding probably hampered the accumulation of fat reserves in migratory woodcocks. Mean weight of juveniles was 334.7 g, that of adult birds was 339.5 g. Birds with significant accumulations of fat reserves were recorded only in the second half of October.

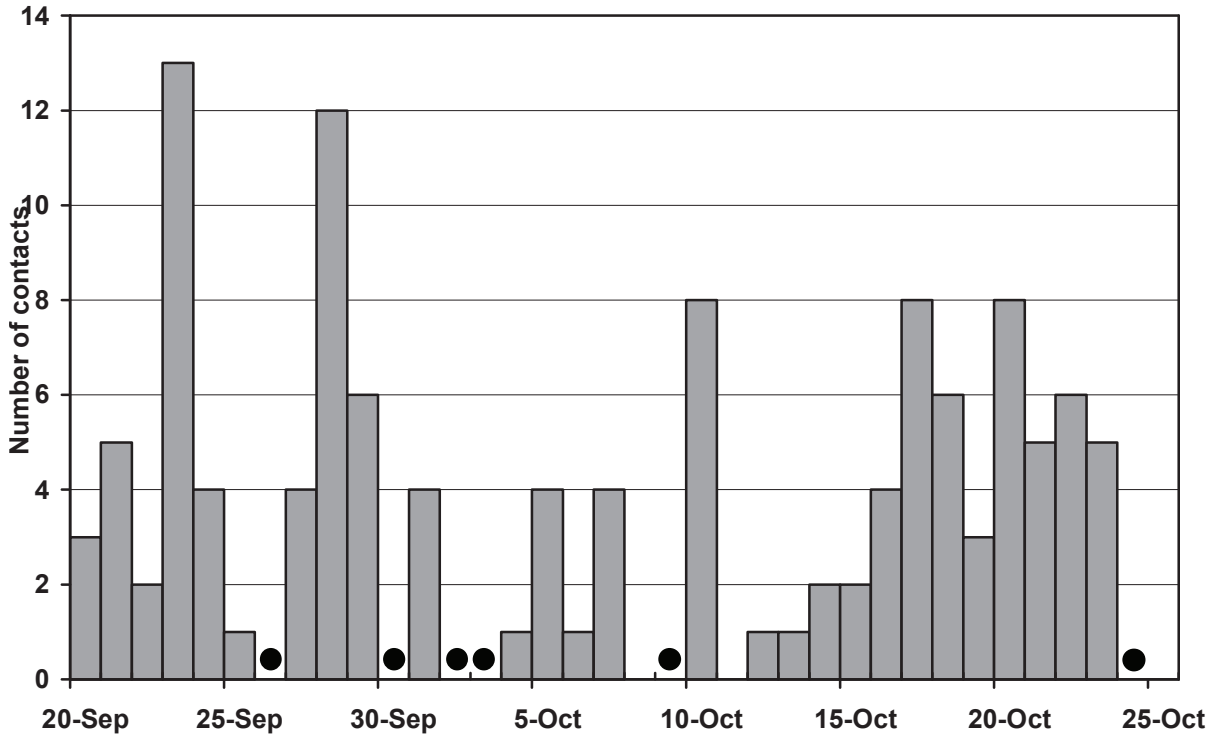

Figure 2. *Passage dynamics of Woodcock according to records of nocturnal contacts in the Verhnedvinsk district in 2015. The black dots indicate days without counts on census plots.*

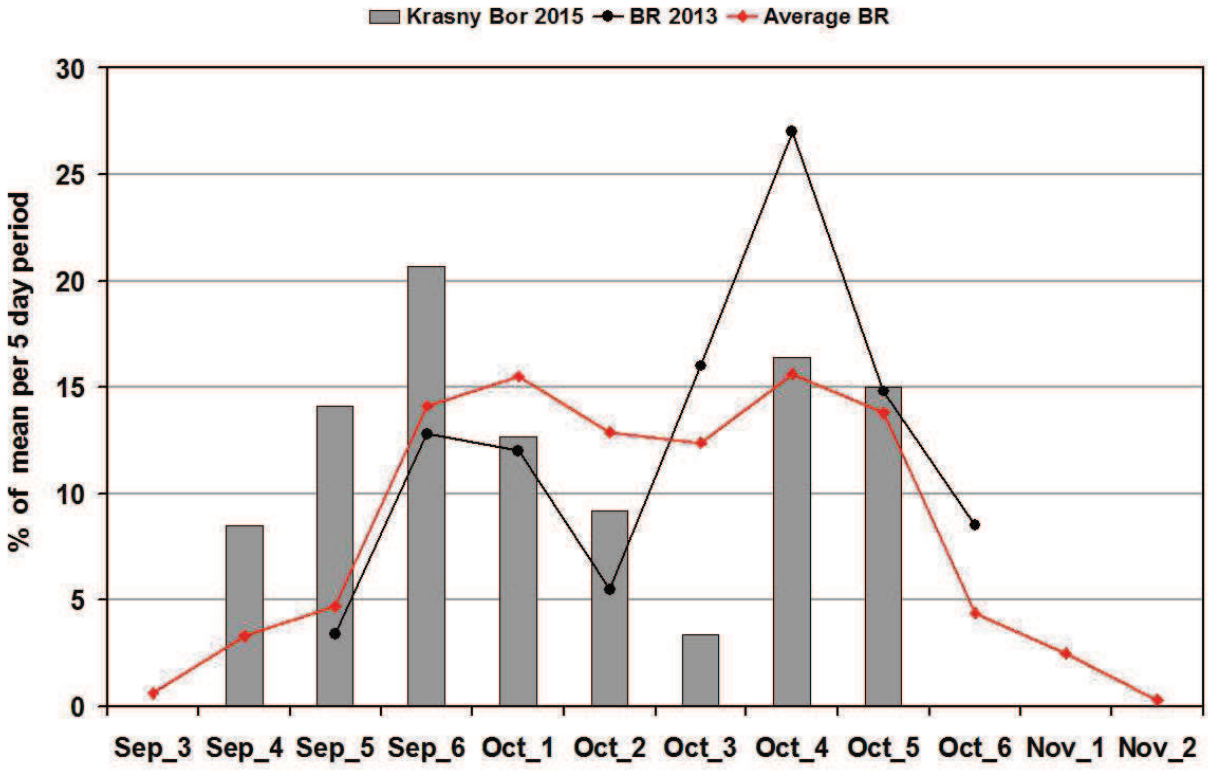

Figure 3. *Passage dynamics of Woodcock according to records of nocturnal contacts in the Berezinsky Reserve (BR) in 2013 and in the Verhnedvinck district (Krasny Bor) in 2015. Red line shows migration dynamics in the Berezisky Reserve according to the averaged data for nine years. Data grouped in five-day periods.*

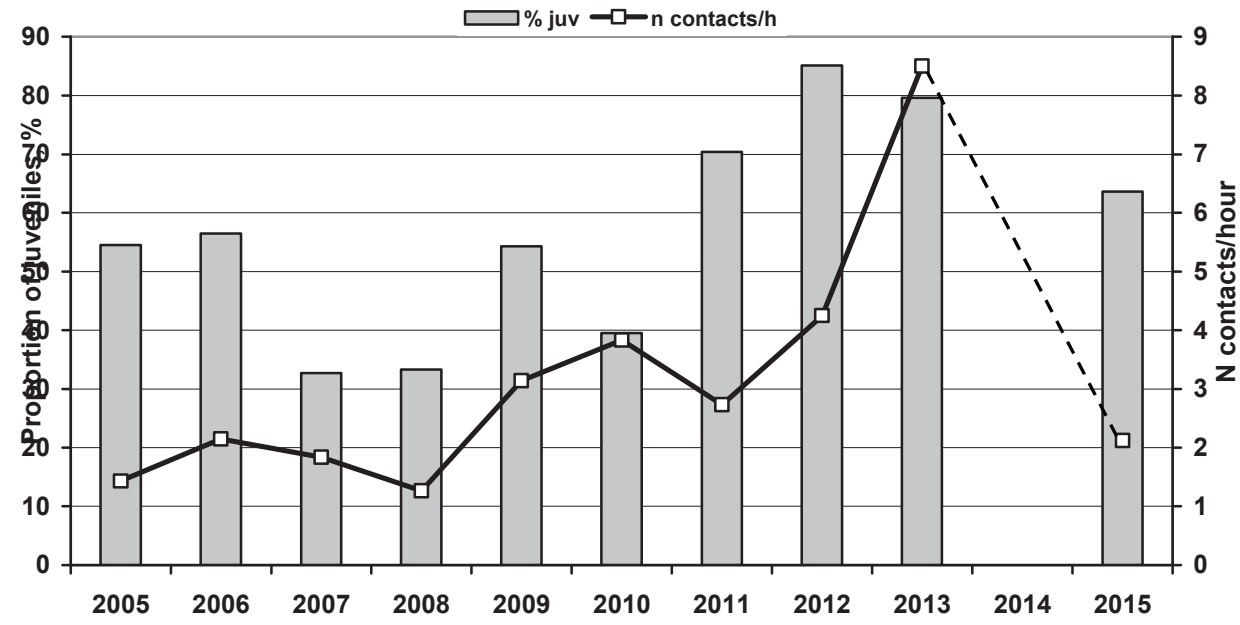

Figure 4. *Annual fluctuations of the number of contacts per hour during ringing trips and proportion of juveniles among caught woodcocks.*

Woodcock autumn migration and ringing in 2015 (Moscow Group)

SERGEI FOKIN, PETR ZVEREV
Russian Society for Conservation and Studies of Birds (BirdsRussia), Moscow woodcock research group, 70 Nizhegorodskaya str., building 1, 109052Moscow, Russia.
E-mail: fokinwoodcock@mail.ru; peterzverev@mail.ru
ALEXANDER KORMILITCIN, ELENA SEVERTSOVA
Department of Evolutionary Biology, Faculty of Biology, Lomonosov Moscow State University, Leninskie Gori 1, building 12, 119991, Moscow, Russia.
E-mail: SevertsovaEA@gmail.com

Study of autumn migration and ringing of woodcocks in Russia are the main topics of the research program linked to the scientific agreement between BirdsRussia and Office national de la chasse et de la faune sauvage (France).

In autumn 2015, 7 teams of ornithologists worked in 6 regions of Russia: Moscow, Kostroma, Vladimir, Tver', Ivanovo oblasts, and Republic of Mordovia.

In total, 116 nocturnal trips were carried out, totalizing 16 425 hours of work. 422 woodcocks were found and 104 were ringed. 4 woodcocks were recaptured after their ringing during the same autumn. Besides, 3 young woodcocks were ringed in summer on roads (Republic of Mordovia). It is one of the worst results since 2000 (Figure 1). The bad weather conditions for catching could partially explain it, especially the long absence of rain which made catching less effective than in previous years. The catching success (proportion of caught woodcocks from found ones) was only 25.6% (37.4% in 2014, for example).

Weather conditions

The low number of woodcock in the ringing period could be explained by the weather conditions observed during the period of reproduction and autumn migration.

In spring and summer, the weather conditions were not always favourable for breeding success.

After a low-snow winter, moisture reserves in the woods were weak. Spring occurred early but was long and cool.

The data collected at the meteorological station of Vladimir city (200 km to the east of Moscow), representative of Central Russia midlands, provide an example.

In the Vladimir region, the average temperature in April was 4.7°C, *i.e.* 1°C less than usual, and rainfalls were 45 mm, *i.e.* 136% of seasonal norms. In May, the average temperature was 14.5°C, *i.e.*1.9° C warmer than usual and rainfalls were 62 mm, *i.e.*138% of seasonal norms which is favourable for nesting and hatching. June was warm with an average temperature of 17.5°C, i.e. 0.9°C higher than usual and rainfalls of 78 mm, *i.e.* 163% of seasonal norms. Long heavy rains were observed from 24 to 29 June and a part of small chicks could have died during this period. July was warm and dry with an average temperature of 17.3 °C, *i.e.* 1.5°C lower than usual, and rainfalls of 55 mm, i.e. 87% of seasonal norms.

August was also warm and dry. Average temperature in August was 16.2°C (close to the seasonal norm: 16.5 °C), but rainfalls were only 37 mm, *i.e.* 60% of seasonal norms. Consequently, soil became increasingly drier in woods and food was more and more difficult to find for birds.

In September, at the beginning of Woodcock migration, weather conditions were extremely warm and dry. Average temperature was 13.9°C, i.e. 3.1°C above the seasonal norms. In the middle of the period of migration, daytime temperature rose to 28.3°C (on 25 September). At this time, the soil was very dry in woods, pastures and hayfields. Thus woodcocks did not actively visit open areas at night and no bird was found in many good sites. In Kostroma and Vladimir, we found woodcocks at night mainly in fields with high grass which made catching difficult. In September, rainfalls were only 23 mm, *i.e.* 44% of seasonal norms. Drought lasted till October during which rainfalls were only 23 mm, i.e. 38% of seasonal norms. Moreover, cold appeared after 6 October and night frosts started. Average temperature in October was 3.0°C, i.e. 1.6°C less than seasonal norms. The lowest air

temperature (-8.0°C) was recorded on 21 October with a short period with snowpack during which very few woodcocks were encountered. Obviously, on 20-21 October the majority of woodcocks had left for wintering sites and only an insignificant proportion remained till the end of October.

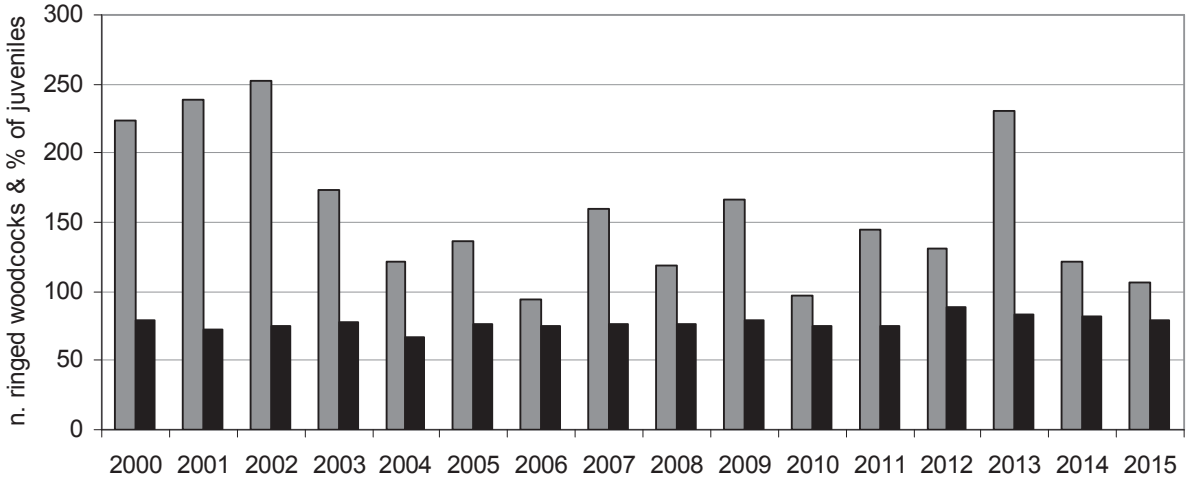

Figure 1. *Number of ringed woodcocks and proportion of juveniles in European Russia from 2000 to 2015.*

In the Kostroma region (350 km north-east of Moscow) weather conditions in April and May were close to seasonal norms of the Vladimir region which is very similar to the Kostroma region. However, June was dry (75 % of average rainfalls) and July very rainy and cold (average temperature: 2.4° C less than seasonal norms; rainfalls: 186% of seasonal norms).
The lowest air temperature in Kostroma (3.2°C) was observed on 7 July; it is a record over the last 10 years. It could affect breeding success and survival of young birds.
September was also dry and very warm, as well as in the Vladimir region, and October was dry and cool. Two waves of cold snaps (on 6 and 21 October) started practically at the same time in both areas; they were not preceded by heavy rains.

In summary, adverse weather conditions occurred this year at the time of preparation for autumn migration (August - September) and during the autumn migration (October). Night censuses and ringing results confirmed it.

Night census results and study of autumn migration

Woodcock night censuses during autumn migration were mainly carried out in the Moscow and Kostroma oblasts. In the Ivanovo and Tver oblasts and the Republic of Mordovia, despite intensive searches, the ringers found only a small amount of woodcocks. In the Vladimir region, work was carried out only during a 17-day period. The general results are given in Table 1 and 2.

Region	Ringing trip duration (min)	Total number of contacts	Average contacts/ hour	Number of ringed woodcocks	Number of retrapped woodcocks
Moscow	3 780	134	2.19	24	2
Kostroma	3 240	170	3.63	48	1
Vladimir	2 820	74	1.57	26	1
Tver'	1 755	17	0.58	5	
Ivanovo	2 110	13	0.36	0	
Mordovia	2 720	14	0.30	1	
Total	**16 425**	**422**	**1.54**	**104**	**4**

Table 1. *Details on night Woodcock censuses in Russia in autumn 2015.*

Number of contacts: 422
Number of ringed woodcock: 104
Proportion of juveniles: 79.4%
Proportion of "early brood" juveniles: 69.4%
Proportion of "late brood" juveniles: 30.6%
Number of direct retraps: 4
Number of indirect retraps: 0
Number of ringing regions: 6
Number of ringing sites: 25
Number of ringers: 12
Number of night trips: 116
Capture success: 25.6%

Table 2. *Main results of ringing in European Russia in autumn 2015 (Moscow Woodcock research group).*

As in the previous years, the maximum intensity of migration in 2015 in central Russia was observed from 22 September to 5 October. This period was warm and dry, with almost no rain. A second "wave" of migration occurred in the central regions after a cold snap from 14 October to 18 October. This was confirmed by hunters' reports. During the cold snap period hunters found woodcocks in the daytime in woods, most often in spruce; woodcocks moved later in usual habitats - oak, alder and inundated woods. Young forests after clear-cuttings, especially birch forests, were also good places during the daytime for woodcocks this year.
According hunters' reports, woodcock abundance was lower than in previous years. At the same time, some hunters with pointing dogs informed us of high concentrations of woodcocks in certain areas in the east of the Tver region, in the south of the Ryazan region and in the south of the Moscow region.

Ringing results

In total, 107 woodcocks were ringed (3 in summer). The proportion of juveniles was 79.4% that is close to the average of the previous years (Figure 1). In our opinion, reproduction success was good in 2015. The proportion of early broods (69.4%) was also in the average of previous years. Despite bad feeding conditions in autumn, the average weight of juveniles woodcocks was 352.9 g (n = 74) that it is slightly higher than in the previous two years [340.0 g in 2013(n = 171); 334.7 g in 2014 (n = 69)]. We do not have any explanation for this.

Acknowledgements

We are very grateful to the *Office national de la chasse et de la faune sauvage* (ONCFS) and to the *Fédération départementale des chasseurs de l'Isère* for financial, equipment and methodological support of this work. Also we express our gratitude to the regional ringers: Vladimir Ershov, Nikolai Sorokin, Vladimir Melnikov, Sergei Spiridonov, Andrei Blokhin and Alexander Molochaev.

Results of the 17th National Woodcock roding census in Russia

YURI BLOKHIN
State Information-Analytical Center of Game Animals and Habitats, 15, bld. 7, Krzhyzhanovsky street, Moscow, 117218 Russia
E-mail: yuri-blokhin@ya.ru
SERGEI FOKIN
Russian Society for Conservation and Studies of Birds (BirdsRussia), Moscow woodcock research group, 70 Nizhegorodskaya str., building 1, 109052Moscow, Russia.
E-mail: fokinwoodcock@mail.ru

The 17th National roding census was organized by the State Information-Analytical Center of Game Animals and Habitats, the Woodcock group, the *Rosokhotrybolovsoyuz* Association, several hunting offices and the "Russian hunter newspaper". It was carried out on 30 May 2015.
2 750 forms were sent to 32 provinces of the European part of Russia and Ural through the system of hunter societies of *Rosokhotrybolovsoyuz*. Besides, the Vologda and Karelia Hunting departments carried out an inquiry and collected data at district level. One issue of the "Russian hunter newspaper" presented the census form and the census methods, so that every reader was able to send a press-cutting with his own census results. Thus, the total quantity of forms distributed in Russia was similar to the previous years. The form itself and the census methods remained exactly the same.
By 2015, 2 456 forms were collected from 36 provinces of the European part of Russia. 725 forms (29.5 %) were rejected. Every region was more or less represented in the total of forms selected for the analysis, but Central and North regions made up the main part. 290 forms came from Vologda province, 135 from Sverdlovsk, 128 from Kostroma, 102 from Leningrad and 109 from the Republic of Mordovia. Several tens of forms were sent from many other provinces. 1-4 forms were sent from Arkhangelsk, Kaluga Novgorod and Smolensk provinces.
In total, 12 402 contacts were registered at 1 731 census points (Table 1). They represented 14 283 individuals (1.2 individuals/contact). No roding male was observed at 44 points (2.5 %) in 10 provinces. The highest numbers of contacts were registered at census points in Karelia (58 contacts; 63 individuals), Kostroma (36; 36), Vologda (34; 37), Kirov (32; 41) and Ivanovo (30; 31).
These results are considerably higher than those we registered in the past years. They were the highest for the last 16 years of observations in Karelia. However, like the previous year, a "weak" roding was observed in many areas (12).

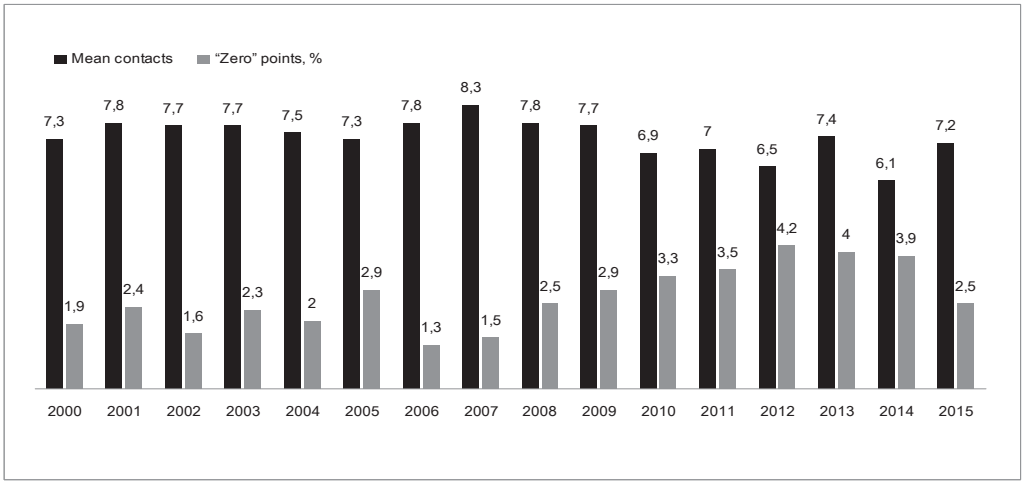

***Figure 1**. Results of the National Woodcock roding census in Russia from 2000 to 2015.*

The average roding intensity during the 2015 census was as follows:
"Poor" roding (1.8 - 5.0 contacts per 2 hours of roding) was recorded in 10 provinces: Belgorod, Voronej, Kursk, Lipetsk, Nijny Novgorod, Ryazan, Saratov, Tambov, Tula and Moscow Region, and in 2 republics: Chuvashya and Komi.

"Average" roding (5.1 - 10.0 contacts) was registered in 12 provinces: Ivanovo, Kostroma, Leningrad, Orel, Penza, Tver, Sverdlovsk, Ulyanovsk, Yaroslavl, Vladimir, Vologda and Perm, and in 5 republics: Bashkortostan, Karelia, Mordovya, Tatarstan, and Udmurtia.

"Good" roding (10.2 – 13.9 contacts) was observed in Bryansk, Kirov, and Pskov provinces.

On average, 7.2 contacts (8.3 individuals) / 2 hours of roding census were registered in 2015 in European Russia (Figure 1).

		Total		Mean		Max		
Province	**Points**	**Contacts**	**Different birds**	**contacts**	**Different birds**	**contacts**	**Different birds**	**"Zero" points (%)**
Arkhangelsk	4	44	46	11.00	11.50	17	17	0
Vologda	290	2811	3253	9.69	11.22	34	37	0
Karelia	64	588	707	9.19	11.05	58	63	0
Komi	57	262	290	4.60	5.09	19	22	0
Leningrad	102	800	949	7.84	9.30	15	28	0
Novgorod	1	15	15	15.00	15.00	15	15	0
Pskov	26	310	351	11.92	13.50	20	21	0
Bryansk	49	499	578	10.18	11.80	23	28	0
Vladimir	8	77	88	9.63	11.00	14	16	0
Ivanovo	30	280	318	9.33	10.60	30	31	0
Kaluga	1	14	15	14.00	15.00	14	15	0
Kostroma	128	1181	1319	9.23	10.30	36	36	0
Moscow Region	8	38	43	4.75	5.38	14	16	25.0
Orel	77	411	491	5.34	6.38	12	15	0
Ryazan	8	18	18	2.25	2.25	8	8	0
Smolensk	3	4	4	1.33	1.33	2	2	0
Tver	42	360	378	8.57	9.00	23	25	0
Tula	66	186	205	2.82	3.11	16	18	3.0
Yaroslavl	80	768	859	9.60	10.74	27	28	0
Belgorod	38	67	73	1.76	1.92	5	6	31.6
Voronej	59	179	215	3.03	3.64	24	28	22.0
Kursk	14	67	97	4.79	6.93	11	12	0
Lipetsk	27	114	136	4.22	5.04	8	12	0
Tambov	77	361	373	4.69	4.84	15	16	1.3
Nyjny-Novgorod	21	93	119	4.43	5.67	14	22	14.3
Kirov	41	479	558	11.68	13.61	32	41	0.0
Mordovya	109	547	653	5.02	5.99	14	15	0.9
Chuvashya	22	99	112	4.50	5.09	8	14	0.0
Penza	9	54	68	6.00	7.56	18	26	0.0
Saratov	29	68	84	2.34	2.90	9	9	27.6
Tatarstan	12	80	82	6.67	6.83	17	17	0.0
Ulyanovsk	53	283	345	5.34	6.51	19	24	1.9
Bashkortostan	8	56	59	7.00	7.38	21	21	12.5
Perm	19	180	213	9.47	11.21	16	18	0.0
Sverdlovsk	135	923	1061	6.84	7.86	23	23	0.0
Udmurtya	12	71	91	5.92	7.58	15	17	0.0
TOTAL	**1731**	**12402**	**14283**	**7.16**	**8.25**	**58**	**63**	**2.5**

Table 1. *Results of the 17th National Woodcock roding census in Russia in 2015.*

Hunting bags of Woodcock, snipes and other waders in Russia

YURI BLOKHIN, ALEKSANDR SOLOKHA, KIRILL GOROKHOVSKY
State Information-Analytical Center of Game Animals and Habitats, 15, bld. 7, Krzhyzhanovsky street, 117218, Moscow, Russia
E-mails: yuri-blokhin@ya.ru; ornitolog@ohotcontrol.ru
ANTON MEZHNEV
Ministry of Natural Resources and Ecology of the Russian Federation, 4/6, Bolshaya Gruzinskaya street, 123995, Moscow, Russia
E-mail: meznev@mnr.gov.ru
SERGEI FOKIN
Russian Society for Conservation and Studies of Birds (BirdsRussia), Moscow woodcock research group, 70 Nizhegorodskaya str., bld 1, 109052, Moscow, Russia.
E-mail: fokinwoodcock@mail.ru

According to the Hunting Law of the Russian Federation of July 24, 2009 (N209-FZ), hunting of waders is allowed for 9 species: Lapwing (*Vanellus vanellus)*, Grey Plover (*Pluvialis squatarola)*, Dotterel (*Eudromias morinellus)*, Turnstone (*Arenaria interpres)*, Ruff (*Philomachus pugnax)*, Redshank (*Tringa totanus)*, Terek Sandpiper (*Xenus cinereus)*, Jack Snipe (*Lymnocryptes minimus)* and Woodcock (*Scolopax rusticola*), as well as on 5 species groups: godwits (*Limosa sp.*), dowitchers *(Limnodromus sp.)*, curlews (*Numenius sp.)*, snipes (*Gallinago sp.)* and sandpipers (*Tringa sp., Actitis sp., Heteroscelus sp.*).
These groups represent 18 wader species which can be encountered in Russia and are not protected at national level. Thus, altogether 27 wader species are allowed to be hunted, of which only Woodcock can be hunted in spring. Woodcock, Common Snipe (*Gallinago gallinago*), Great Snipe (*G. media*) and Jack Snipe are the most popular species due to a particular interest of hunters who own dogs and, regarding Woodcock, because spring hunting is widely distributed. The other waders are occasionally bagged, although in some regions hunting from a hide exists for different migratory waders as well as hunting of curlews at feeding or migration sites.

Russian legislation requires the collection of hunting bag statistics including data on waders. Over recent years, this topic has been presented in several publications, most of which included Woodcock harvest data, while there was a lack of data about bags of other waders (Blokhin *et* al. 2002, 2005, Blokhin *et* al. 2006).

Materials and Methods

The wader bag estimates for spring and summer-autumn seasons presented below are only based on analysis of reports received from regions through the Russian governmental system of hunting management set up in 2000. The most complete information is presented for 6 years (2003, 2005, 2006 and 2011-2013). Additionally, Woodcock bag data are available for the years 2001, 2002, 2004 and for the 2007 spring season. Data are absent only for autumn from 2007 to 2010, when bag data was not reported to the national authority. Bird hunting bag statistics are based on the hunters' reports attached to hunting licenses. The regional authorities collect these original data and compile the summarized spreadsheets, which are then reported to the Ministry of Natural Resources and Ecology of the Russian Federation. Afterwards, these data become available for our analysis. Although incomplete, the wader data became available in recent years for a nation-wide analysis, which was not possible before (Fokin & Blokhin 2013).
We made corrections to the data based on the proportion of licenses that were delivered and returned, and on the number of birds reported in returned licenses. Estimations of total bags for each season were made for each administrative region of Russia. When data were not available for some years, these were replaced by the average hunting bag value during several years or even for one year. However there are no data at all for some regions, such as the Altai and Khabarovsk provinces, the Buryat, Dagestan, Ingush and Yakut (Sakha) republics and for Amur, Murmansk and Orenburg regions.

Results and Discussion

Over the last years, collection of reports about harvesting of species allowed to be hunted has been improved. However, the bag data collection is still far from perfect, and data on waders, except Woodcock, are very scarce or even absent from several regions, especially in the Asian part of Russia (Table 1).

Woodcock

Average Woodcock spring hunting bag in Russia was 166 000 birds in 2000 and 213 300 birds in 2010. The bag has increased in Central (CD), Northwestern (NW), Volga (VR) and Ural (UD) federal districts. In the XXIth century, the average Woodcock spring bag was high in CD (91 100 birds; 48%) and much lower in NW (45 900; 24.2%) and VR (39 900; 21%) (Figure 1). The share of the other federal districts in the total bag is relatively low. From 2000 to 2013, between 11 000 and 17 000 woodcocks (44.3% of the total bag) were shot in Vologda, Leningrad, Moscow, Nizhny Novgorod, Tver and Yaroslavl regions. Between 6 000 and 9 000 birds (26.1% of the total bag) were bagged in Kaluga, Kostroma, Novgorod, Vladimir, Smolensk, Kirov, and Sakhalin regions. From 3 000 to 5 000 birds (19% of the total bag) were shot in Arkhangelsk, Bryansk, Ivanovo, Penza, Pskov, Ryazan, Sverdlovsk, Tula and Perm Provinces. The other regions reported less than 3 000 bagged woodcocks each.

Federal Districts	Number of regions	Proportion (%) of regions which reported data on the species				
		Common Snipe	Great Snipe	Jack Snipe	Woodcock	Waders *sp.*
Central (CD)	17*	94.1	82.4	35.3	100	52.9
Northwestern (NW)	10**	70.0	50.0	10.0	90	70
Volga Region (VR)	14	85.7	64.3	21.4	92.9	71.4
Southern (SD)	6	33.3	33.3	16.7	100	83.3
North Caucasus (NC)	7	0	0	0	71.4	14.3
Ural (UD)	6	33.3	33.3	0	66.7	83.3
Siberian (SbD)	12	58.3	25.0	0	58.3	58.3
Far Eastern (FE)	9	22.2	0	0	60***	55.6
Total/ Average in Russia	**81***	**59.3**	**43.2**	**13.6**	**88.3*** **	**59.3**

* without Moscow
** without Saint Petersburg
***without Kamchatka Province, Magadan Region, Yakut Republic and Chukotka Area, where Woodcock is absent or very rare

Table 1. *Distribution of available harvest data on wader hunting bags across federal districts.*

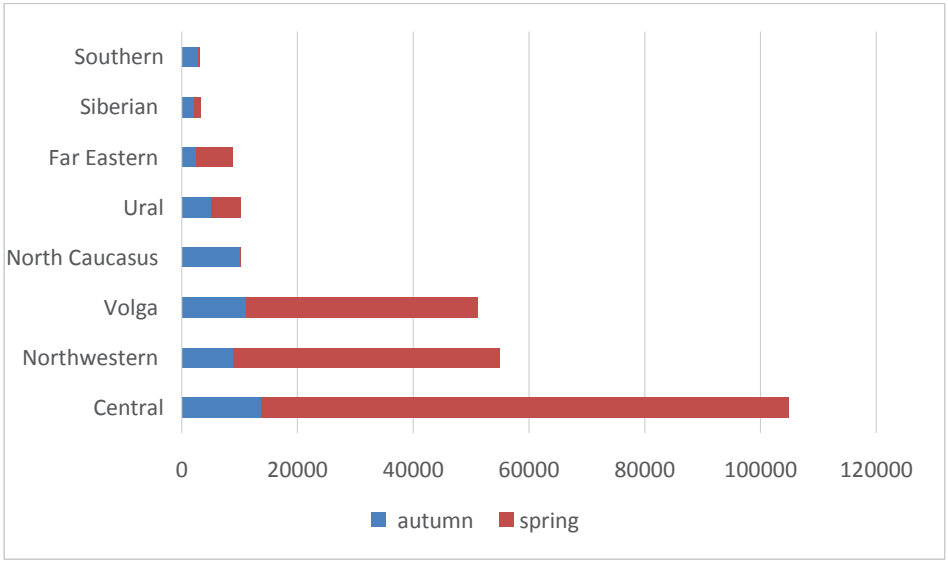

Figure 1. *Woodcock spring and autumn hunting bag in Russian federal districts in the XXIth century (mean/year).*

Average Woodcock autumn bag was 59 400 birds in the first decade, and 50 500 birds in the second decade of the XXIth century. The CD, NW and VR federal districts reported a higher harvest in 2010 than in 2000 and, on the contrary, the NC, UD, SD, SbD (cf. to Table 1) federal districts reported a lower bag in 2010 than in 2000. During the 2000-2013 period, high woodcock hunting bags were reported in CD (average 14 000 birds; 25.5%), VR (11 500; 20.9%), NC (9 200; 16.8%) and NW (9 200 birds; 16.7%) (Figure 1). Among administrative regions of Russia, the Stavropol Province reported high bags (average 8 000 birds) while a number of regions (Nizhny Novgorod, Vologda, Leningrad, Sakhalin, Sverdlov, Yaroslavl, Chelyabinsk, Perm and Krasnodar) reported each from 2 000 to 4 000 woodcocks. These 10 regions represented 58.3 % of the total Woodcock autumn bag in Russia.

Together with the spring bag, the woodcock proportion in the total woodcock-snipe bag reaches 92%. Yearly (spring and autumn) on average, 248 100 woodcocks were hunted, of which 42.2% in CD, 22.2% in NW, 20.4% in VR, and 15.2% in the other regions.

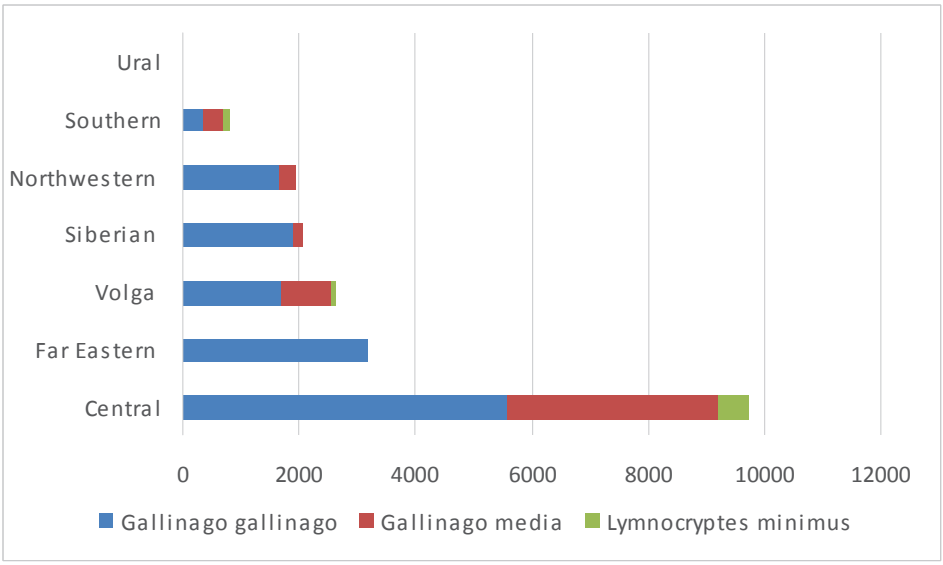

Figure 2. *Average hunting bag of the Common Snipe, Great Snipe and Jack Snipe in Russian federal districts in the XXIth century.*

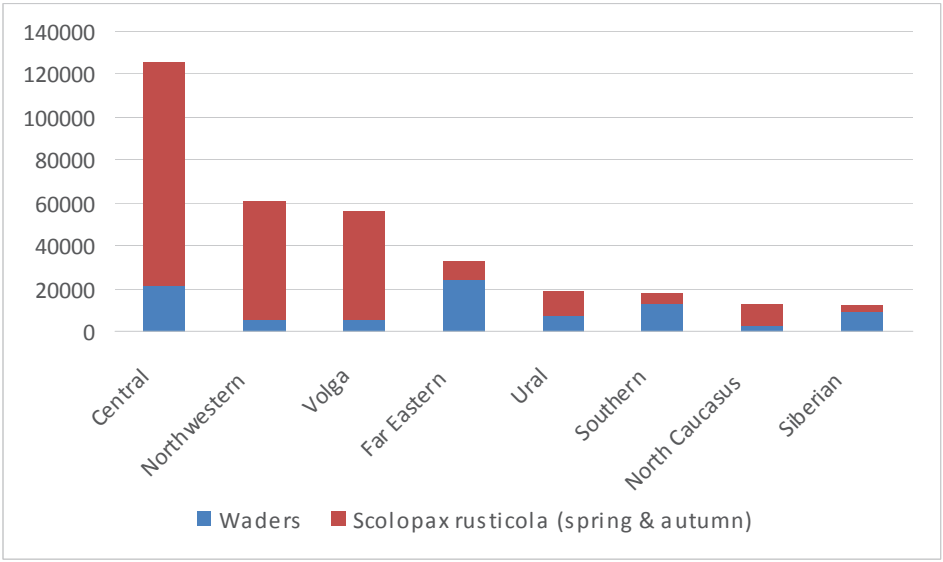

Figure 3. *Average hunting bag of Woodcock compared with other waders during the total hunting season in Russian federal districts.*

Common Snipe

Incomplete data were collected in previous years. From this data set, we observed that the Common Snipe autumn bag varied from 12 000 (2011) to 18 000 (2003), with 14 100 birds on average. Among federal districts (Figure 2), a high average bag was reported from CD (5 400 birds; 38.1%), while lower Common Snipe bags were observed in FE (3 200; 22.4%), SbA (1 900; 13.3%), VR (1 700; 11.9%) and NW (1 600; 11.6%). In European Russia, 870 Common Snipes were annually shot in average in the Leningrad region, 828 birds in the Tver region, 707 in the Moscow region and 677 in the Kursk region. In Asian Russia, in average 2 000 Common Snipes were bagged in the Sakhalin region, 1 320 in the Omsk region and 1 163 in the Primorsky Province.

The total Common Snipe hunting bag has decreased in all Russia compared to 2000, but especially in CD and VR in the last years while in NW it slightly increased.

Great Snipe

Scarce information was collected on this species. However, based on these data, the Great Snipe bags in Russia ranged from 4 300 (2011) to 6 700 (2013). In the XXIth century, high bags were reported from CD (3 600 birds; 68.3%), VR (900 birds; 16.2%), SD (340 birds; 6.4%) and NW (270 birds; 5.1%). 700 Great Snipes were annually bagged in average in Moscow and Tver regions and 500 in Nizhny Novgorod region.

The Great Snipe hunting bag did not change significantly in 2010 compared with 2000.

Jack Snipe

Based on scarce data collected in different years in the XXIth century, the hunters shot from 600 (2003) to 800 (2006) Jack Snipes. A high bag was reported from CD (530 birds; 75.4%). The Tver and Belgorod regions were the most successful: on average 220 and 150 birds shot annually, respectively.

Other waders.

Some Russian regions reported low harvests of Lapwings, Sandpipers, Curlews and Black-tailed Godwits. The other waders were not mentioned and in some regions can be included in the category “non identified waders”.

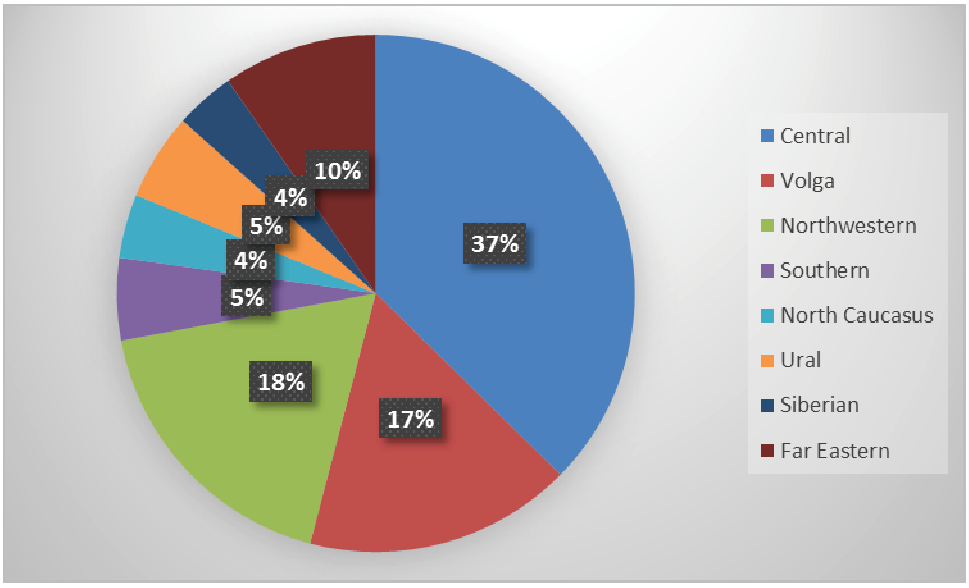

Figure 4. *Distribution of hunting bags of Woodcock, Snipes and other waders in Russian federal districts in spring and summer-autumn hunting seasons.*

Conclusion

On average, the annual summer-autumn bag for Woodcock and Snipe species was 76 400 birds: 56 300 Woodcocks, 14 100 Common Snipes, 5 300 Great Snipes, and 700 Jack Snipes. Thus Woodcock represented 73.7 % of the total autumn bag, whereas, for example, Jack Snipe represented less than 1%.

The annual summer-autumn bag for all wader species was 145 100 birds, with high bags reported from the Central (34 800 birds) and Far Eastern (26 200 birds) federal districts. These harvest statistics included Woodcock and Snipe species' data as well as data on the "non identified waders" group, which, in turn, is likely to consist of Woodcock and Snipes, as well as Wimbrels in Far East regions (e.g. Kamchatka, Sakhalin).

Over all the hunting period, the average total bag of waders, including Woodcock, was 336 900 birds, of which 56.9% were hunted in spring and 43.1% in autumn. In Central, Volga and Northwestern federal districts, where hunting of roding Woodcocks is popular, the spring bag is several times higher than the autumn bag, whereas other Federal Districts present the opposite situation (Figure 3).

Most of the annual bag of all waders (72.1%) was reported from CD, VR and NW (Figure 4). The highest bags were reported from the Moscow region (20 700 birds), the Leningrad region (19 100 birds), the Nizhny Novgorod region (18 800 birds), the Yaroslavl region (17 300 birds), the Sakhalin region (17 000 birds), the Tver region (16 500 birds), the Vologda region (14 900 birds) and the Stavropol region (10 500 birds).

It should be especially mentioned that the official bag data about birds, as a rule, are strongly underestimated, which becomes clear through the statistic treatment of original data (Blokhin *et al*. 2006, Blokhin 2008 and others.).

Although there are many disadvantages in the bag data collection, especially regarding migratory waterbirds, the situation is gradually improving, due to which this publication became possible. Despite the obvious inaccuracy of our estimations, we assume that we got approximate bag totals at least for the main wader species allowed to be hunted at the level of federal districts and administrative regions (Figure 5).

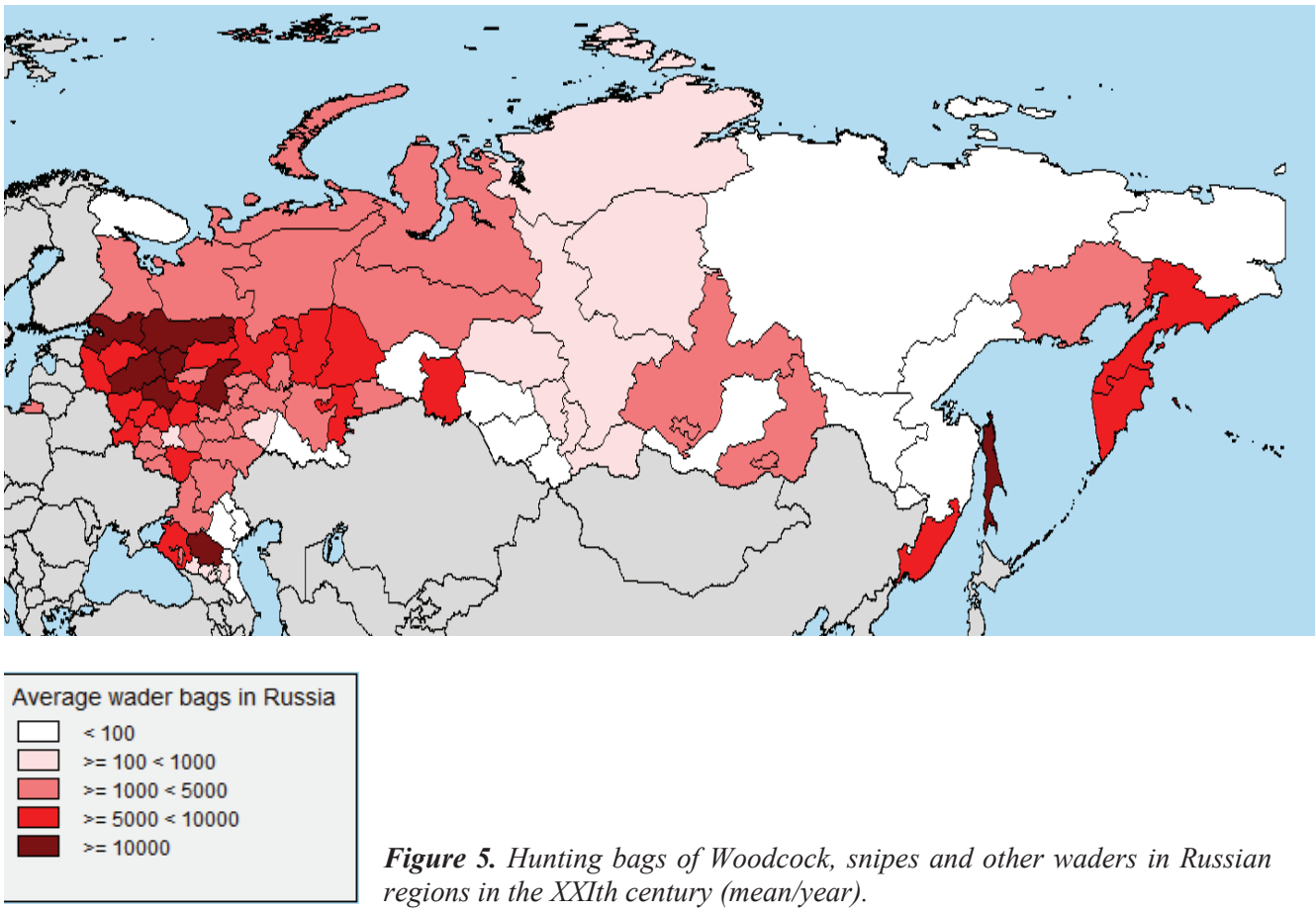

Figure 5. *Hunting bags of Woodcock, snipes and other waders in Russian regions in the XXIth century (mean/year).*

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Snipes of the Schuchya Valley and flood land of Ob river (Western Siberia)

ANDREY BLOKHIN
Russian Birds Conservation Union, 111123, Moscow, Entuziastov roadway, 60/1, Russia
E-mail: andrey-ecs@yandex.ru
IVAN TIUNOV, Institute of Biology and Soil Sciences FEB RAS, 690022, Vladivsotok, Stoletia Vladivostoka ave 159, Russia
E-mail: ovsianka11@mail.ru

The current state of nesting habitat and numbers of Snipe species the hunting of which is authorized in western Siberia are of great scientific and practical interest for researchers and hunters of Russia and foreign countries.

Despite the numerous studies (Danilov *et al*., 1984; Ryabintzev, 2008; Lappo *et al*., 2012, for example) data on numbers, distribution and biology of snipes of this large region are still relevant. In 2004, an expedition was organized in north western Siberia within the framework of research projects based on the agreement between the Russian Birds Conservation Union (RBCU) and *Office national de la chasse et de la faune sauvage* (ONCFS): "The study of the reproduction of Common Snipe (*Gallinago gallinago*) in Russia" and "Study of reproduction of Jack Snipe (*Lymnocryptes minimus*) in Russia" (Blokhin & Fokin, 2005).

The main goals of this expedition were to determine the residence status of Snipes in the field of study and estimate the nesting numbers of these species in the fields of interest.

Characteristics of the studied area

The study area is a part of the Priuralski region of the Jamalo-Nenets autonomous district and is situated in the south-western part of Jamal peninsula. Only 1.5 person per km^2 lives in the area of 64 000 square kilometers. The study area is situated behind the polar circle. Inclement climate and "permafrost" determine the intensity of animal biological cycles. The area is characterized by a late spring and "polar days" during the reproduction of birds. Shchuchya River is one of the biggest rivers of Jamal peninsula. It rises in the polar part of Ural Mountains, flows along the plain and into the Ob River. Upper Shchuchya River is situated between the forest-tundra and south tundra. The Ob river near Salekhard flows in the forest-tundra zone. The habitats are made of dry and swamped areas. A clamp of bushes divides open and overgrown oxbow lakes with quagmires and islands. Cereal-sedge-motley grass associations, hummocky, waterless and wet valleys with borders composed of bushes, tree-like Willows (*Salix* sp.) and Alder-trees (*Alnus* sp.) are typical in this area.

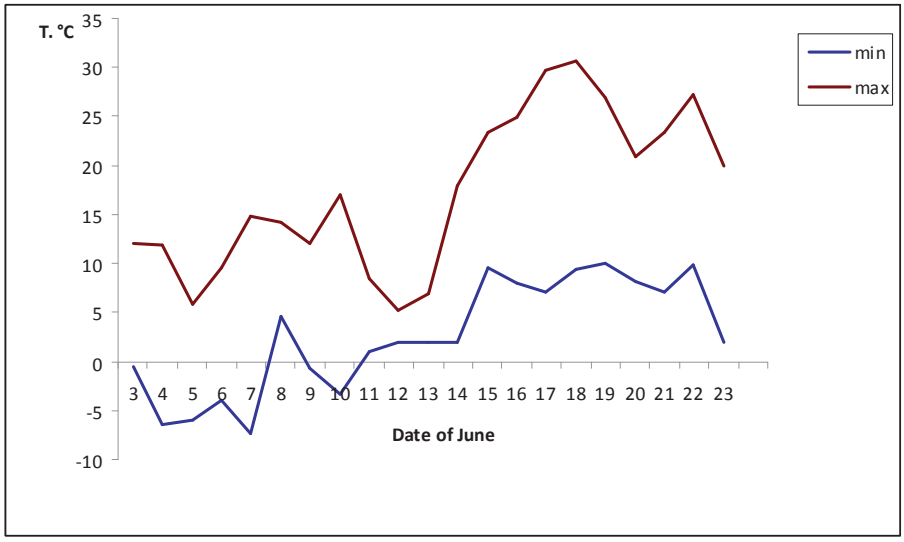

Figure 1. *Maximum and minimum air temperatures in the upper Shchuchya River in June, 2004.*

Weather conditions

Spring 2004 was early and long-lasting in North West Siberia. Ice in the upper Shchuchya River began to break before our arrival, but a bend of the river near the camp was plugged with ice until the 20th of June. The river level dropped 20-30 cm per day and had dropped 2 m by the 13th of June. Water rose again to its previous level after the sharp rise of temperature (Figure 1), snowmelt and heavy rains. The water level decreased slowly from the 21st of June. Ice on thermokarst lakes in tundra and snow on the northern slopes lasted until the end of observations. Minimal night temperature of 0-7.4°C was registered on 11th of June. Maximal day temperature over 20°C degrees was registered on 20th of June (Figure 1). Abnormally hot weather with day temperatures up to 30°C degrees and a water temperature of 20°C degrees in the Ob River close to the dam were recorded in the second half of the month.

Materials and methods

The area in the upper part of the Shchuchya River (67°29'N, 67°25'E) was studied from 3rd to 23rd of June, in order to explore the habitat features of Common Snipe, Jack Snipe and Pintail Snipe (*Gallinago stenura*). All biotopes in the surroundings of the camp limited by natural water obstacles (24 km^2) were studied: river banks, creeks and lakes, swamps, and forest tundra. Observations were carried out by 2 ornithologists in a single site to record behavioral data, mainly the daily activity of snipes (Blokhin *et al*., 2004). The observation period was 20 days (470 hours). The site (20 ha) was situated near the camp at the Shchuchya River and included flooded sites and both river banks with boggy places and bushes. 32 short constant transects laid in different biotopes were visited. The total length was 173 km and observations took 93 hours. Birds were counted independently of the detection distance (Ravkin, 1967). Counting of males on leks provides data on the density of breeding sandpipers. Higher values were obtained when taking into account all encountered Snipes including non hatching females.

Fieldworks continued in the Ob River floodplain (66°38'N, 66°31E) from 24th to 28th of June. Here, the left bank of the floodplain where a vast water area had appeared as a result of a dam construction on Vil-Post canal, was surveyed. At this site, 8 transects (18.4 km long in total) were visited. A site (20 ha) was chosen at one spit in which observations were conducted during 12 hours from 25th to 28th of June.

According to the census method (Blokhin *et al*., 2004) censuses should be carried out only when the weather is favourable. Weather conditions described from different parameters (precipitation, wind, etc.) were evaluated as "good", "satisfactory" and "bad" for observations (Blokhin *et al*., 2009; Blokhin, 2010).

Results and discussion

Shchuchya River

Jack Snipe

Twenty two contacts (29 individuals) were registered during 9 days from 4th to 14th of June (Figure 2). Birds were encountered at a distance ranging from 1 to 300 m (69±12 m on average; n=22). 79% of all encountered Jack Snipes were found at the 20 ha site, whereas 21% were registered on the routes. All individuals were registered from 12.00 to 24.00. The highest activity of displaying males was noted from 16.00 to 17.00 and from 21.00 to 22.00 (Figure 3). Singing males were found 5 times (7 individuals; Figure 2). The displaying time of all individuals was short and consisted of 1-2 "songs". The last displaying Jack Snipes were registered on 14th of June. This might support the hypothesis that males display during migration and means that all males are present for a short period. At the end of the first decade of June and at the beginning of the second decade, the silent or feeding birds represented 79 % of contacts. The peak number of Jack Snipes observed was registered on 9th of June (Figure 2). A stable north-western direction of flying individuals or "pairs" was noticed in the river floodplain. Single individuals represented 68 % of contacts. Jack Snipe distribution according to habitats showed a preference for floodplains of river and streams (Table 1). Displaying Snipes were registered in every habitat. So Jack Snipe appears to be a species whose presence is scarce. It was only found in the first half of June. In our view, the main limiting factor for Jack Snipe is the absence of nesting habitats in this part of Jamal Peninsula.

Percentage (%)	Habitat						n
	Lake	Swamp	Floodplain	Island	Stream	Tundra	
Contacts	9,1	13,6	54,5	9,1	9,1	4,5	22
Total individuals	6,9	10,3	65,5	6,9	6,9	3,4	29
Displaying individuals			71,4		28,6		7

Table 1. *Jack Snipe distribution in habitats at the Shchuchya River in June, 2004.*

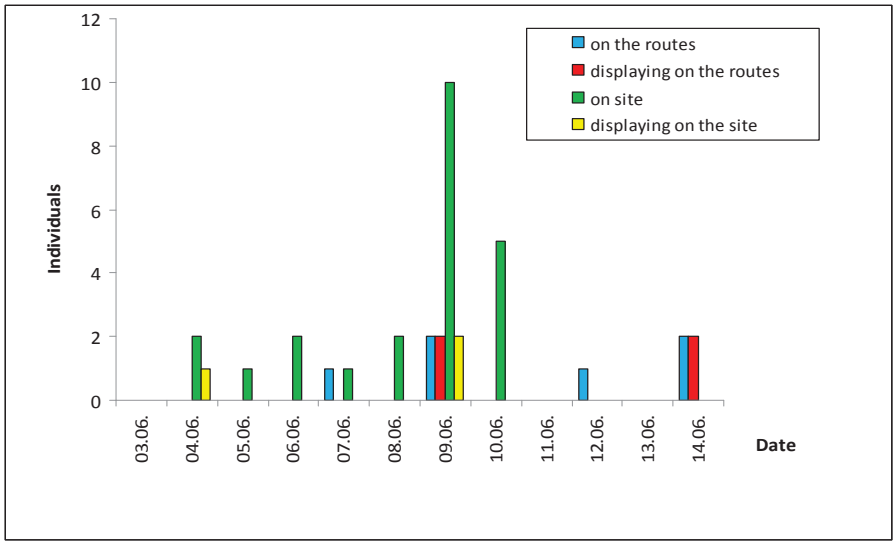

Figure 2. *Jack Snipe numbers found in surroundings of the camp at the Scshychya River in 2004.*

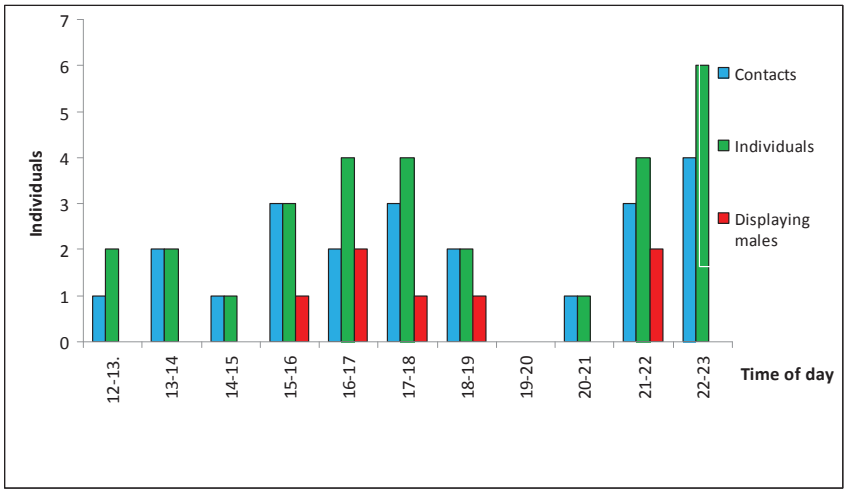

Figure 3. *Daily activity of Jack Snipe at the Scshuchya River in June, 2004.*

Pintail Snipe

This species was observed at the site of observation (20 ha) and on the routes from 7th to 22nd of June. The highest activity of displaying males was registered from 9 to 10 am and from 5 to 6 pm at the observation site and from 7 to 8 am on the routes (Figure 4). 57 contacts were noted representing 81 individuals including 72 displaying males. Birds were registered at a distance ranging from 5 to 400 m (82.1±6.3 on average; n=40). Displaying Pintail Snipes represented 86 % of all individuals registered at the site of interest, and 91 % were registered on the routes (Table 2). The highest number of displaying individuals was observed on 15th and 16th of June at the site, and on 12th of June on the routes (Figure 5). The highest density of Pintail Snipes was registered on the routes in the first decade of June (14.4 ind/km^2), the density decreased in the second half of June. Compared with data provided by other authors (Lappo *et al*., 2012) abundance of Pintail Snipe in this region is high and the species occupies an optimum range.

Pintail Snipe was only registered in flat tundras of watersheds, floodplain terraces, and rarely in high floodplains. All contacts were linked to water (puddle, stream, lake) among hills and artificial elevation of relief (railway embankment, stone quarry). Pintail Snipe has never been encountered in the swampy areas.

Data	Routes (km)	Number of contacts	Number of individuals		Density, ind/km²
			Total	Displaying	Displaying
07.06	9	5	5	5	14.4
11.06	3	1	4	4	13.3
12.06	9	10	14	14	11.1
12.06	12	3	3	1	0.8
14.06	10	4	5	3	3.4
15.06	9	5	5	5	8.9
20.06	3	1	3	3	10
20.06	4	1	1	1	2.5
21.06	3	1	2	2	6.7
21.06	10	1	4	4	8
22.06	18	4	6	5	2.5
22.06	3	1	1	1	3.3
Total	**93**	**38**	**53**	**48**	

Table 2. *Pintail Snipe abundance on the routes around the Shchuchya River.*

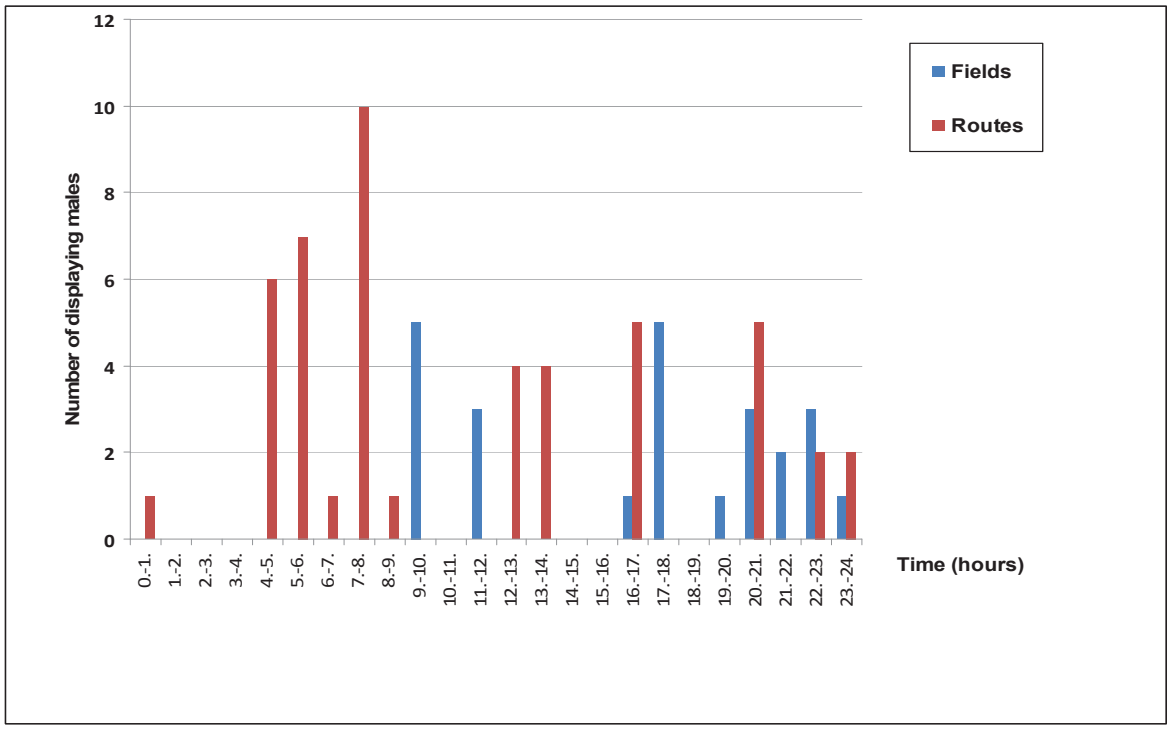

Figure 4. *Daily activity of Pintail Snipe at the Shchuchya River in June, 2004.*

Common Snipe

237 contacts (260 individuals) were registered at the site of interest within 21 days (3-23 June) and 87 % of all individuals were displaying males (Table 3). 79 Common Snipe individuals were observed on the routes within 13 days (4-22 June), 57 % of which were displaying males. Birds were registered at a distance ranging from 2 to 250 m (63±4.7 m on average; n=72). Snipes were not observed on 16 routes representing 39 % of the total length of routes. Such a significant fluctuation amplitude of Snipe density (from 53 to 1.1 ind/km^2) was linked to the end of the migration flights in the first decade of June.

The density fluctuation of territorial males coincided with the end of migration flights of Snipes (4th June) and the end of the night frost period. Adding to this, maximum day temperature and floodplain flooding were registered on 17th of June and a decrease of extremely high day temperatures and fresh rains were observed on 23rd of June (Figures 1 & 6). Density fluctuations of displaying Snipes (from 35 to 15 ind/km^2) and the highest activity of displaying Snipes (from 0.5 to 1.42 ind./hour) were registered during this period (Table 3). The highest number of individuals and the highest activity of Snipes at the site of interest were registered on 10th and 17th of June (Figure 6). The highest daily activity of displaying males at the site of interest was recorded from 21.00 to 22.00 (Figure 7). According to Blokhin *et al.* (2009) and Blokhin (2010), activity of displaying Snipes depends on weather. 68 % of all Snipes met at the site of interest were registered in "good" weather, and 85 % were displaying males. In case of "bad" weather, Snipes were not found on the routes (Figure 8). Distribution, abundance and activity of displaying males in the Shchuchya River valley varied widely depending on habitat. Snipes were not met at watersheds. Up to 87 % of displaying Snipes were found in the low floodplain and only 13 % were observed in the high floodplain. Migrating and nesting Snipes were encountered in different water courses: river network, lakes, and puddles. The most attractive habitat for Common Snipes was low sedge fens.

Data	Number of contacts	Number of individuals		Displaying activity (ind/hour)	Territorial males	Density (ind/km^2)	
		Total	Displaying			Field of study	Routes (km)
03.06	2	3	3	0.13			
04.06	14	14	12	0.5	7	35	53
05.06	13	13	11	0.46			
06.06	1	1	1	0.04			
07.06	8	11	2	0.08			6.7
08.06	13	14	14	0.58			
09.06	13	18	10	0.42			2
10.06	31	36	34	1.42	4	20	12.5
11.06	20	20	20	0.83			
12.06	7	7	7	0.29			1.7
13.06	4	4	3	0.125			
14.06	15	16	16	0.67			5
15.06	7	8	8	0.33			1.1
16.06	5	6	4	0.17			13.3
17.06	25	27	21	0.88	4	20	
18.06	5	5	4	0.17			20
19.06	3	3	3	0.13			1.1
20.06	13	14	12	0.5			
21.06	12	12	12	0.5			7.5
22.06	11	13	13	0.54			3.8
23.06	15	15	15	0.63	3	15	
Total	237	260	225				

Table 3. *Common Snipe abundance at the site of interest at the Shchuchya River in June, 2004.*

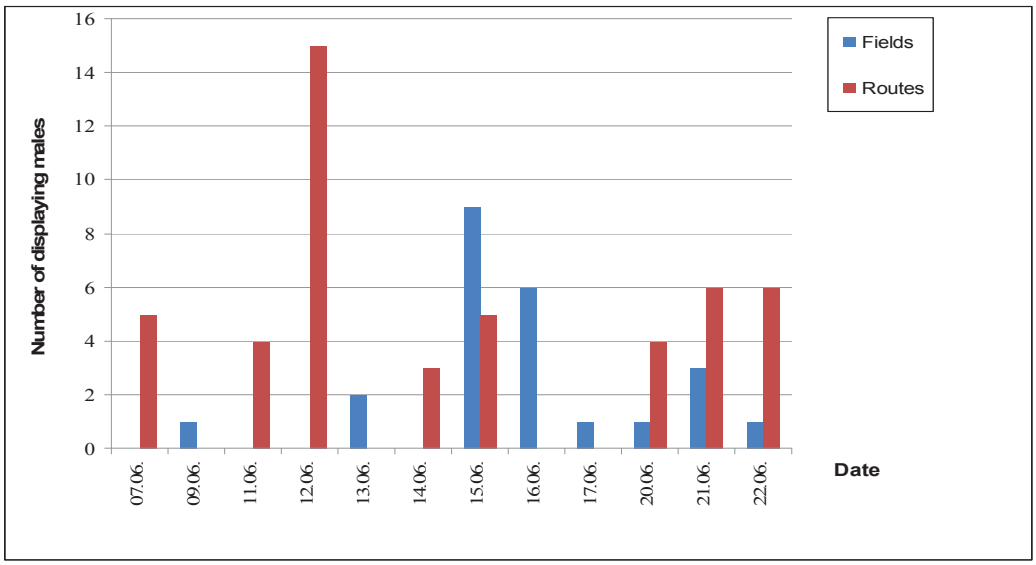

Figure 5. *Fluctuation of the numbers of Pintail Snipe displaying males at the Shuchya River in June, 2004.*

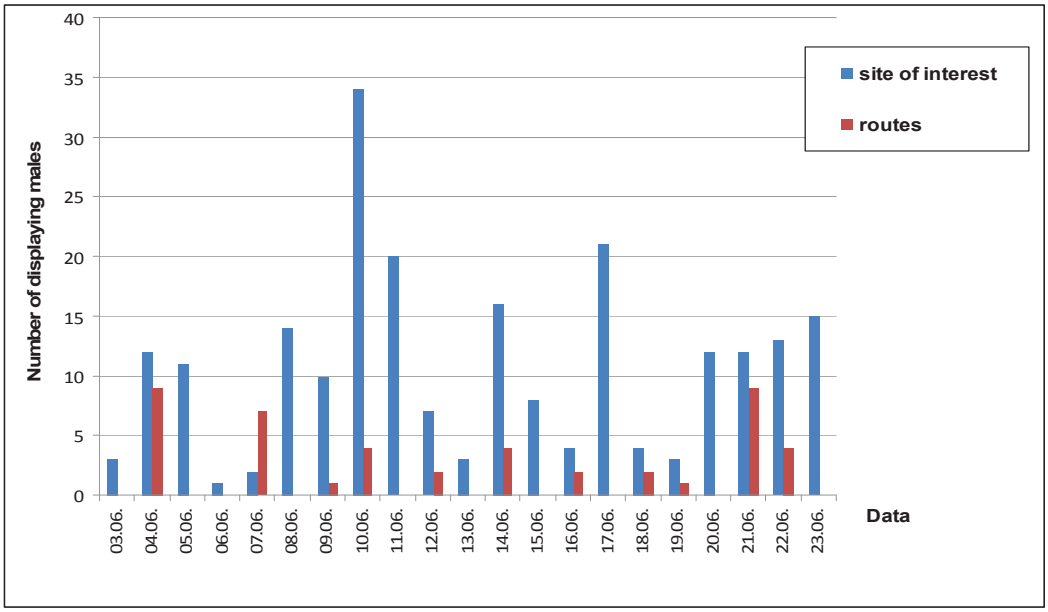

Figure 6. *Fluctuation of numbers of Common Snipe displaying males at the Shchuchya River in June, 2004.*

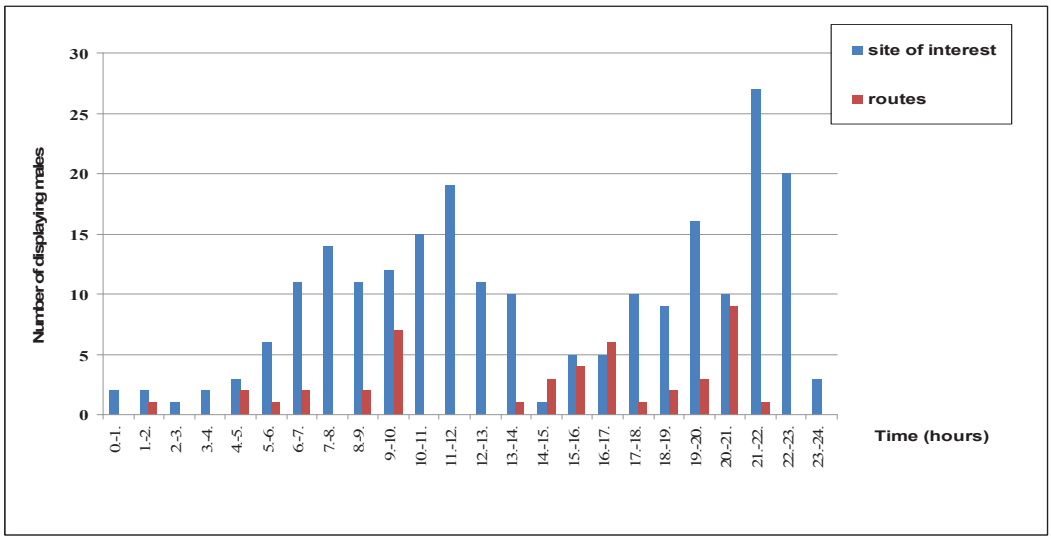

Figure 7. *Daily activity of displaying Common Snipes registered on 3-23 June 2004 at the Shchuchya River.*

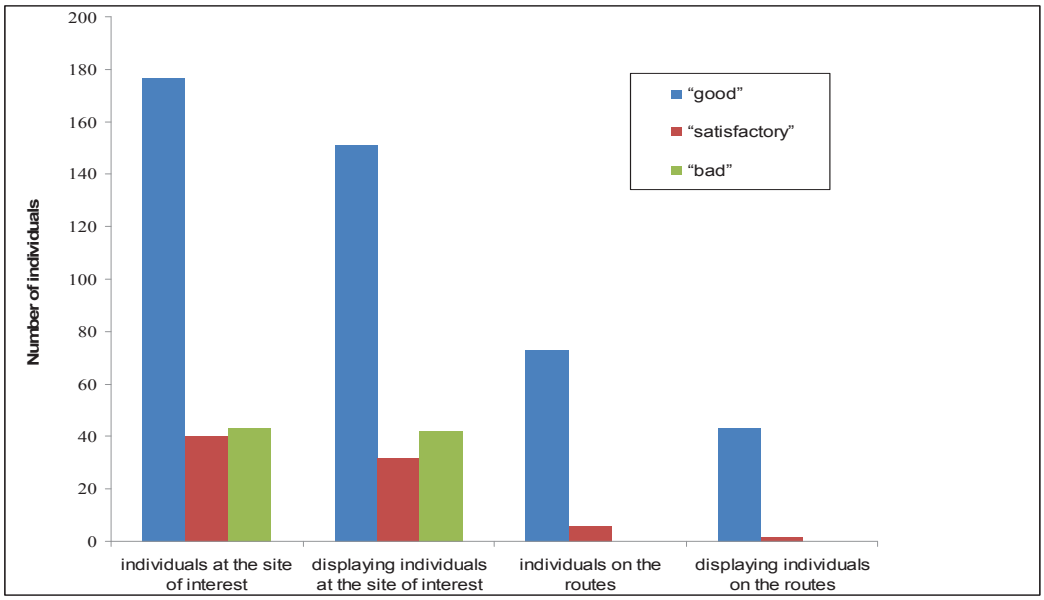

***Figure 8**. Common Snipe activity in relation with weather conditions at the Shchuchya River in June, 2004.*

Ob River

The only species registered here is Common Snipe. 32 individuals (75 % displaying Snipes) were observed on the routes. Snipes were found along the floodplain and the highest bird density was registered at sites that were partially swampy or submerged by river spit water (5-10 cm high) on 24th of June. The Common Snipe density was high in the last decade of June. The Snipe density was overestimated because of the short length of routes (from 6.7 to 77 ind/km^2). 140 individuals including 113 dispalying males were met in fields. In this habitat, a very high activity of displaying males was observed (up to 12.4 ind./hour) (Table 5). However, displaying Snipes were not found on 28th of June probably due to abnormal hot temperatures.

Based on our observations, we would like to outline that Common Snipe is in its optimum range and has a high abundance in the study areas (Shchuchya River, Ob River). At the Shchuchya River we covered the last phase of Common Snipe spring migration and the total period from incubation to hatching. According to the display of males, most pairs started nesting a little bit later than the usual time (the only clutch of 4 eggs found on 16th of June was highly incubated). Common Snipe density varied widely depending on habitats. A decrease of density and males' activity were registered in the second half of June, while the highest displaying activity was observed on 10th of June. The maximum daily activity was registered from 21.00 to 22.00. Favourable weather clearly promoted Snipe displaying activity.

Data	Displaying activity (ind/h)	Territorial males (ind)	Density (ind/km^2)	Time of observation (h)
25.06	7	5	25	16:00-19:00
26.06	12.4	7	35	12:10-17:45
27.06	9	4	20	17:00-19:40

***Table 4.** Common Snipe abundance at the site of interest in the Ob River floodplain in June, 2004.*

Acknowledgements

We would like to express our deep gratitude to M.G. Sokolov for participation in the expedition.

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2015 European Russia 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 2015, 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 2015, the census of "drumming" males of Snipe was made at the same control sites and with the same protocol as in 2012 (Blokhin 2012). It was carried out in 12 provinces/Republics of the Russian Federation. Finally, 124 plots were visited in 2015 for a total area of 83.29 km^2.

Weather conditions of the 2015 season and their effect on Common Snipe

North region (south tundra and forest-tundra).
Winter was snowy and spring was early and short. In mid-May, a strong snow melt and high and prolonged floods were recorded. The water drop began only in mid-June. Snow came off early, by the end of May. The summer was cold with frequent rains which is unfavourable for Snipe broods. In June, drumming Common Snipes were numerous, but in July adult birds became rare, and young birds were totally absent.

North region (north and middle taiga).
Spring 2015 was early and warm, but from the second half of April till 20th of May it was rainy and cool. In the 3rd decade of May it became sharply warmer, with regular rains. The soil remained wet throughout spring. The water level in rivers was lower than usual (after a dry winter) and floods were not high, but moisture was sufficient thanks to rains.

North-West region (south taiga).
In North-West Russia, in early May, the water level in rivers was higher than last year but snipes were less numerous in floodplain fen bogs. At swamps outside the floodplains, moisture of the breeding sites was similar to last year. In mesotrophic mires, snipes were less numerous than in raised bogs – as last year.

Central region (south taiga, mixed coniferous-deciduous forest and deciduous forest).
Spring was early, prolonged and dry, with low rainfalls. The breeding season was dry, but the terms of arrival of many snipes were usual.

Volgo-Vyatsky region (mixed coniferous-deciduous forest).
Spring was cool, early but prolonged, with no flood. The habitat conditions were dry, which was not favourable for waders' breeding in general.

Volga region (mixed coniferous-deciduous forest and deciduous forest).
April was hot, and May and early June were cool. Spring rainfalls were very scarce and meadow habitats were poorly hydrated. However, the water level was quite high in swamps.

Central Black Earth region (deciduous forest and forest-steppe).
Little snow fell in winter and March was warm with low flood in the middle of the month. By early April, all ponds were ice-free. It was dry, which adversely affected Snipe breeding.

Results

South tundra
In the basin of Pechora in the north-east of Bolshezemelskaya tundra (Komi Republic), in watersheds, Snipe was observed in flat-hilly bogs with willow bushes (4.9 ± 0.8 pairs/km^2) and open fens in flood-lands (3.3)

Forest-tundra
In the basin of Pechora in the south-east of Bolshezemelskaya tundra (Komi Republic), in watershed big-hilly bogs, Snipe abundance was estimated at 8.0 ± 4.6 pairs/km^2, then in valleys and river flood-lands it was 3.3.
The number of Common Snipe was higher in 2015 than in any other year of observations in big-hilly bogs of the forest-tundra (Pechora basin, r. Usa). Despite the high moisture of habitats, the density of Common Snipe was at the minimum level on flat-hilly bogs in south

tundra and floodplains in south tundra and forest-tundra. Obviously, an important reason for this was the prolonged flooding of Common Snipe habitats at the beginning of the breeding season in river floodplains and depressions at watersheds (Figure 1).

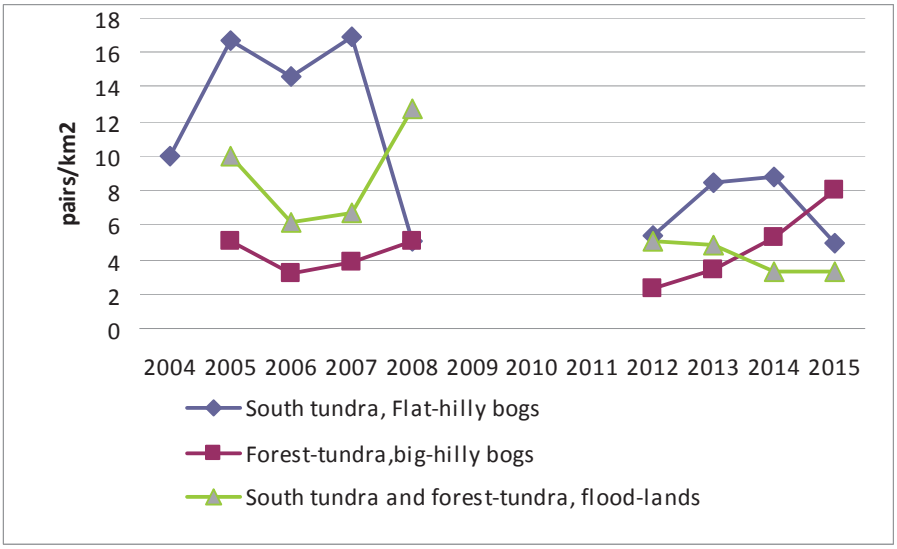


Figure 1. *Common Snipe breeding density in swampy habitats of south tundra and forest-tundra (Pechora basin).*

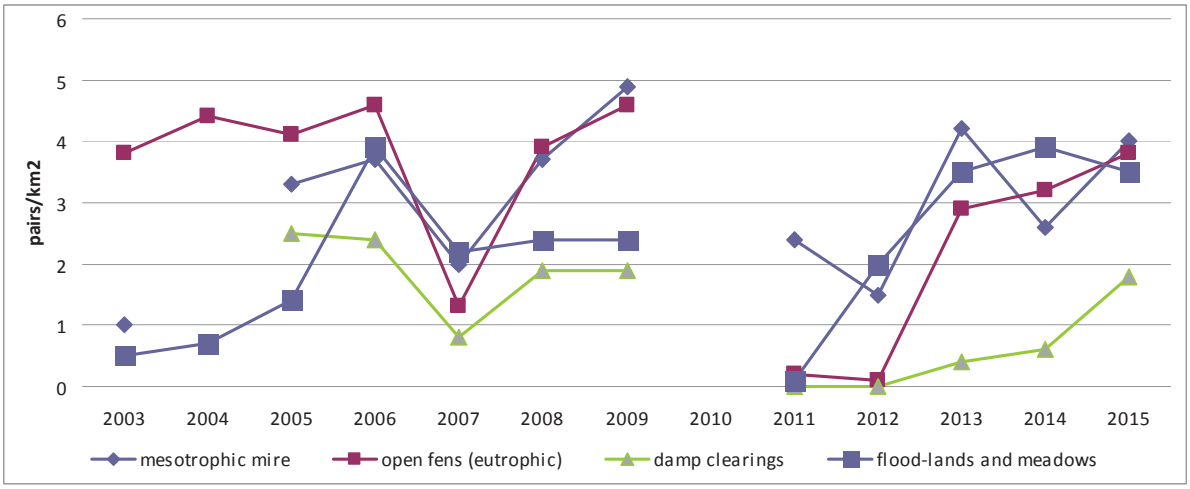


Figure 2. *Common Snipe breeding density in swampy habitats of north taiga (Severnaya Dvina basin).*

North taiga

In the basin of Severnaya Dvina (Arkhangelsk province), Snipe was noticeably rarer (1.8 ± 0.4 pairs/km^2) in damp clearings (where fen sedge bogs occupy up to 30-40% of the area) than in other types of habitats. 3.8 ± 0.4 pairs/km^2 were found in open fens, 4 ± 0.3 pairs/km^2 in mesotrophic mires and 3.5 ± 0.8 pairs/km^2 in flood-land damp meadows and meadows mixed with open fens.

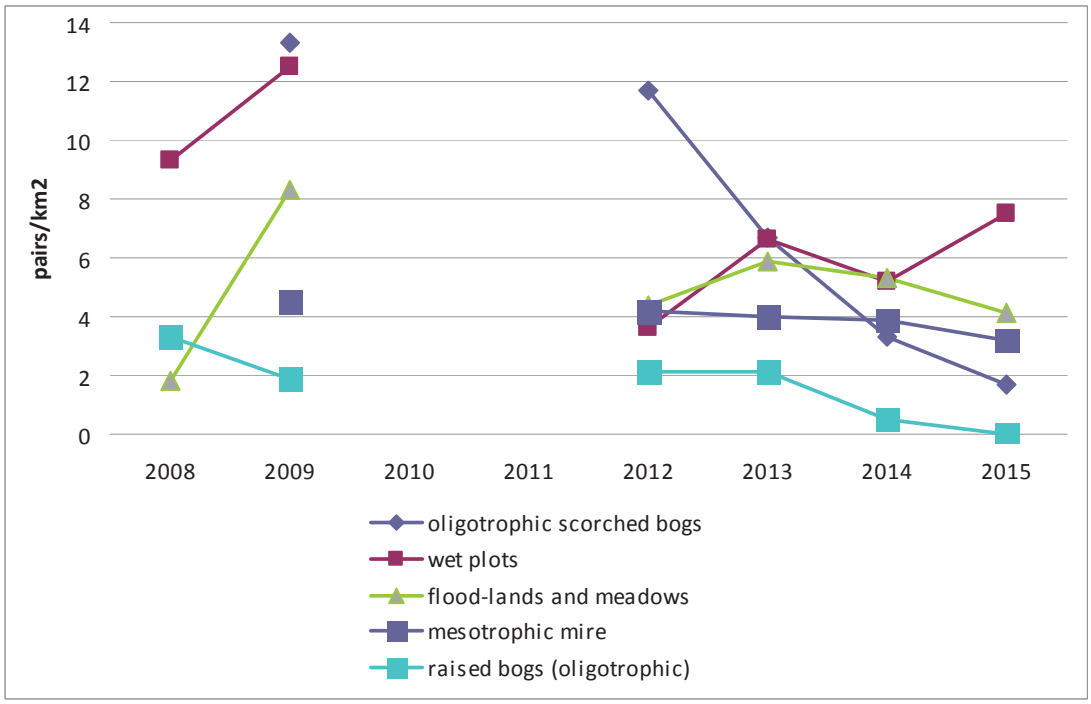
In 2015, the Snipe density (Severnaya Dvina basin, r. Pokshenga) was higher than in 2014 in clearings, mesotrophic mires and open fens, and lower in floodplain meadows (Figure 2).

Middle taiga

Very few snipes were found on the eastern shore of Lake Ladoga (Karelia Republic) on damp abandoned fields (1.1 ± 0.4 pairs/km^2). Their highest density was recorded in forest fens (5.4 ± 1.5) and open mesotrophic mires (3.0 ± 2.1).

In comparison with 2014, the Snipe density in the basin of Lake Ladoga remained the same in lowland forest fens and slightly lower in mesotrophic mires and flooded farmlands, along the roads and around villages.

A



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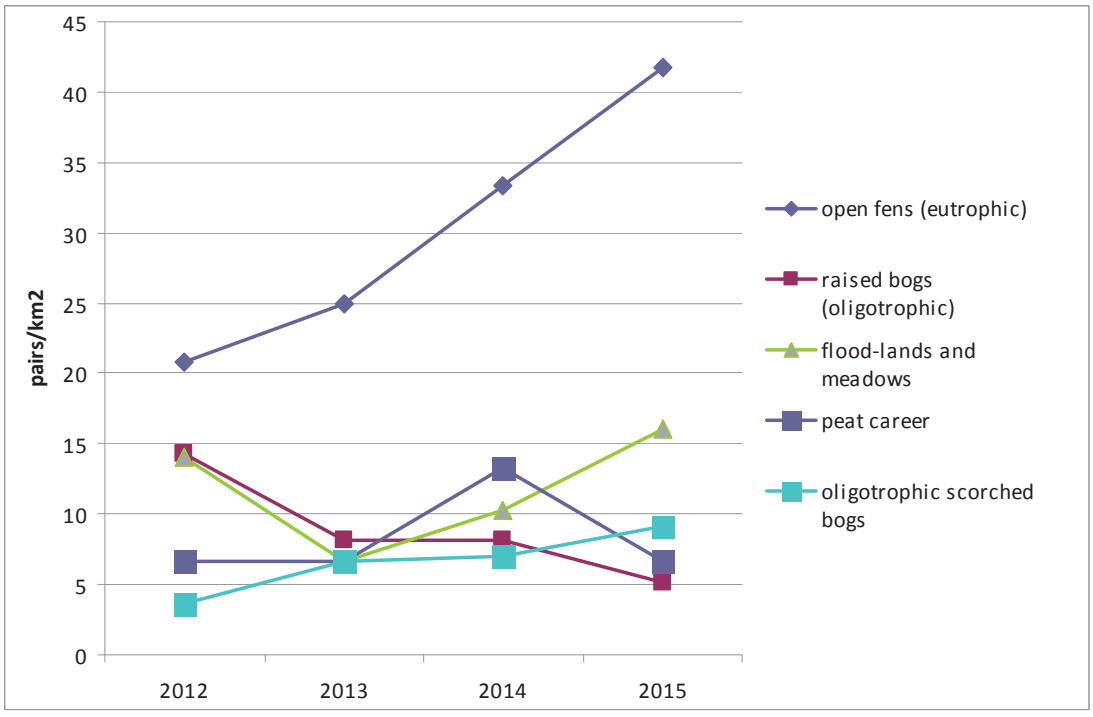


B

***Figure 3 A, B**. Common Snipe breeding density 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 mesotrophic mires (6.3 pairs/km^2) and in river flood-lands on open fens (5.4). This density was lower on raised (oligotrophic) bogs (2.3).

In the basin of Zapadnaya Dvina (Smolensk province), the highest Snipe abundance was observed in damp kettles near uninhabited villages and wet spots in farmlands (7.5 ± 0.3 pairs/km^2). In other habitats, Snipe density was higher in floodplains on grassy and hummocky meadows (4.1 ± 1.9) and, outside of floodplains,

in mesotrophic mires (3.2 ± 2.2). In raised bogs, drumming snipes were observed only in burned places (1.7).

In the basin of the upper Volga (Ivanovo province) the highest Snipe density of the year was recorded in open fens (eutrophic bogs) in floodplains (41.7 pairs/km^2). The density of birds was also very high in mesotrophic mires outside of floodplains: 25.0 pairs/km². In wet floodplain meadows, Snipe density amounted to 16.1 ± 5.1 pairs/km^2, 9.2 ± 0.5 pairs/km^2 in burned areas. In peat pits, fully covered with a floating mat, Snipe density was 6.7 pairs/km^2. In raised bogs with single dwarf pines, drumming males were located closer to the edges of mesotrophic mires (5.1 ± 2.1 pairs/km^2).

On the border of south taiga and coniferous-broadleaf forests in the basin of Zapadnaya Dvina (r. Yel'sha), the density of drumming snipes increased slightly in 2015, in comparison with the last year, but only in wet depressions near uninhabited villages and flooded farmlands. In other habitats, Snipe density decreased (Figure 3A). Snipe density increased in comparison with 2014 in fens, floodplain meadows and burned areas in raised bogs in the upper Volga basin, but decreased in raised bogs and peateries (Figure 3B).

Coniferous-deciduous forest

In the basin of the upper Volga (Vladimir and Ryazan provinces, Moscow Region), the highest density of Snipe was registered in wet meadows, alternating with fens, in dry areas of the flood plain (22.0 pairs/km^2) and mesotrophic mires (10.0). Densities were lower in flood plains, where water meadows alternate with sedge fens and temporary ponds (4.5 ± 0.8), and in lowland waterlogged (bogged) forests (3.6 ± 0.5).

Likewise, breeding snipes were less abundant in watersheds in meadows adjacent to marshlands (3.3 ± 2.4), in bogged woods outside of floodlands (1.8 ± 0.1) and in swamped depressions in agricultural lands (1.7 ± 1.2).

In 2015, the number of Snipe was in the average range in watersheds (the Volga basin, Taldom hills) and higher than usual in dry floodplain areas (the upper Volga basin, r. Dubna). In floodplains (the upper Volga basin, r. Klyazma), Snipe density was low in comparison with the previous years. In mesotrophic mires and in waterlogged forests, Snipe density declined slightly but still remained at a high level (Figure 4).

In the basin of middle Volga (Mordovia, Penza province) most snipes bred in peateries (8.6 pairs/km^2). Lower Snipe densities were observed in river valleys in lowland open and forest fens (3.5 ± 1.0), mesotrophic mires (3.3) and floodplain meadows (1.8 ± 1.3). No Snipe were registered in raised bogs where they were found in 2014.

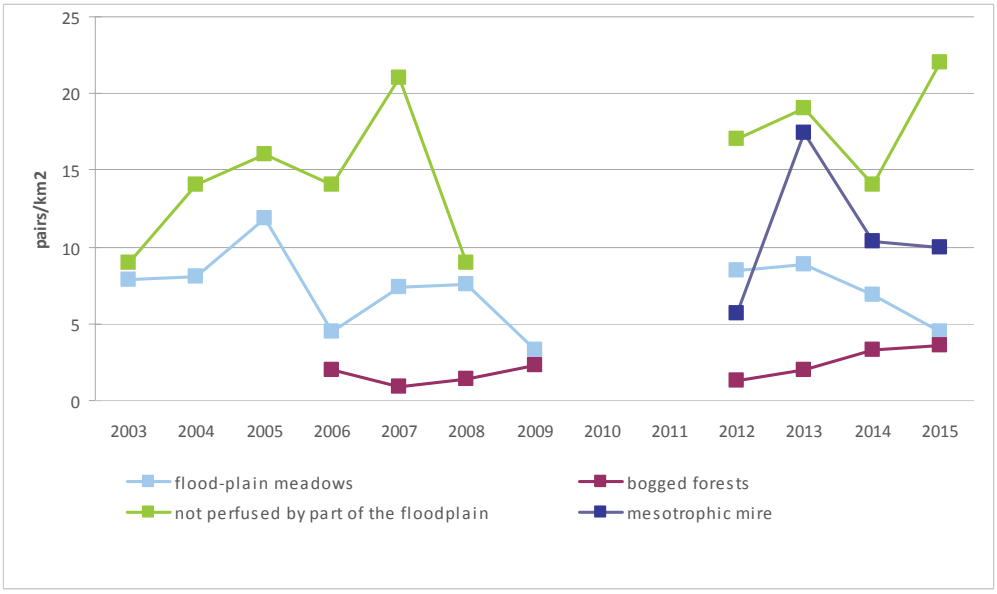
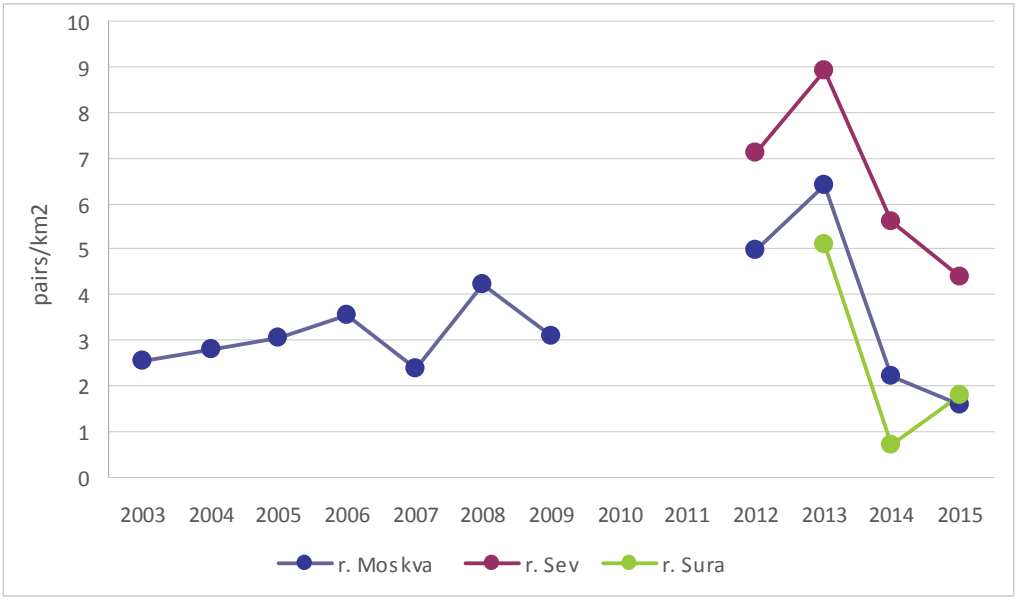


Figure 4. *Common Snipe breeding density in swampy habitats of coniferous-deciduous forest (upper Volga basin).*

A



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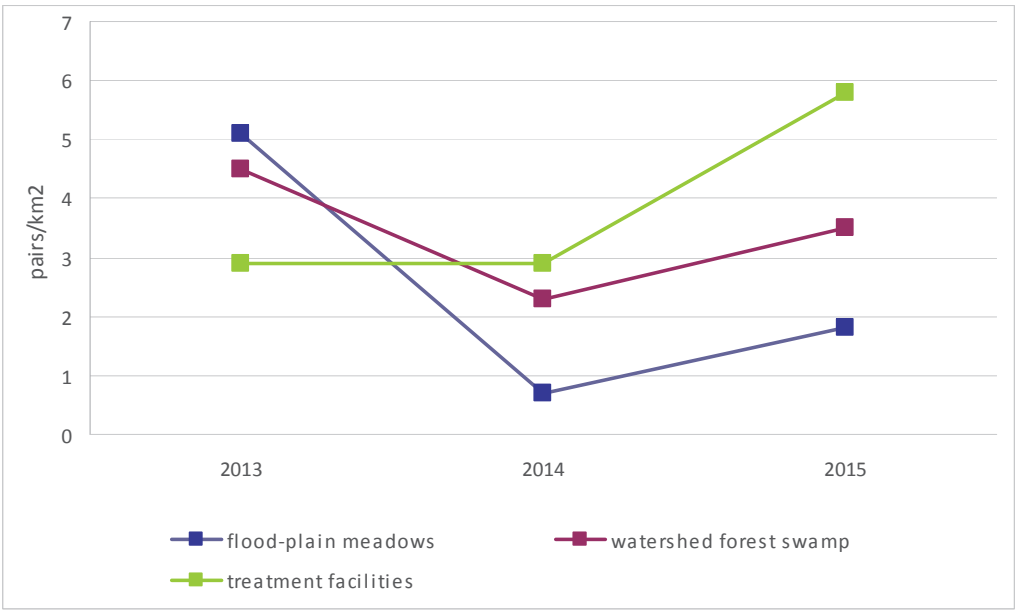

Figure 5. *Common Snipe breeding density in swampy habitats of deciduous forest (A - flood-lands upper Volga and middle Volga basin; B - middle Volga basin).*

Deciduous forest

1.6 pairs/km^2 were observed in areas of sedge open fens in combination with hydromorphic meadows, river flood-lands of the upper Volga (Moscow Region). In similar Snipe habitats in flood-lands of the middle Volga basin (Penza province) , 1.8 ± 0.7 pairs/km^2 were registered (Figure 5). In the basin of the middle Volga in watershed forest fens, Snipe density was 3.5 ± 0.3 pairs/km^2.

In flood-lands of the Dnepr basin (Kursk province), Snipe density in damp meadows in combination with open fens was 4.4 pairs/km^2.

In 2015, in the deciduous forest subzone in flood-lands, the number of Snipe was generally lower (the upper Volga and Dnepr basins) than in the previous year, but higher in some places (middle Volga). In wood bogs on watersheds and water treatment facilities, Snipe was more abundant than in 2014 (Figure 5).

Forest-steppe

In flood-lands of the Dnepr basin (*Kursk province),* Snipe density in damp meadows in combination with open fens was 1.3 pairs/km^2, and 2.4 ± 0.3 pairs/km^2 in open fens.

In 2015, the number of Snipe in open fens of artificial origin (former peateries and former fish ponds) was slightly higher in comparison with 2012-2014. In flood meadows, it was clearly lower (Figure 6).

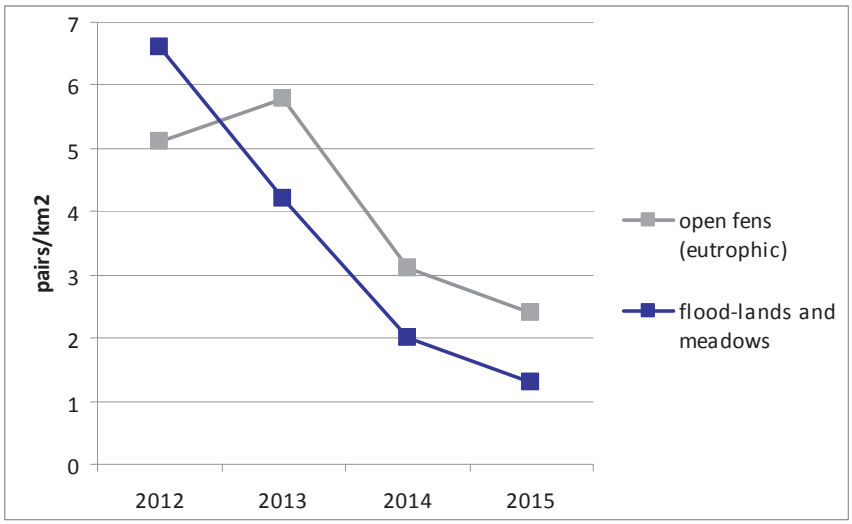

Figure 6. *Common Snipe breeding density in swampy habitats of forest-steppe (Dnepr basin).*

Conclusion

According to the monitoring in different geographic areas, breeding Snipe numbers were lower in 2015 compared with 2014 in south tundra (in various habitat types, Snipe densities ranged from 3.3 to 4.9 pairs/km2), middle taiga (1.1 - 5.4) and forest-steppe (1.3 - 2.4). Snipe abundance was higher than in 2014 in forest-tundra (3.3 - 8) and north taiga (1.8 - 4) but was probably overall at the same level in south taiga (1.7 - 41.7), coniferous-deciduous forests (1.7 - 22) and deciduous forests (1.6 - 4.4), even if opposite trends were registered at site level. Breeding Snipe densities were higher than in 2014 in fens outside of flood-lands and in big-hilly bogs but lower in flat-hilly bogs, raised bogs, mesotrophic mires (except for north taiga where Snipe density increased) and in river flood plains (except south tundra and forest-tundra, where Snipe density remained at the same level). The highest breeding Snipe density was registered in flood-land open fens of south taiga (41.7) and the lowest in damp abandoned fields in the middle taiga subzone (1.1). Thus, for a significant part of the study area, the 2015 breeding season was not very successful for Snipe. The reasons were the drying up of many habitats of this species in middle and southern latitudes, flooding of habitats and summer cold in the high latitudes of European Russia.

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Woodcock ringing in Hungary between 1913 and 2014

GERGELY SCHALLY, Szent István University, Institute for Wildlife Conservation, Páter K. u. 1., 2100 Gödöllő, HUNGARY Email: sgergo@ns.vvt.gau.hu

Eurasian woodcock (*Scolopax rusticola*) ringing data in Hungary are available since 1913; however their number increased only in the last decade due to the development of the capturing methods. In this report, I summarized the information gathered along the 1913-2014 period, aiming to support basic knowledge about the birds ringed or recovered in Hungary.

In Hungary, captures are carried out by using the method based on specific dip nets with spot lamps (Gossmann *et al.* 1988) which was introduced in our country with the kind help of French ringers in 2005 (Fluck 2011). Before that, most captures occurred unintentionally, during the captures of passerines with mist nets. Most of the captures take place in March-April and October-November, when the majority of migrating birds dwell in this region.
The official data of the Hungarian Bird Ringing Centre were used and the annual number of ringers and ringed birds were summarized. In order to highlight the differences caused by methodological development, the data were split into two groups: before and after the year 2005. The ringing data were also summarized for the two main periods according to the reported age of the captured birds.
Ringing and recoveries were displayed on a map. Some birds that were ringed by Hungarian ringers abroad were not considered in this case. Recaptures were also excluded because all of them occurred at the sites of their captures. The lines connecting the points of woodcocks that were ringed as chicks in Hungary were also emphasized.
The distribution of the distances (km) and the time elapsed (years) between the sites of ringing records and their recoveries were presented on histograms. The groups of birds that were ringed and those that were recovered in Hungary were separated. Recaptures were also excluded.
Data analyses were performed using Microsoft Excel 2010 and R (v3.2.1). Quantum GIS (v2.10) were used for spatial analysis.

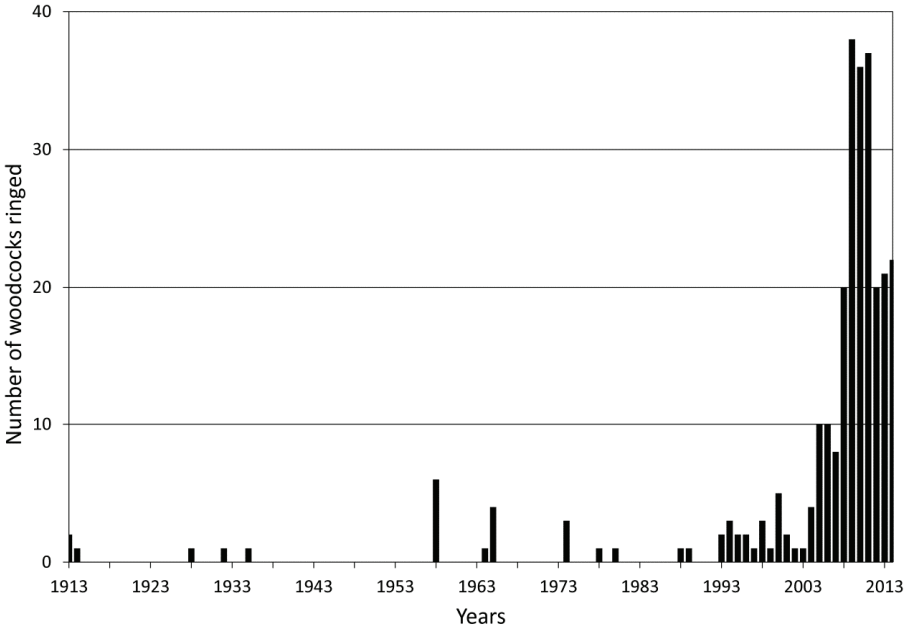

Figure 1. *Number of woodcocks ringed in Hungary (1913-2014).*

Results

In total, 273 Eurasian woodcock ringing records were registered in Hungary during the 1913-2014 period, 222 of them (81%) occurred since 2005 (Figure 1). It should be noted that the woodcocks in 1913, 1914, 1928, and one in 1998 were ringed by Hungarian ringers but not in Hungary. Since 1993 there has been at least one record each year.

Both the annual number of ringers and the number of ringed birds increased in the second period (Table 1). The mean rate of ringed birds per ringer was 3.14 after 2005, which can be regarded as low compared to the published French data (2012/13/14 mean: 17.06; Gossmann *et al.* 2012; Gossmann *et al*. 2014; Gossmann *et al.* 2014) or Russian data (2012/13/14 average: 12.64; Fokin *et al.* 2012; Fokin & Blokhin 2013; Fokin *et al*. 2014).

The rate of adult birds increased after 2005 (Table 2). This can be explained by the changes in the capturing method (mist nets vs. drop nets) but also by the development of ageing methods.

In total, 26 woodcocks were recovered of the 268 woodcocks that were ringed in Hungary until 2014 (Figure 2), in the following countries: France (7), Italy (6), Russia (2), Slovenia (2), Belarus (1), Croatia (1), Greece (1), Macedonia (1), Poland (1), and Spain (1). There were also 3 inland recoveries. The woodcocks recovered in Hungary originated from France (45), Italy (11), Russia (4), Belarus (1), Czech Republic (1), and Spain (1).

The shortest lines connecting the ringing and the recovery locations intersect several countries, from which we do not have confirmed ringing information so far: Austria, Bosnia and Herzegovina, Germany, Latvia, Liechtenstein, Lithuania, San Marino, Serbia, Slovakia, Switzerland, and Ukraine.

Two of the woodcocks that were ringed as chicks in Hungary were recovered north and northeast from the country, which may indicate that they went further to breed than the place where they were hatched.

Period	Number of ringers/year	Number of woodcocks ringed/year
1913-2004	1.60	0.55
2005-2014	7.10	22.20

Table 1. *Summary of the ringing records in Hungary (1913-2014).*

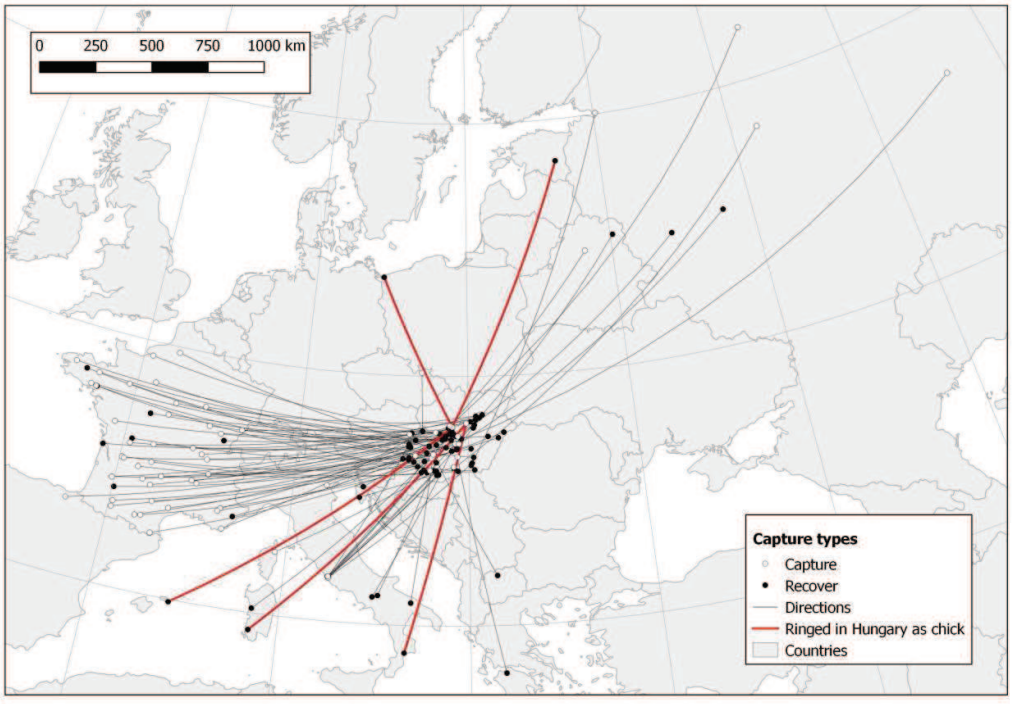

Figure 2. *Map of the woodcock ringing and recovery locations associated with Hungary.*

Period	Chick	First-year	Adult	Full-grown	No data
1913-2004	18	12	1	18	2
2005-2014	1	122	82	17	-

Table 2. *Number of woodcocks according to their age at ringing (1913-2014). (Full-grown: able to fly freely, but age otherwise unknown)*

Each recapture occurred exactly at same place as the original capture, with a mean of 18.30 days elapsed between them. The maximum of time elapsed before a recapture was 124 days (2013.11.22 – 2014.03.26), supposedly in the case of a bird that spent the winter at the same site.

Most woodcocks (captured both inland and abroad) have been recovered at a distance of 1 000-1 500 km from their ringing locations; there were also numerous birds within 0-500 km (Figure 3). The longest distance registered was 2 832 km. These results are in accordance with the results of satellite telemetry studies (Arizaga *et al.* 2015), as the country may lie close to the middle of the migration routes, which can be 5 000-10 000 km long. This may be a drawback in some respects, since we have information on only less than half of the routes in the case of most woodcocks. In order to have a better knowledge of the paths of birds crossing our country, it would be very important to raise the number of recaptures.

Most woodcocks (captured both inland and abroad) have been recovered within one year after ringing (Figure 4). The longest time elapsed was nearly 10 years (3 630 days), in case of a bird that was ringed in Saint-Launeuc, France, and recovered in Kóka, Hungary.

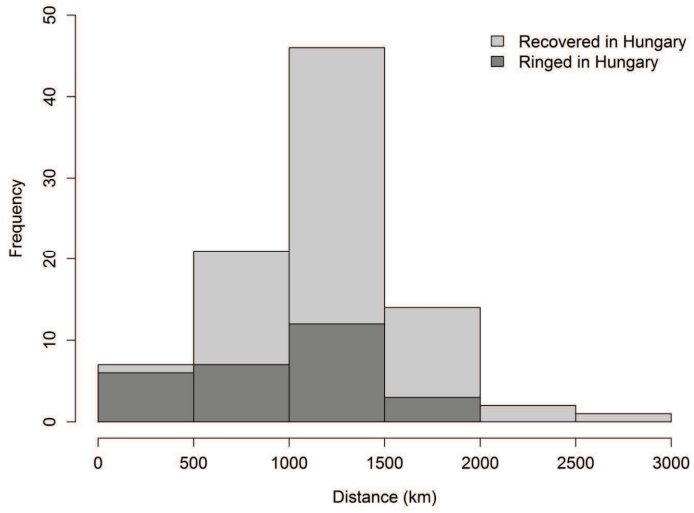

Figure 3. *Frequency of woodcocks according to the distances between their sites of ringing and recovery.*

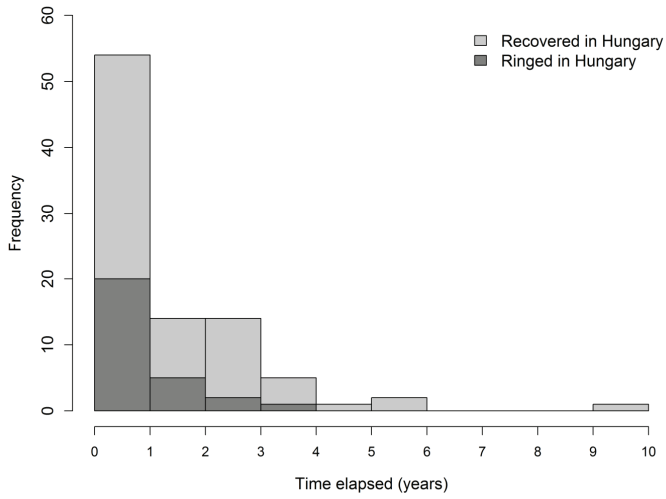

Figure 4. *Frequency of woodcocks according to the time elapsed between their ringing and recovery.*

Conclusions

Both the annual number of ringers and the number of ringed birds per ringer have multiplied in the last decade, however they can still be regarded as low compared to other areas. The reason for this can be twofold: on one hand, the effort per ringer (number and length of field trips) could also be lower. On the other hand, the probability of capture is lower, due to the lower abundance of the birds in this region. In any case, increasing the number of birds ringed for sufficient information may only be achieved by spending more individual effort and by involving many more professional ringers in the fieldwork.

It would also be important to pay more attention to capturing and ringing breeding and wintering birds, as well as chicks. The great disadvantage would be that these activities might require far more effort with less chance of success. The technique which is suitable for conditions in spring or in autumn might not be efficient in summer, when woodcocks may spend less time in open fields at night (Hoodless & Hirons 2007).

The recovery rate – which is linked mainly to hunting – can be considered high. However, hunting activity and reporting rate of rings may vary among different countries, which may have a significant influence on the spatial pattern of the data.

Minor methodological differences can be noticed among the ringers, in relation with local conditions and personal preferences. In order to share experience and knowledge, and to promote the development of methods, it is essential to organize national and international meetings and field expeditions regularly.

Acknowledgments

Many thanks to Dénes Fluck for his persistent work and efforts supporting the woodcock ringing project in Hungary, and also to the Bird Ringing Centre for providing the ringing data. Thanks to all professional ringers, who helped in the data collection with their fieldwork.

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2014-2015 French Woodcock Report

FRANÇOIS GOSSMANN, DAMIEN COREAU, SOKSANE HOR, CLAUDINE BASTAT, & YVES FERRAND,
Office National de la Chasse et de la Faune Sauvage, Research Department – Migratory Birds Unit,
Parc d'activités de la rivière, 8 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

The 2014/15 season was characterised by mildness of temperatures in the main wintering area. However, in October, two cold periods occurred in European Russia which encouraged the first migratory movements. Except 3-4 days of cold at the end of December, the wintering conditions for woodcock in France were very favourable till March. The prenuptial migration started rather early in March.

Ringing results

Quantitative ringing results

In total, 5 476 woodcock were ringed during the 2014/15 season and 423 retrapped. This result is lower than in 2013 even if the ringing effort and the catching rate were similar (2 805 ringing trips - 5 744 hours; 25 %). However, le number of contacts (23 380) was 2 000 less than in the previous season. We assume that woodcock wintered in more northern sites than usual because of mild temperatures. In Norway, for example, an unusual number of woodcock stayed in the south of the country throughout the winter. In France, this led to lower woodcock numbers in the south, and principally in the south-west.
The monthly distribution of captures shows that in November, December and January represent 76 % of total. October and February-March were proportionally less successful than in the previous seasons. In November and December, 1 428 and 1 463 birds were caught, respectively.

Proportion of juveniles

The proportion of juveniles among ringed birds was 51.6 %. This value is one of the lowest of the 15 last seasons, close to those of 2002/03 and 2010/11. However, spring weather conditions did not seem to be unfavourable for woodcock in its main breeding area. One assumption could be the mildness of winter which retained more juveniles than usual in more northern wintering sites. This could lead to a deficit of juveniles in classic wintering sites independently of the breeding success. But age-ratio estimated from French hunting bags did not show such a low proportion (64.5 %; CNB). In conclusion, the low value of age-ratio in ringed birds remains greatly understandable.

2014-2015 ringing season in numbers

N. *départements*:	88
N. ringing sites:	1 511
N. ringers:	351
N. nocturnal trips (hours):	2 805 (5 744)
N. contacts:	23 384
N. ringed woodcocks:	5 476
Success rate:	25 %
N. retraps:	423

Monitoring of abundance during the migratory and wintering period

Let us remind that two indices are used for 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 2014/15, IAN was 4.09 (Figure 1). This value is high and very close to those of 2012/13 and 2013/14 seasons. ICA estimated from a sample of about 1 200 hunters amounted to 1.62 which is slightly lower than the last 3 seasons. This result confirms the good status of migratory and wintering woodcock in France. A very classic temporal pattern was observed during migration, with a constant increase of bird numbers from October to December (Figure 2). However, the increase continued until February during which a peak was observed.

As in the last 12 seasons, a monitoring "in real time" was carried out in the course of the 2014/15 season.

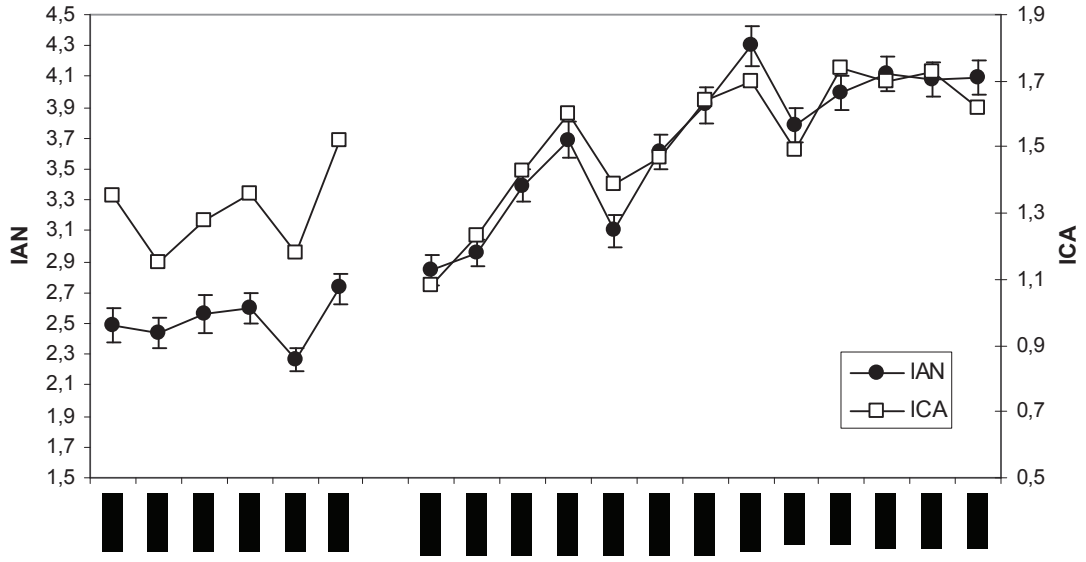

Figure 1. *Annual fluctuations of the number of contacts/h during ringing trips (IAN: nocturnal index of abundance) and hunting trips (ICA: hunting index of abundance; Source:* Club national des bécassiers*). The data were divided into two periods due to a change in the method of calculation of IAN in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

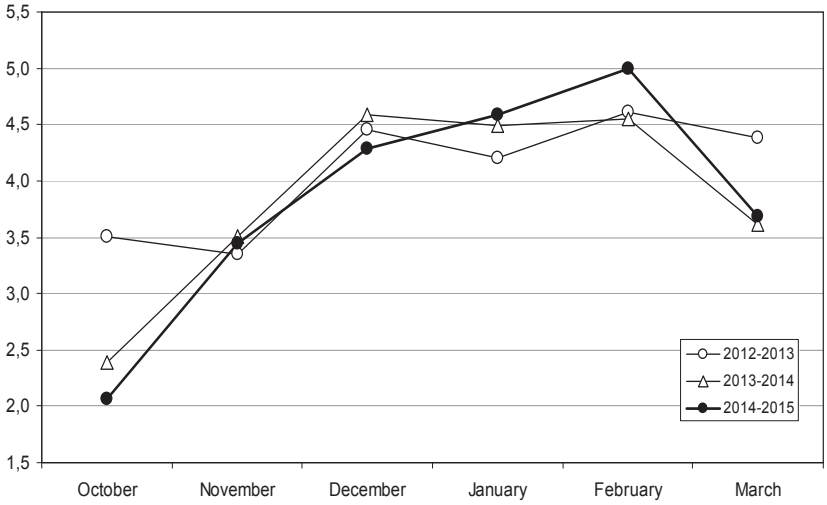

Figure 2. *Monthly fluctuations of IAN in 2012/13, 2013/14 and 2014/15.*

Roding results

The sampling design for roding censuses was revised in 2013 and spring 2015 was the third 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 2015 census and 553 (92.2 %) were visited (Figure 3). Woodcocks were observed in 16 % of them. In 31 % of these positive points the number of contacts was ≥ 5. The results confirmed the importance of Jura, Vosges and Paris Basin in the woodcock breeding area in France (30 %, 24 % and 22 % of positive points, resp.). In the Massif Central and North-East, woodcock males were observed in 20 % and 10 % of sites, respectively. In the Pyrenees, no bird was observed in 31 sites randomly chosen, which could testify to the rarefaction of breeding woodcock in this mountain range.

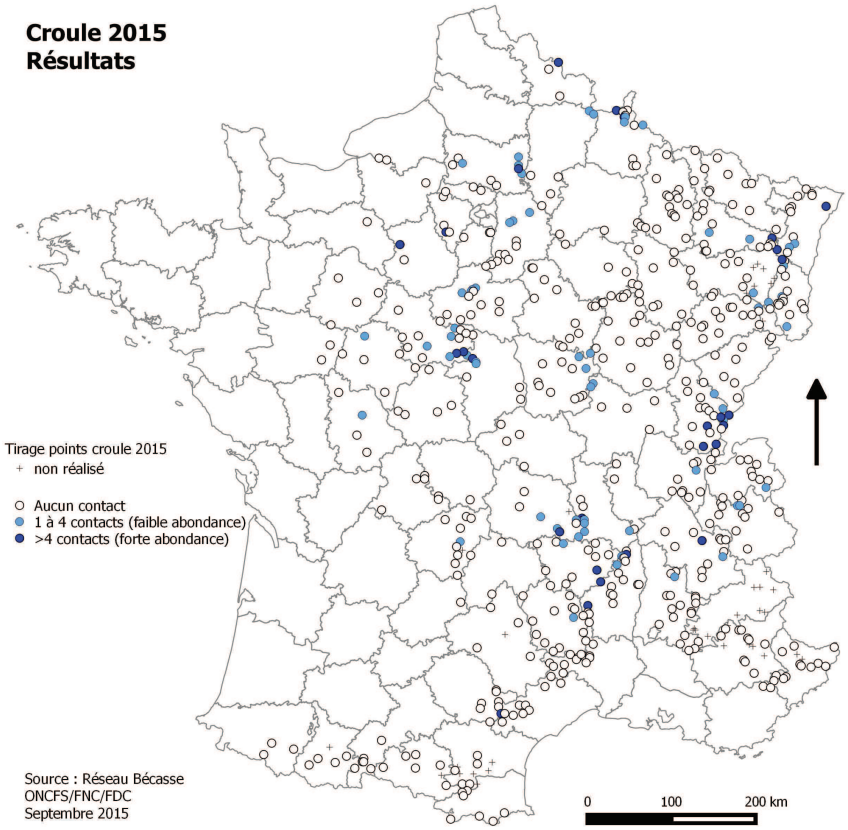

Figure 3. *Location of randomly chosen listening points for the 2015 roding census in France and results (white: no contact, blue: 1-4 contacts; dark blue:> 4 contacts)*

Argos program

After Spanish, Italian and English colleagues, we started a Woodcock Argos program in France in 2015. Twelve birds were fitted in February with 9.5 g Solar PTT tags. Sex and age of birds are distributed as follows: 9 adult females, 1 juvenile female, 1 adult male, and 1 juvenile female (sexed by DNA analysis from feathers). Three sites of captures were defined: one in Brittany, one in Landes (South-West) and one in Ardèche (South-East) corresponding to 3 different types of habitats. Every bird was followed during the prenuptial migration and all of them reached their breeding site (1st April to 4 May) distributed from Poland to Central Russia (close to Altaï). At the end of October 2015, 4 birds had started their postnuptial migration. Details are available at **http://www.becassesmigration.fr/**

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.

One of the woodcocks fitted with a solar PTT tag in Brittany in 2015. © D. Tannoux / FDC35

2014-2015 French Snipe Report

DAMIEN COREAU, Office National de la Chasse et de la Faune Sauvage, Research Department – Migratory Birds Unit, Station de Chizé, Carrefour de la Canauderie, Villiers-en-bois, F -79360 Beauvoir-sur-Niort
YVES FERRAND, Office National de la Chasse et de la Faune Sauvage, Research Department – Migratory Birds Unit, Parc d'activités de la rivière, 8 Bd Albert Einstein, CS 42355, F - 44323 Nantes Cedex 3
E-mails: rezobecassines@oncfs.gouv.fr; 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
E-mail: patrice.fevrier@orange.fr - Web *site:* http://www.cicb-club.com

Ringing results

The French Snipe ONCFS/FNC network gathers about 130 active snipe ringers spread over the major part of French *départements* where snipe can be observed in migration and wintering. During the 2014/15 season, 2 307 snipe were caught by the network: 1 939 common snipe (*Gallinago gallinago),* and 368 jack snipe (*Lymnocryptes minimus*). 199 snipe were retrapped: 166 common snipe and 33 jack snipe. These results are the second best since the network was founded.
In total, 127 recoveries (from hunting) were registered: 105 common snipe and 22 jack snipe. In detail, 92 common snipe recoveries came from France, 5 from Belarus, and 8 from 6 other countries [Check Republic (2), Poland (2), The Netherlands (1), Belgium (1), Great-Britain (1) and Hungary (1)]. Likewise, 20 jack snipe recoveries came from France, 1 from Poland, and 1 from The Netherlands. Moreover, 2 jack snipe ringed in France were recovered in Spain.

Plumage collection

As in the previous years, an analysis of common snipe and jack snipe plumages (wing and/or tail feathers) collected during the 2014/15 hunting season, was carried out.
In total, the plumages of 5 687 common snipes and 1 312 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 one of the best for common snipe. However, the jack snipe collection was less successful but not catastrophic (2004/05 – 2013/14 average: 981.6). This probably suggests that breeding success was slightly better for common snipe than for jack snipe. Indeed, weather conditions in North and East of Europe and Central Europe were not too bad (rather warm and rainy) compared with those in tundra where jack snipe mainly breeds (rather cold and dry).

Common Snipe

Geographical distribution of analyzed plumage

The plumages were collected in 45 French *départements*. As in the past, the total sample was divided in two parts (Figure 1): one corresponding to the Fennoscandian flyway (n = 2 736), the other to the Continental flyway (n = 2 939).

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 a marked peak of abundance in the second half of September (Figure 2) following a constant increase starting at the beginning of August. Snipe numbers remained at a high level during October, and then regularly decreased till the end of January.

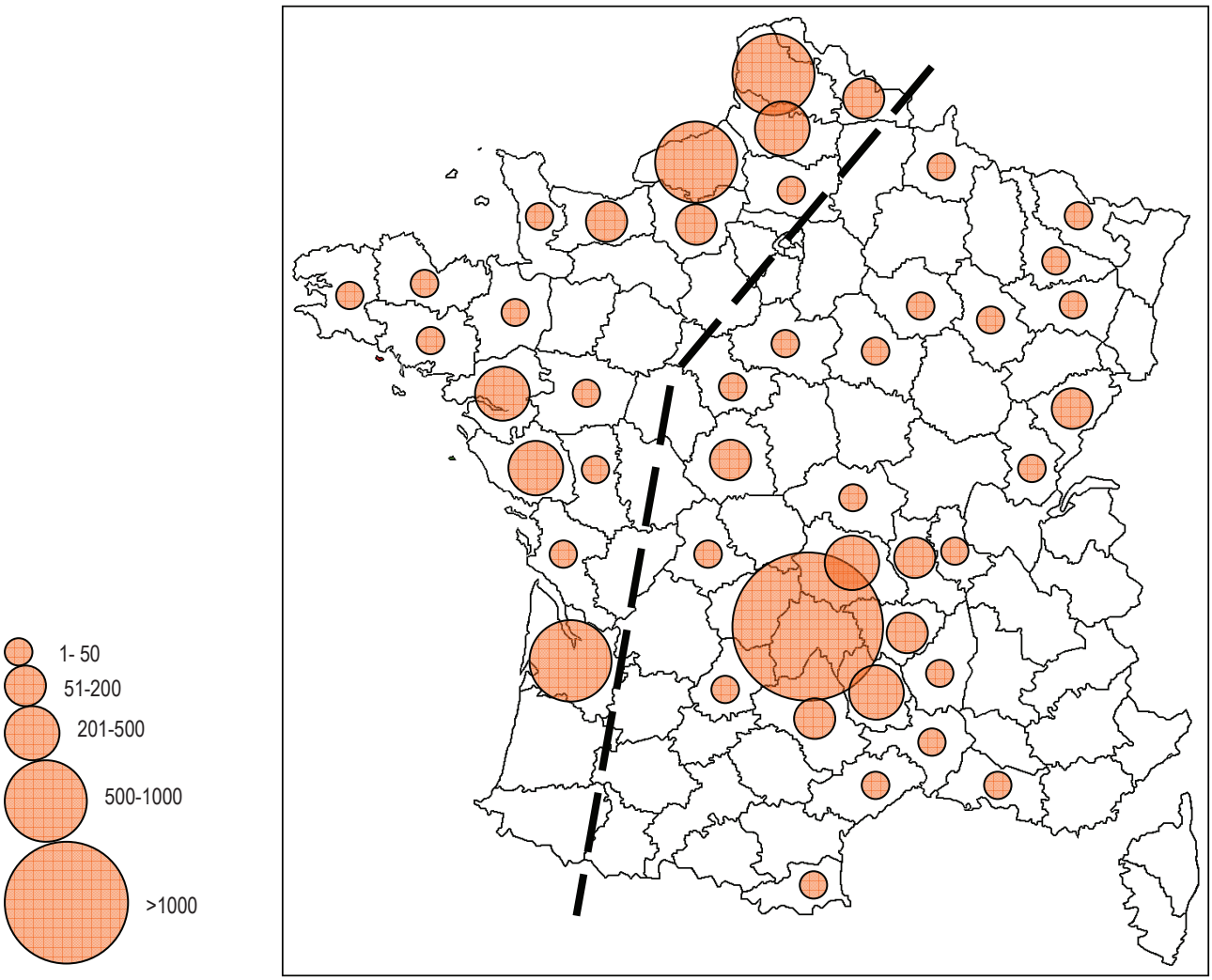

Figure 1. *Geographical distribution of numbers of common snipe whose plumage was collected in 2014/15 and limit between the two sub-samples corresponding to a distinct migratory flyway.*

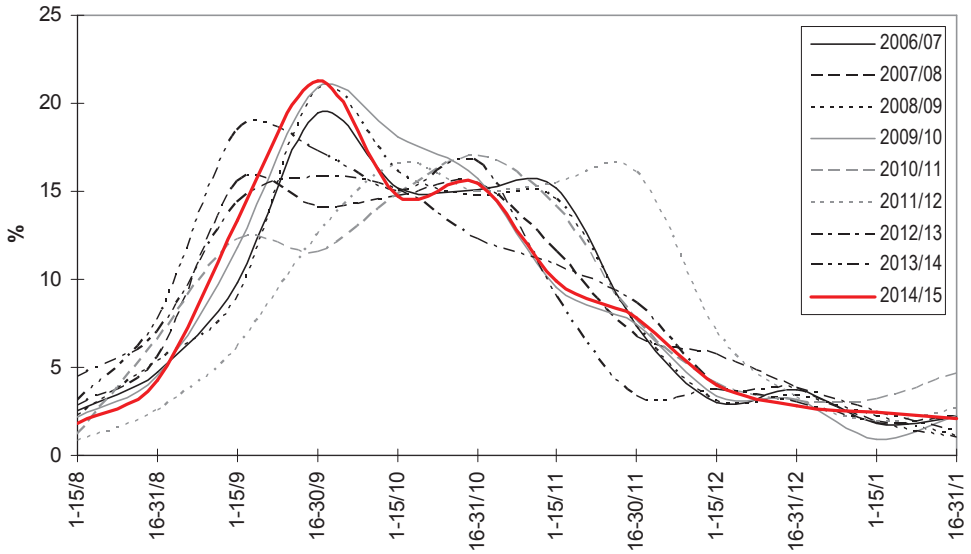

Figure 2. *Intra-annual variations of the proportion of common snipe plumages collected from 2006/07 to 2014/15.*

This migration pattern occurred both in Fennoscandian and Continental flyways. However, for the Fennoscandian flyway, the decrease of numbers following the peak of abundance in the second half of September was more marked than in the Continental flyway for which the level remained rather high till the end of October. This relative synchrony in the post-nuptial migration between the 2 flyways is rather original with regard to the results of the last 2 seasons for which a very clear gap was observed: the peak of abundance for the Continental flyway occurred always after the Fennoscandian one.
The weather conditions probably played a role in the phenology of the postnuptial migration. Indeed, after a rather mild weather in September, cold temperatures were observed from October in northern and eastern Europe. Consequently, the birds were pushed to the south-western wintering sites and the 2 flyways were probably used in the same time.

Proportion of juveniles

In total, 5 529 plumages were separated in 2 age classes: juvenile and adult. The proportion of juveniles among them was 67.4 % (age-ratio = 2.1). Without the data collected in August for which almost 100 % of birds were juveniles, this proportion was 65.8 %. These values are under the average of the last 10 years (70.7 % and 68.6 %, resp; Figure 3).

Juveniles represented 63.3 % of birds in the Fennoscandian flyway (n = 2 636) and 71.2% in the Continental flyway (n = 2 893). The difference is significant both with and without August data (Fisher exact test; $p < 0.001$). This result shows that the breeding success was probably better for the Continental part of the breeding area than for the Fennoscandian one.

In the Fennoscandian flyway, the migration followed a usual pattern: predominance of juveniles in August, then a quick decrease till the end of September to reach a minimum value more or less stable till the end of January. For the Continental flyway, the decrease of the proportion of juveniles was less marked and even this proportion slightly increased in November to be finally stable at a rather high level (Figure 4).

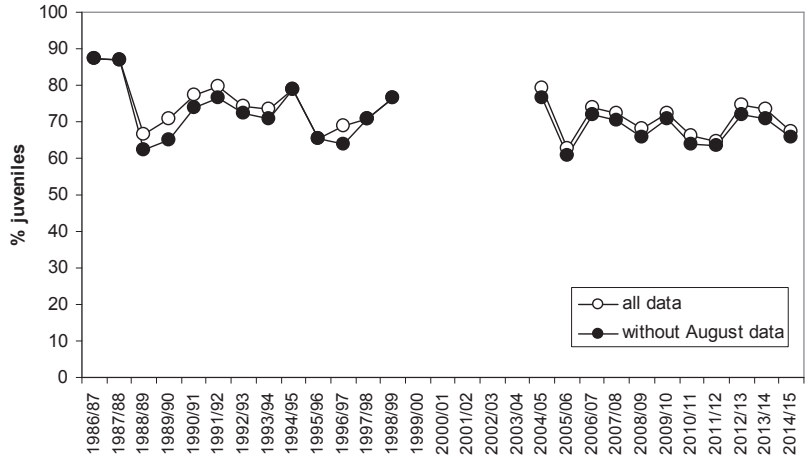

Figure 3. *Inter-annual variations of the proportion of juveniles among common snipe plumages collected in the 1986/87 - 2014/15 period for all data and for a sub-sample without August data (No collection in the 1999/00 - 2003/04 period).*

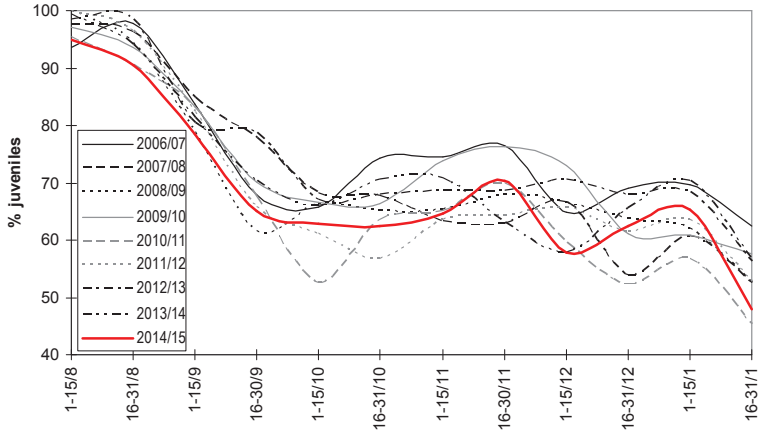

Figure 4. *Intra-annual variations of the proportion of juveniles for the common snipe from 2006/07 to 2014/15.*

Under the assumption that the analysed sample is representative of the breeding success, we can consider that spring 2014 was less successful than the previous ones probably in relation with weather conditions in the whole of the European breeding area of common snipe. Thanks to a common Snipe monitoring carried out in European Russia within the framework of research agreements between ONCFS and the Russian Society for Conservation and Studies of Birds, we know that the densities of breeding birds were heterogeneous from one area to another. Densities varied from 3.3 to 8.8 pairs/km² (Blokhin 2014).
Finally, the proportion of juveniles observed in France in 2014/15 is not alarming and remains relatively far from those registered in 2005/06 which was a critical season of the last 10-years.

Proportion of males/females

Sex was defined for 1 617 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 = 4 896), the proportion of males reached 39.0 %. As for the previous seasons, the deficit in males remains clear. No statistical difference appeared between the flyways, taking into account the juveniles (Fisher exact test; p = 0.3208). If only adults are considered, the difference is at the limit of significance (p = 0.0016).

Jack Snipe

Geographical distribution of analyzed plumage

In 2014/15, the jack snipe plumages were collected in 36 *départements* (Figure 5). As for every season, we defined a Coastal flyway and an Inland flyway for which the sample sizes were 640 and 670, respectively.

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 2014/15, a peak was observed as usual in the end of October – beginning of November. However, this peak was less marked than in the previous years but spread over a month. The progressive decrease of numbers till January remains common.
The spreading of the peak at a national level could be explained by a difference from one flyway to another. The Coastal flyway peak occured in the second half of October but that of the Inland flyway was observed in the first half of November. In both cases, the numbers reached a good level which leaded to a spreading effect at the national level.
The 2014 migration phenology recorded from the plumage collection appeared slightly different from the classic pattern. It was close to the 2012/13 one but the migration delay and a more marked spreading were the characteristics of the 2014/15 season.

Proportion of juveniles

The proportion of juveniles (estimated from examination of tail feathers) in 2014/15 rose to 67.8 % (Figure 7). This value is above the average of the last 10 years (65 %). This leads us to consider that the breeding success in spring 2014 was not so bad. This result is a little contradictory to the rather bad weather conditions in the European breeding area of this species. An hypothesis could be that the jack snipe populations outside the European breeding range encountered better weather conditions and that their numbers represent a sufficiently important part of the wintering birds in France to compensate for an eventual deficit of European birds.

The proportion of juveniles was 68.9 % (n = 537) in the Coastal flyway and 66.8 % (n = 630) in the Inland flyway. The difference is not statistically significant (Fisher exact test; p = 0.244). Consequently, the breeding success was probably similar in the 2 flyways.

The temporal distribution of the proportion of juveniles in the course of the season presented wide variations in the Coastal flyway (57.5 % - 85.7 %; Figure 8). But, in the Inland flyway, this proportion increased regularly from October to December to reach a peak in the middle of this month, then decreased slowly till the end of January. This is statistically confirmed (Cochran-Armitage test; $p < 0.001$). Stability is confirmed for the total data and the Coastal data ($p < 0.001$ and $p = 0.0014$, resp.).

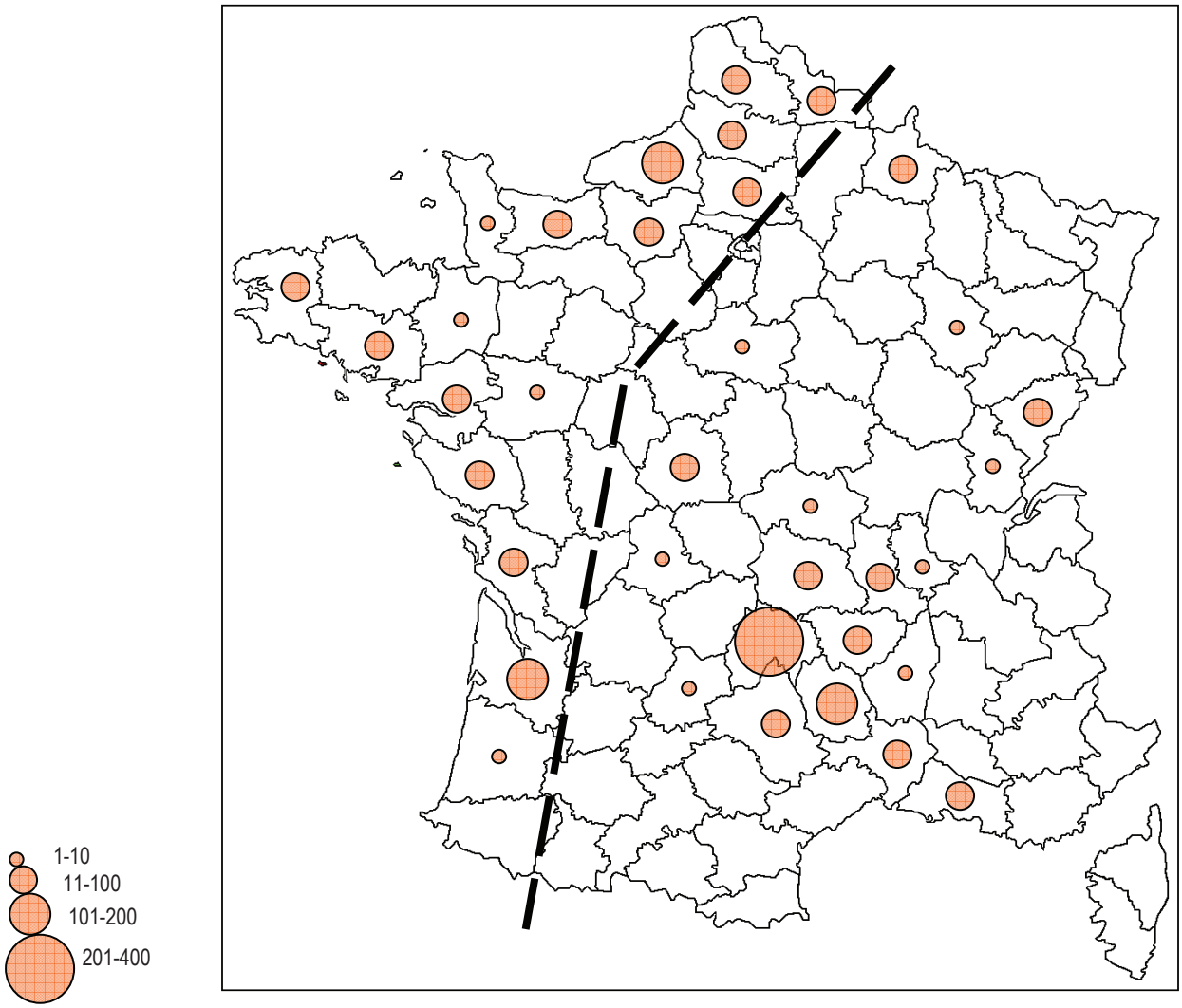

Figure 5. *Geographical distribution of numbers of jack snipe whose plumage was collected in 2014/15 and limit between the two sub-samples.*

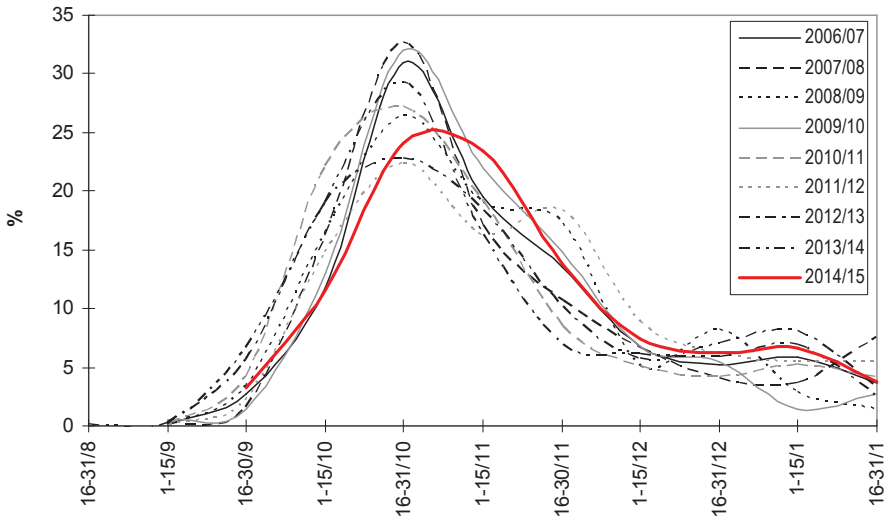

Figure 6. *Intra-annual variations of the proportion of jack snipe plumages collected from 2006/07 to 2014/15.*

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 32.1 %. This value is the second lowest registered (30.6 % in 2009/10). 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 (34.1 % *vs* 30.1 %) but the difference was not significant (Fisher exact test; p = 0.085).

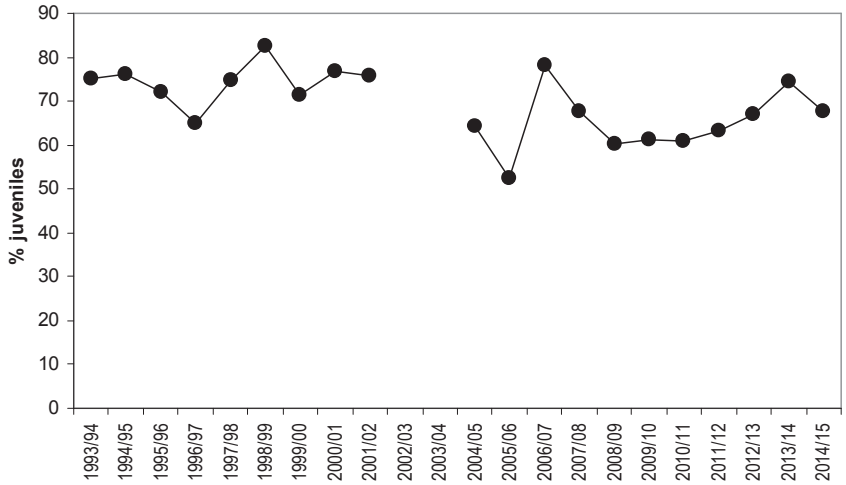

Figure 7. *Inter-annual variations of the proportion of juveniles among jack snipe plumages collected*

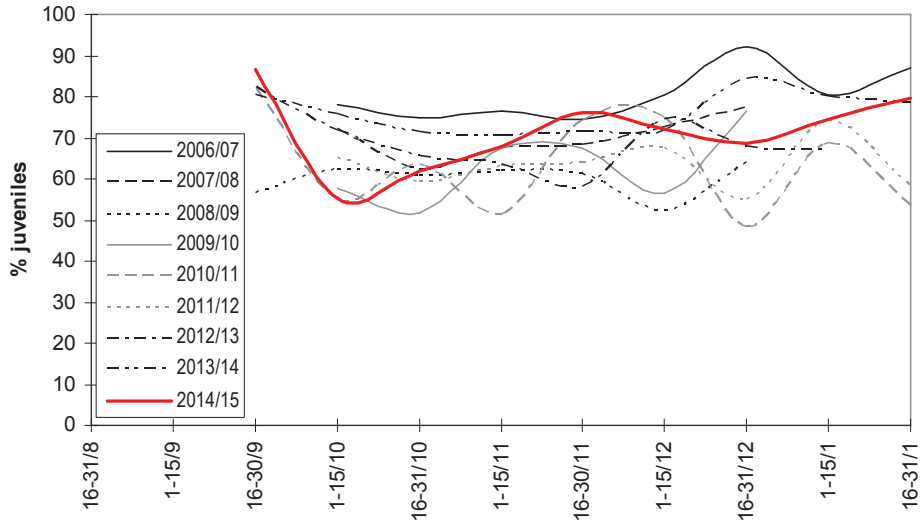

Figure 8. *Intra-annual variations of the proportion of juveniles for the jack snipe from 2006/07 to 2014/15.*

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 2000/01-2014/15 period, the analysis covered 24 sites. Details of annual hunting bags are shown in Table 1. The annual mean total hunting bag in the 24 sites was about 4 538 common snipe and 989 jack snipe.

In 2014/15, the total bags appeared in the average for common snipe but under the average for jack snipe (Figure 9). The mean bag per site was 191 for common snipe and 35 for jack snipe. These values are in the average of the 2000/01 – 2012/13 period for common snipe (188.9) but under the average for jack snipe (41.6). These results confirm those obtained from plumage analysis.

For both species, statistical tests show a decrease trend at the limit of significance (Page test; $p = 0.095$ for common snipe; $p = 0.051$ for jack snipe).

Season	*Common Snipe*	*Jack Snipe*	Total
2000/01	3836	703	4539
2001/02	3594	1194	4788
2002/03	4285	992	5277
2003/04	5384	1460	6844
2004/05	5584	1137	6721
2005/06	5582	1239	6821
2006/07	4306	947	5253
2007/08	4576	793	5369
2008/09	4701	855	5556
2009/10	4591	784	5375
2010/11	3881	714	4595
2011/12	4363	938	5301
2012/13	3585	739	4324
2013/14	5217	1493	6710
2014/15	4589	841	5430
Mean and total	**4538,3**	**988,6**	**82 903**

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

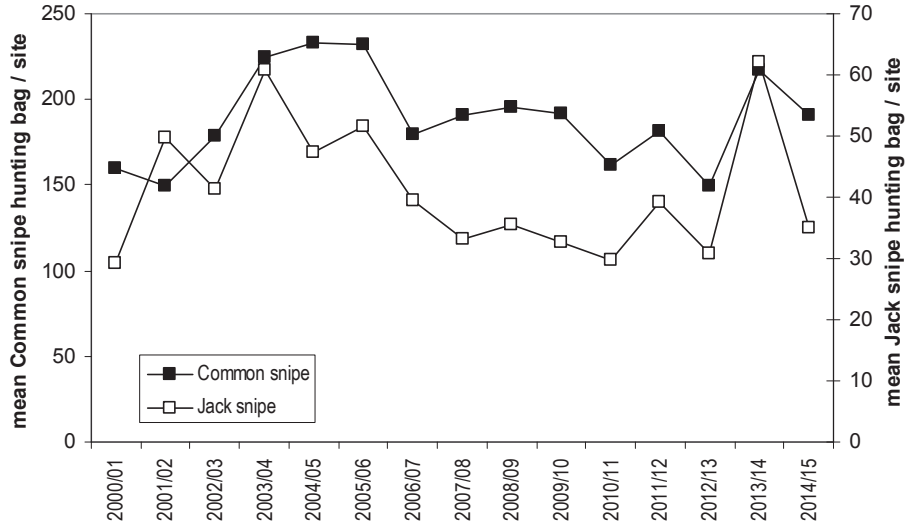

Figure 9*. Average of common snipe and jack snipe hunting bags for a reference site for the period 2000/01 - 2014/15.*

As usual, the common snipe/jack snipe ratio was always constant (Figure 10). In 2014/15, the common snipe represented 84.5 % of the total snipe hunting bag, i.e. 2.4 points more than the average for the 2000/01 - 2013/14 period (82.1 %; 75.1 % - 85.4 %)

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 a large portion 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. 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.

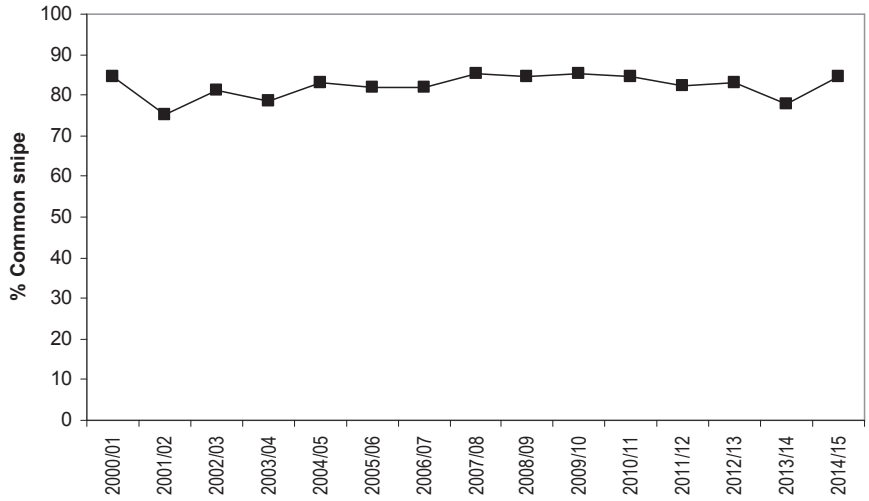

Figure 10. *Proportion of common snipe in the total snipe hunting bag (common snipe + jack snipe) collected on 26 reference sites from 2000/01 to 2014/15.*

Conclusion

The 2014/15 snipe season was in the average for common snipe but bad for jack snipe. The reasons are not clear. On one hand, winter was not really cold in Europe and a part of birds was able to stay further north. On the other hand, rather cold temperatures in October in North and East of Europe were able to lead birds to reach their western wintering sites. Whereas unfavourable weather conditions in spring-summer in regions close to Oural mountains were able to have an effect on jack snipe populations, this does not appear in the proportion of juveniles which can be considered as a proxy of breeding success. In conclusion, results seem to be hard to explain according to our information.

However, no indices have to be considered as critical. The common and jack snipe populations that migrate and winter in France appear to be more or less stable in Europe and the most important thing to do is surely to continue this monitoring as long as possible.

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.

Evaluation of the 2014/15 Woodcock hunting season in France

JEAN-PAUL BOIDOT (†),
JEAN-FRANÇOIS CAU, Club national des bécassiers, 17 rue du Général Dumoncel, 50690 Martinvast, France
GÉRARD 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 2014/15, 1 303 CNB members sent information on their hunting trips and 1 211 participated in the wing collection. In total, 9 808 wings were analysed. 8 978 birds were weighed and 1 597 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 2014/15, ICA was estimated from 34 894 hunting trips. Its national annual value is 1.62.
This value is clearly above the average registered in the 1996/97 – 2013/14 period (1.45). The monthly variations of ICA show a peak in January (ICA = 1.80; Figure 2).
In 2014/15, a "mean" French woodcock hunter made 27 hunting trips, saw 43 woodcock and shot 9 of them.

Juvenile/adult ratio

For 2014/15, the proportion of juveniles in the French woodcock hunting bags was estimated at 63.3 %, i.e. 3.5 points under the average of the 1996/97 – 2013/14 period.

Male/female ratio

In 2014/15, the proportion of woodcock males in the CNB members' hunting bags was 40 %. This value continues to be remarkably stable from one year to another.

Variations in weight

The mean weight of a woodcock shot in 2014/15 was 314 g (312 g in 2013/14). As usual, the weight of adults was slightly higher than that of juveniles (317 g *vs* 313 g).

Adult females were the heaviest, 321 g in average. The mean weight of juvenile females and adult males was similar: 315 g. The mean weight of juvenile males reached 311 g.

Conclusion

The 2014/15 season can be again considered as a good one in terms of woodcock numbers in migration and wintering in France. Woodcock distribution was more homogeneous than usual probably in relation with mild winter weather conditions.
However, abundance was higher in West and Central regions than in the South-East. A decreasing trend of age-ratio and weights continues to be observed.

These results, as the previous ones, tend to show that the conservation status of this species is rather good in spite of an important hunting pressure in France.
ICAs estimated from data provided by woodcock hunters since the beginning of 1990s does not highlight a decrease of the population. A bag limit was applied since the 2011/12 hunting season in France (30 birds/season/hunter) which appears to 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.

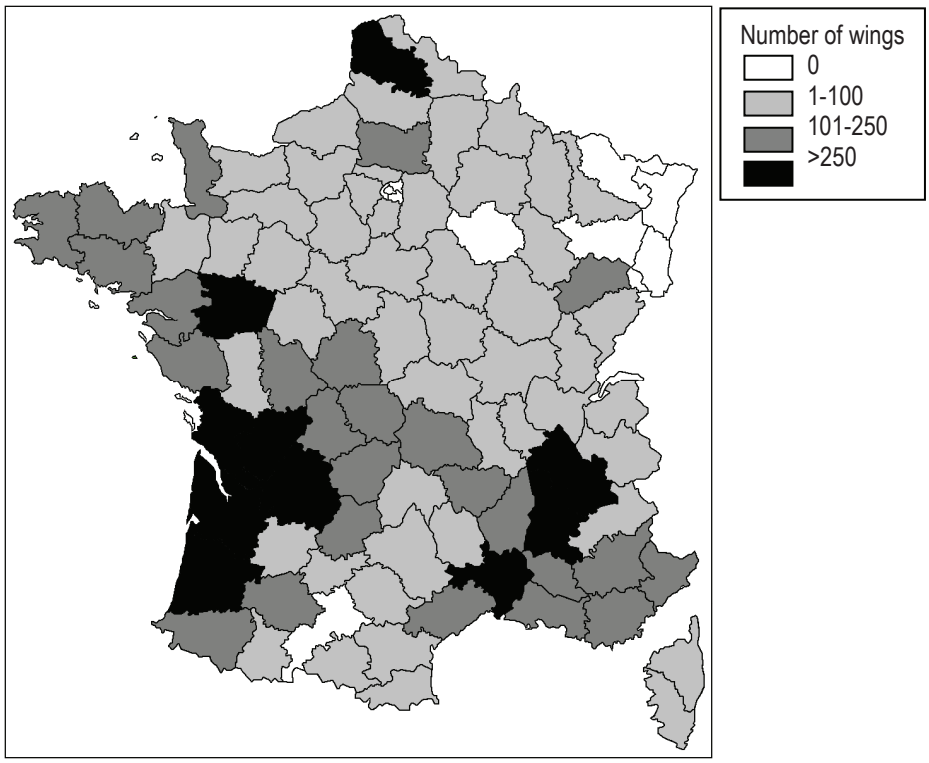

Figure 1. *Distribution of the number of Woodcock wings collected in every French* département *during the 2014/15 survey.*

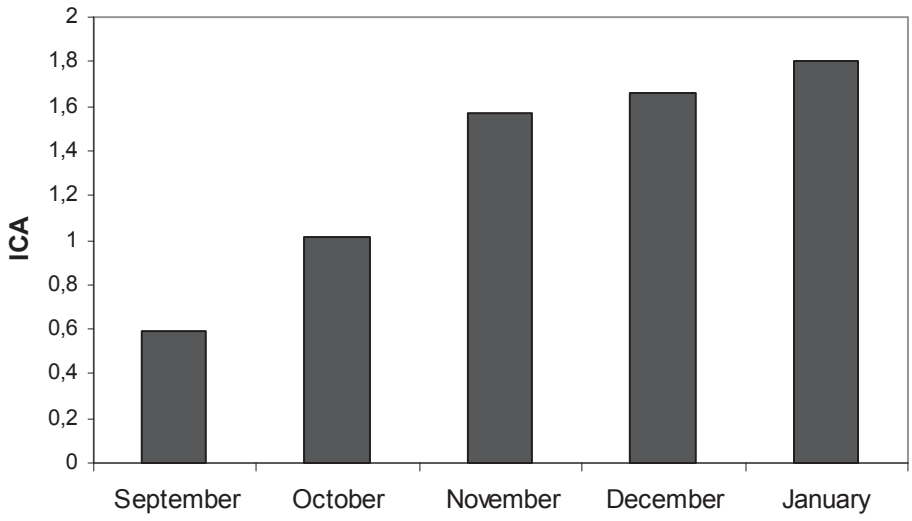

Figure 2. *ICA monthly variation in France for the 2014/15 hunting season.*

2014-2015 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
ANDRE 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 2014/2015 Woodcock (*Scolopax rusticola*) hunting season in mainland Portugal. Hunting was allowed from 1 November 2014 to 10 February 2015, on Sundays, Thursdays and national holidays, 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 352 hunting trip reports, performed by 29 different collaborators in 14 districts (Figure 1a). Only 6 of the 14 districts represented had more than 10 hunting trips reported. Viana do Castelo (n =140), Santarém (n = 63), Évora (n = 46) and Vila Real (n = 43) remained the four best sampled districts. The mean (±SE) time spent by hunting trip was 3.40 ± 0.06 hours (n = 349), and the majority of the hunting trips (66.6%) 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 2014/2015 season was 1.00 ± 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 χ^2 = 33.80, d.f. = 4; $p<0.001$), namely between the 2011/2012 season and the hunting seasons of 2012/2013 ($z = 3.80$; $p = 0.001$) and 2013/2014 ($z = 4.24$; $p<0.001$), and between the 2014/2015 season and the hunting seasons of 2012/2013 ($z = -3.67$; $p = 0.002$) and 2013/2014 ($z = -3.97$; $p<0.001$).

Each year, the movements/migration of the Woodcock influences the variation of the ICA through the hunting season. Usually, after a first increase during November, Woodcock abundance reaches maximum values in the first decade of December and remains relatively high until the end of the hunting season (black line, Figure 3). In 2014/2015 this pattern was different, as the increase was softer and in the beginning of December the abundance was at a level usually observed during the second decade of November (red line, Figure 3). This apparent delay in migration seems to have been compensated by a large arrival of birds during the second decade of December, as suggested by the increase in abundance observed at that time. After the second decade of December, the abundance remained high until the end of the hunting season. Relative to the previous hunting seasons, the lower abundance observed in 2014/2015 is likely a result of the fewer birds

observed during the first half of the season, since during the second half the abundance was similar to that registered in previous years.

Woodcock were seen in 12 of the 14 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, there was a tendency for higher abundance in the south of Portugal (Figure 1b). The Woodcock was not observed in Bragança and Viseu, although only one hunting trip was reported from each of these districts.

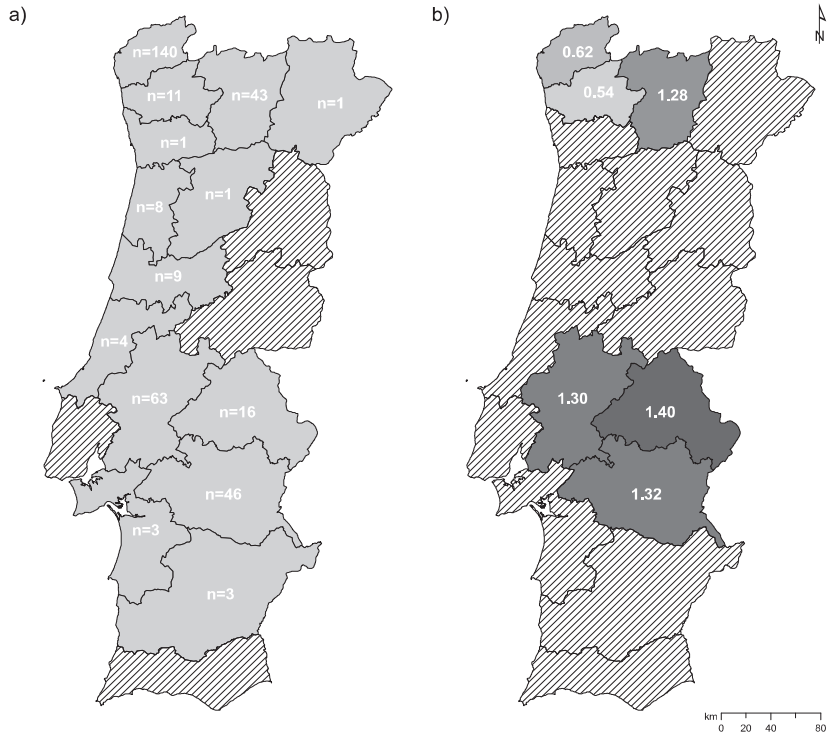

Figure 1. a) *Distribution of the number of Woodcock hunting trip reports analysed in mainland Portugal, during the 2014/2015 hunting season, by district (in grey).* ***b)*** *Variation in the mean value of abundance of Woodcock (hunting index of abundance = number of different Woodcock seen, per hunter, during a standard hunting trip of 3.5 hours), in mainland Portugal, by district, in the 2014/2015 hunting season (only districts with 10 or more reports were considered).*

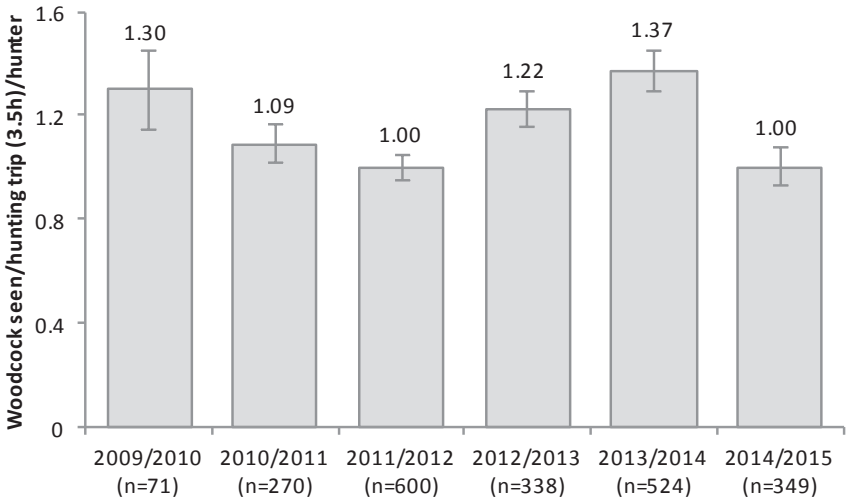

Figure 2. *Variation, by hunting season, of the mean (±SE) value of abundance of Woodcock (hunting index of abundance = number of different Woodcock seen, per hunter, during a standard hunting trip of 3.5 hours), in mainland Portugal; n = number of hunting trips analysed.*

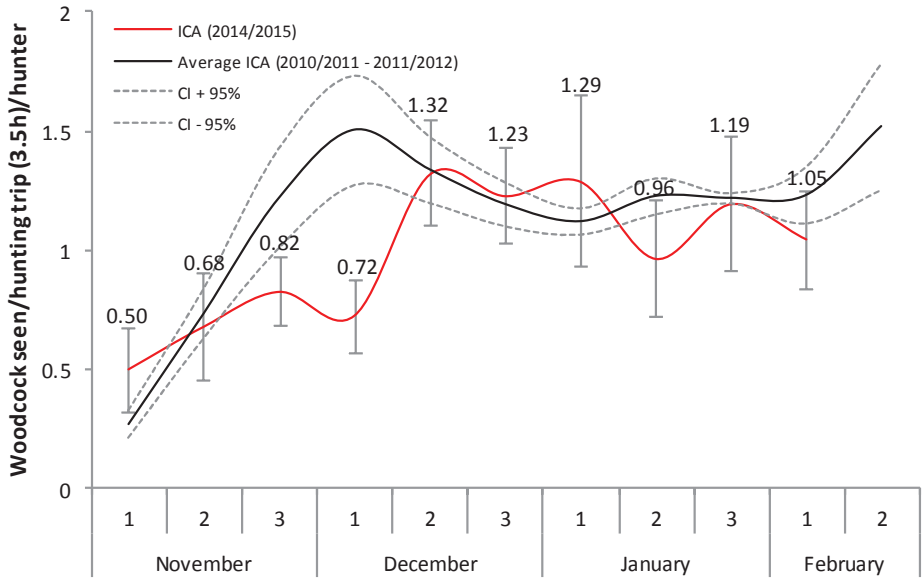

Figure 3. *Variation, by decade (period of ten days), of the mean value of abundance of Woodcock (hunting index of abundance, ICA = number of different Woodcock seen, per hunter, during a standard hunting trip of 3.5 hours), in the hunting season 2014/2015 (red line; vertical lines: ± CI 95%v- 95% confidence interval), and the average for the seasons 2009/2010 to 2013/2014 (dark line; dashed line: ± CI 95%) in mainland Portugal.*

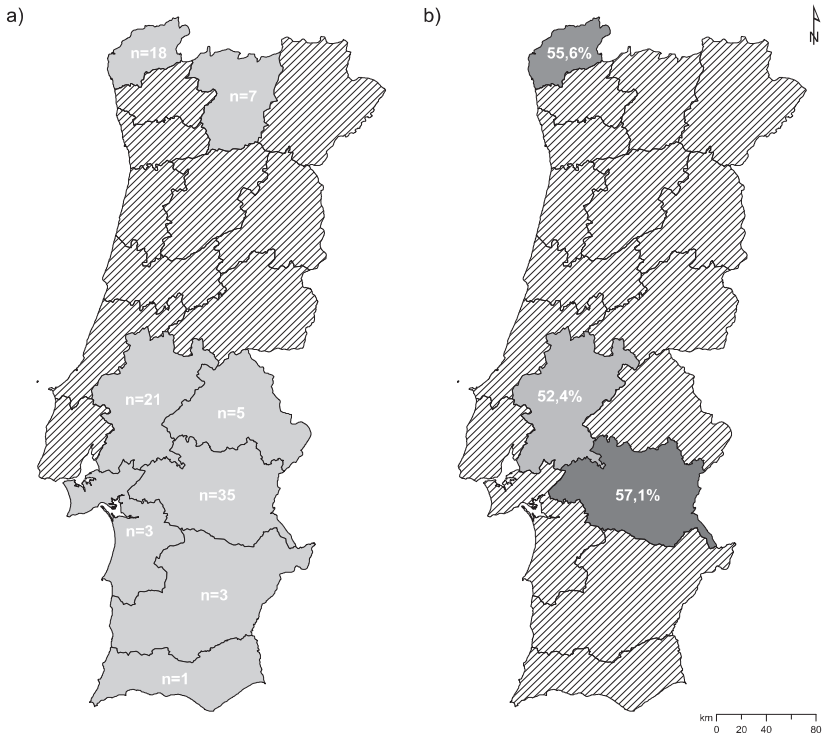

Figure 4. a) *Distribution of the number of Woodcock wings collected in mainland Portugal districts (in grey), during the 2014/2015 hunting season.* ***b)*** *Variation in the percentage of young Woodcock, in mainland Portugal, by district, in the 2014/2015 hunting season (only districts with 10 or more wings were considered).*

Wing collection

We analysed 93 wings, collected by 8 different collaborators in 8 districts (Figure 4). This was the smallest sample obtained since 2009/2010, when the ANCG started to collect data on Woodcock hunting in mainland Portugal. The reduced sample resulted in few districts with more than 10 birds analysed.

The age class [young (< 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 50.5 %, the lowest since 2009/2010. The percentage of males was 44.6 %. For the six hunting seasons studied, the proportion of males and females showed no significant variations ($\chi^2 = 1.15$; p = 0.949; d.f. = 5), the sex ratio of the Woodcock in mainland Portugal remaining close to one (Rodrigues *et al.* 2013).

Additionally, the hunters determined the weight of the Woodcock shot. The mean body weight (±SE) of the birds in the 2014/2015 hunting season was 298.5 ± 2.4 g (Table 2). Considering the weight of all Woodcock analysed since 2009/2010, there were no differences between sexes ($F_{1,679} = 1.12$; p = 0.290), but there were differences between age classes ($F_{1,679} = 5.37$; p = 0.021). The young birds are lighter than adults. Weight varied between hunting seasons ($F_{6,679} = 6.50$; $p<0.001$), but the birds from 2014/2015 did not differ from the other seasons.

		Age		
		Adults	Young	Total
Sex	Females	16	15	31
	Males	10	15	25
	Undetermined	20	17	37
	Total	46	47	93

Table 1. *Frequencies of age and sex classes among the Woodcock analysed in the 2014/2015 hunting season.*

	Weight (g)				
	Mean	Median	Minimum	Maximum	SE
Adult females (n=10)	299.2	307.0	265.0	330.0	6.7
Young females (n=15)	292.9	290.0	260.0	324.0	5.2
Adult males (n=16)	296.7	300.0	260.0	330.0	5.6
Young males (n=15)	294.6	290.0	260.0	330.0	5.8
Total (n=93)	298.5	300.0	260.0	360.0	2.4

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

Conclusions

In the 2014/2015 hunting season, the ICA mean value in mainland Portugal was 1.00 Woodcock seen/hunter/hunting trip. The low abundance of Woodcock for the entire hunting season, one of the lowest abundances observed since 2009/2010, seems to have been influenced by the pattern of migration observed in 2014/2015. The variation of the ICA during the 2014/2015 hunting season suggests a delay in the arrival of most of the birds, during the second fortnight of December, when it usually happens during November. Consequently, the abundance

remained low for a longer period than in most previous seasons.
In the 2014/2015 hunting season the percentage of young birds was 50.5 %. As in all the other seasons studied, the sex ratio was not different from one. There were no differences in body weight between the birds from 2014/2015 and the birds from previous seasons. Since body weight seems to differ between age classes, we recommend controlling for age in the analysis of this parameter.

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