APB – BirdLife Belarus

Report on monitoring of Aquatic Warbler in Sporava mire and potential sites survey

prepared within the framework of the project:

"International Cooperation for Aquatic Warbler Conservation – RSPB's support for a charitable purpose"
activity 5.1. Coordination of AW counts 2012 in Sporava mire (Belarus); activity 5.3. Basing on recently developed list of potential AW sites in Belarus, check those sites that were not checked in 2011.

Additional financial support provided by the A.G. Leventis Foundation.

Drawn up by

Uladzimir Malashevich
BirdLife/CMS International Aquatic
Warbler Conservation Officer

Minsk 2012

1. AIMS OF THE STUDY

The principle aim of the study was to conduct Aquatic Warbler counts at one of the most important Belarusian breeding sites – Sporava mire and to search for the new AW sites.

2. METHODS

The counts were carried out according to the international Aquatic Warbler monitoring scheme which was developed within the framework of the LIFE-Nature Project (Poland and Germany). The counts started one hour before the sunset and lasted for 2 hours maximum – the period of the highest singing activity of males. This time was enough to cover a monitoring route making up to 2 km. Counts were not attempted in windy or rainy weather.

Counts were simultaneously conducted by 1-5 persons at each monitoring route. Teams of 2 or more persons were moving in rows (Fig.1). Before being mapped, each vocalizing male had to be registered by at least 2 counters. Such methodology allows receiving reliable data from volunteers possessing different level of experience. Full counts were performed for all breeding localities covered with this survey.

Fig.1 – Counting aquatic warblers, June 2012

3. RESULTS

3.1 AW numbers in Sporava mire.

Full single counts of Aquatic Warbler covered more than **50%** (c. 700 ha) of known area of open fen mire suitable for the species (100% of the area were counted in 2011). The counts took place on 3 – 10 June 2012. For one locality (Pierasudaviči) full counts were repeated during second brood on the 1st of July 2012. The results are presented in the table below.

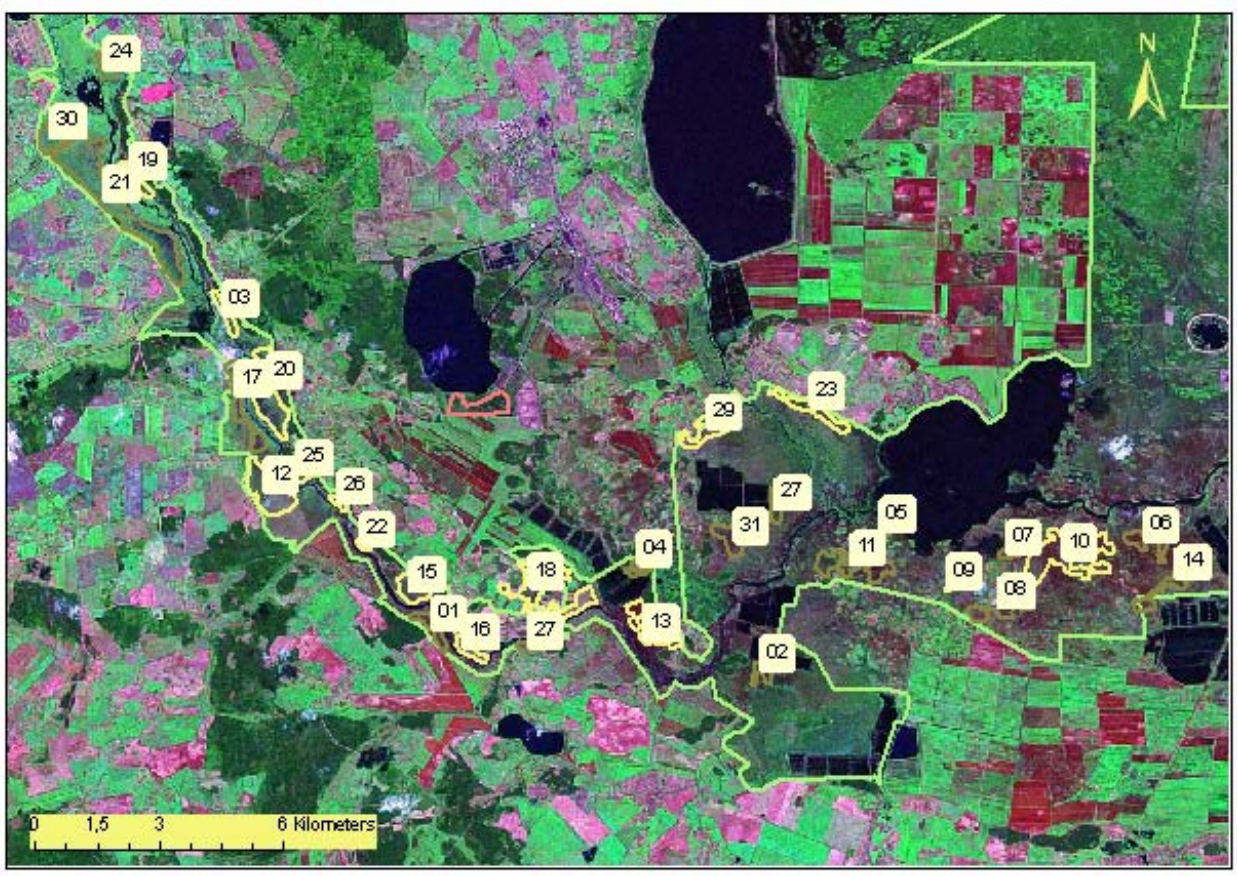

Fig.2 – Area suitable for AW in Sporava *(localities covered with full counts are marked with yellow, those not surveyed - brown, boundaries of IBA "Sporava" – green, new subsite discovered in 2011 and located outside of zakaznik - red)*

As it can be seen from the table below, in 2012 the number of AWs is about 30% lower at most subsites and in total for Sporava than it was in 2011.

Table 1: Results of Aquatic Warbler full counts in Sporava

№	Name of locality	**AW numbers,** singing males					
		2010 counted	**2011**		**2012**		
			Min counted	**Max** counted + potentially missed[(c)]	**Min** counted	**Max** counted + potentially missed[(c)]	**Habitat changes** (apart succession)
1	Čarniejeviču	-	6	6	-	-	-
2	Chomsk	1	2	2	-	-	-
3	Halavickija	5	2	2	4	4	no
4	Hieĺčykaŭ Kašyĺ	1	0	0	-	-	-
5	Kakoryca_Bochancava	-	3	3	-	-	-
6	Kakoryca_Chiža	-	9	[(c)]12	-	-	-
7	Kakoryca_North	7	1	1	-	-	-
8	Kakoryca_Opaĺskaje	9	[(b)]30	[(c)]34	-	-	-
9	Kakoryca_Pliesa[(a)]	-	1	1	0	0	no
10	Kakoryca_Voučyja_nory	62	[(b)]36	36	52	[(c)]62	fire
11	Kakoryca_West	29	14	[(c)]19	-	-	-
12	Kasciuki	45	35	35	25	25	no
13	Kašyĺ	-	1	1	1	1	fire
14	Liadoviču	-	10	[(c)]16	-	-	-
15	Mastyki	-	26	26	8	8	no
16	Mastyki_chutar	2	9	9	3	3	no
17	Matviejeviču[(a)]	-	8	[(c)]12	-	-	-
18	Mitraŭka[(d)]	14	[(b)]61	61	33	33	fire
19	Novaje	6	5	5	7	7	no
20	Pierasudaviču	48	29	29	19	19	mowing
21	Piasčanka_Šylin	146	108	108	-	-	no
22	Puzi	-	0	0	0	0	no
23	Sporava	39	16	16	6	6	no
24	Stryhiń	8	11	11	-	-	-
25	Vysokaje	2	1	1	0	0	mowing
26	Vysokaje_farm	-	0	0	0	0	mowing
27	Žabier	-	0	0	-	-	-
28	Zašešnieŭ	10	3	3	-	-	-
29	Zdzitava	37	34	34	31	31	no
30	Zdzitava_Biaroza	18	21	21	-	-	-
31	Zdzitava_chutar	12	14	[(c)]18	-	-	-
Total		**501 – 640[(e)]**	**496**	**[(c)]522**	**[(f)]345**	**[(f)]380**	

a) Subsites included into monitoring scheme in 2011.
b) Subsites that were surveyed in detail in 2011, therefore bigger numbers do not reflect population increase. For the rest of subsites the surveyed area in 2010 and 2011 was equal.
c) The figure is calculated as a sum of birds counted and an estimate produced for birds potentially not counted due to the subsite complicated geometry.
d) The subsite is partly located outside of zakaznik.
e) Full counts were executed for the biggest part of the site in 2010 and minimum figure corresponds to the number of counted males, maximum figure represents an estimation that was produced for the rest of the site.

f) The minimum figure is calculated as a sum of birds counted at surveyed localities and an estimate based either on average density or on numbers counted in 2011 whatever in smaller for localities which were not surveyed.
The maximum figure is calculated as a sum of birds counted at surveyed localities and an estimate based on average density for not surveyed localities.

3.2 Mowing and uncontrolled burning in Sporava mire.

Mowing with biomass removal took place in late 2011 – early 2012 in Sporava mire. More than 100 ha in total were mown at localities Pierasudavičy, Vysokaje and Vysokaje_farm (Fig.3).

Fig.3 – Ratrak mowing in Sporava. October 2011

Due to mowing the habitat suitability improved, since a thick layer of dry vegetation was removed and the area was partly cleaned from bushes. Partial removal of bushes was caused by a technical problem with the mowing device. There was no increase in AW numbers registered in 2012 for all 3 mown localities (see Tab.1). This goes in line with the recent study on habitat productivity performed in Biebrza National Park, Poland (Risely A. and Lachmann L., 2011). Following the study, the highest nest density and breeding productivity figures are registered at localities mown once in the previous 2-4 years. Therefore, AW population increase was registered starting only with the second year after mowing.

Fig.4 – Fen mire affected by uncontrolled fire, April 2012

Occasional fires occurred at a number of localities in spring 2012 (Tab.1). Altogether c.300 ha of fens were burnt. Fortunately, the fires took place under optimal weather conditions when the mire was covered with water and fire removed just dead vegetation (Fig.4), however, adjacent dry lands were seriously damaged (Fig.5).

Fig.5 – Negative impact of fire on the forest adjacent to the mire, April 2012

3.3 Search for the new sites.

A list of potential sites was developed in 2011 basing on:

- recently developed BY GIS database of mires;
- old vegetation map;
- Google Earth images analysis;
- personal contact with the experts.

As a result c.80 potential sites were added to the list. The most promising of those were checked in 2011-2012 (Fig.6).

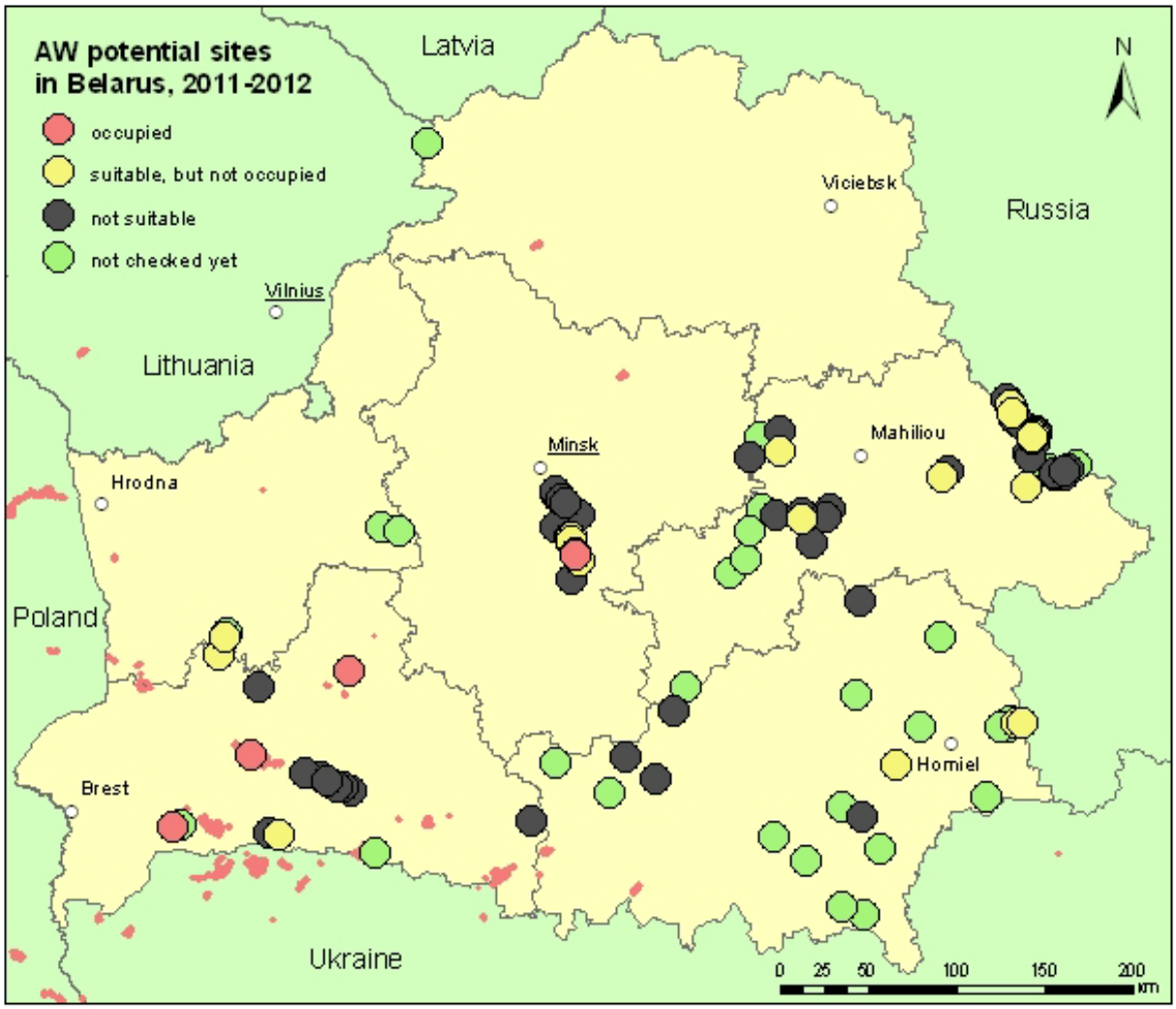

Fig.6: Potential Aquatic Warbler sites in Belarus.

Ščara-Rahačy

A new locality has been discovered in 2012 in vicinity of a known breeding site – Ščara river valley. The area suitable for the species is roughly estimated at 200 ha. On 16th July 2012 five singing males were registered here. The habitat was open; vegetation was presented by *Carex acutiformis* c.50%, *Glyceria maxima* c.50%, *Phalaris arundinacea, Iris pseudocorus, Typha latifolia*. Water table varied from 0 till 20 cm. Adequate protection regime will be secured for this locality before the beginning of the next breeding season.

Fig.7: Plot of the fen mire in vicinity of Ščara valley close to Rahačy village.

Upper Pcič

A new site was discovered in Upper Pcič river valley in 2011. The total area suitable for the species is roughly estimated at 100 ha and it could be even bigger. However, only one locality (close to Ržyšča village) was occupied by 2 singing males both in late June and in late July 2011. Today it is the only site occupied by Aquatic Warbler in Minsk region. Moreover, it is located just in 50 km from the capital. The protection certificate was issued for this habitat and adequate protection regime was secured in 2012.

Fig.8: The AW site in Pcič valley close to Ržyšča village (the one closest to Minsk) is still in optimal condition.

Sporava-Bielaje

The locality is situated outside of protected area (Sporava mire) on the shore of Bielaje lake (Fig.2). This very nice looking open fen mire had been partly destroyed in winter 2010-2011. One of the channels of power station was extended and ran across the mire (Fig.9). That happened before AW was found here – in June 2011. The area of the locality is c.55 ha. 14 singing males were registered here in 2011 and 4 singing males – in 2012. The protection certificate was issued for this habitat and adequate protection regime was secured in 2012.

Fig.9: A newly discovered Aquatic Warbler locality situated close to Bielaje lake. Before AW was found here, the habitat was partly destroyed by a channel and dam construction.

Dzivin-Lipava

A new locality within the borders of a known site (Dzivin) was found in early July 2011. The area of the locality is c.20 ha and 2 singing males were registered in 2011.

Other sites

During the survey a number of suitable however not occupied sites was registered (Fig.6). These continue to be regarded as potential sites and require iterated survey in subsequent years.

4. CONCLUSIONS

As a result of full Aquatic Warbler counts at 50% of suitable habitat in Sporava, species population was estimated at **345-380** singing males. It means that the number of Aquatic Warbler population is 30% lower in comparison with the results obtained in 2011 and it has reached the lowest value since the beginning of monitoring at this site in 1990s. The following reasons of population decline in Sporava mire might be suggested:

- Draught in Sporava mire caused by decrease of water level in Jasiełda river by 0,5-1,0 m;
- Draught in Inner Niger Delta (Mali) that affected population during the wintering season;
- Thick and dense litter layer blocking the development of green vegetation. The layer of dead vegetation is especially dense in fen mire parts located near the villages Kakoryca and Zdzitava;
- Decrease and fragmentation of suitable habitat due to succession overgrowth.

Recently implemented conservation mowing is called to stop habitat degradation caused by overgrowth with reeds and bushes, however first effects on Aquatic Warbler population numbers are only expected starting from the second year after mowing.

The same acts for uncontrolled fire that occurred in spring 2012. In medium term perspective the fire is beneficial for the fen mire habitat as it eliminates both layer of dead grassy vegetation and bushes up to 1,5 meters height. However, the lack of dry vegetation for nest placement during this breading season could potentially result in decreased breeding success.

In order to prevent further degradation of open fen mires vegetation, the vegetation management should be continued. Active vegetation management is determined as an essential activity by International Species Action Plan, by Management Plans of zakazniks (reserves) and by recently developed National Species Action Plan. Implementation of such conservation activities will help to conserve not only Aquatic Warbler, but to secure as well the complex of rare and threatened plants and animals of fen mires.

Hereinafter, the ground check of potential sites is an important step towards finalization of the breeding sites inventory. Without being given special conservation attention, these small and unknown sites are very likely to disappear. First of all, because the locations where Aquatic Warblers is present are not known. Secondly, because the smaller sites are more likely to deteriorate without proper management than the bigger sites (BirdLife International 2008. International Species Action Plan).

ACKNOWLEDGMENTS

This research would not have been possible without the help of:
Eduard Zijp, Dzima Smirnou, Frank van den Haak, Grzegosz Kiljan, Liosha Radchanka, Liza Sitkevich, Oskars Keiss, Pavel Papkou, Raman Shkabara, Volker Salewski, Yulia Tracciak, Zhenia Andrejuk, Zydrunas Preiksa.

Many thanks for your help!