

# Aquatic Warbler Conservation in Eastern Poland

During the last year of project realization we were very busy finishing field works, fighting for long-term financial support for active protection of Aquatic Warbler in the future and summarizing our actions. About all of that and more you can read in articles published in the last number of projects LIFE+ "Aquatic Warbler and Biomass" newsletter.

Summarizing the project results, especially environmental, we were basing on data from monitoring of Aquatic Warbler, collected during the counts in all project sites. Reading our newsletter you can find out how difficult task it was. Here I would like to shortly mention achieved result. According to monitoring data, the Aquatic Warbler population number has increased by 26% since 2009 year. Probably no one was expecting so good result

Actions which had been conducted to achieve that result we described in previous issues of the newsletter. In this issue we publish article concerning active protection measures in Biebrza Valley (national park and buffer zone). Our actions were evaluated not only by Aquatic Warblers, but also by experts of different specializations during field visits organized in frame of the project. Report from one of that visits conducted in 2013 year in Lublin region you can find in the newsletter.

Important part of project implementation was launching the pelleting facility, in which biomass from Aquatic Warbler breeding areas is converted into pellets, used later as a fuel in households and power plants. One of articles is describing the hard way we had to cover to launch our facility. We had to (shortly): get permissions, choose the best production technology, buy and repair the buildings, construct the production line and finally start processing the material. We did it! The facility is working and generating the product called OTOPellet. The technical capability of the plant is so high that we could process the whole biomass from Aquatic Warbler habitats in Biebrza Valley.

The protection of Aquatic Warbler is dependent from proper management of its breeding areas, which is late mowing with appropriate frequency. That action requires financial support, which can be Agri-Environmental Scheme. OTOP was lobbying for nature friendly shape of AES variants. Currently there is no final version of the Rural Development Plan, but we write what we know in one of the articles.

Traditionally in our newsletter, besides project areas we also describe locations important for Aquatic Warbler outside. In this issue you can read about Aquatic Warblers inhabiting Tyśmienica Valley. The species has many secrets and still surprises us. One of the biggest surprises was discovery of the new migration route to wintering sites, which was done with usage of geolocators. About the research and its results you can read on next pages.

Enjoy the reading!

Dariusz Gatkowski  
Coordinator of Aquatic Warbler and Biomass LIFE project



# Monitoring of Aquatic Warbler

Krzysztof Gaszewski



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Aquatic Warbler is globally threatened species (category „Vulnerable” – due to International Union Conservation Nature criteria). The breeding area is limited to middle-east Europe, with biggest populations inhabiting Poland, Belarus and Ukraine. Because of serious threat of Aquatic Warbler population, governments of several states (including Poland) signed in 2004 year agreement about protection of Aquatic Warbler, in frame of Bonn Convention (concerning migrating species). The agreement is unique and does not have any precedence in international law. States-signatories are obliged to protect populations of Aquatic Warblers and monitoring is part of conservation process. The monitoring is conducted by OTOP since 2005 year in frame of two projects: LIFE and LIFE+. The projects are focused on conservation of Aquatic Warbler populations, thanks them we can monitor the population every breeding season.

Current project LIFE+ „Aquatic Warbler and Biomass” is conducted by OTOP since 2011 year. The aim of it is to manage the biomass from the habitats of Aquatic Warbler in economically viable way. Conducted monitoring shows the impact of project measurements (like mowing and bush removal) on Aquatic Warbler population. In our actions we focus on the priority project areas (Biebrza Valley, Narew Valley, Bubnów and Staw Marsh in Poleski National Park, Chelm Calcareous Marshes, Ciesacin Bog and Middle Bug Valley near Husynne). We also collect data about observations of Aquatic Warbler during the breeding season in the whole country. Annually carried on counts are supplemented by censuses conducted every 3 years (since 2009) when birds are counted in all, potential, historic and present sites of Aquatic Warbler breeding (annually counts are not conducted for example in all Biebrza Valley, but only in OTOPs reservations and Ławki Marsh in Biebrza National Park. Last census was done in 2012 year.

Counts of Aquatic Warbler are conducted using two different methods: full counts and transect counts. The first one is used on all sites, the second in areas with biggest breeding populations (Biebrza Valley, Chelm Calcareous Marshes, Bubnów and Staw Marsh). In locations mentioned above 100 one-kilometer transects are placed. Counting person is walking through the transect in proper time (an hour before and after sunset) and recording singing males in 3 categories of distance. The count is repeated three times during breeding season. Transect counts were started in 2011 year. In full counts the row of a few people with the same distances between them, is going through counting area and recording all singing males on paper maps and GPS devices. The full counts are conducted once or twice during the breeding season. The number of counts is dependent from number of volunteers and the size of the area.

In frame of LIFE+ project „Aquatic Warbler and Biomass” the monitoring measurements were done during four breeding seasons: 2011-2014 (monitoring report for 2014 year is under preparation). This period is not long enough to make detailed analysis of population trends, however the general picture of Aquatic Warbler population in Poland seems to be positive, especially in the biggest breeding areas in Podlasie and Lublin region.

Currently, the most threatened population exists in West Pomerania, which future is very uncertain. In that site for many years systematic decrease of number of singing males was noticed. Although the west population is not covered by LIFE+ project, OTOP is collecting data also from that areas. On figures 1, 2 and 3 is presented the situation of Aquatic Warbler populations in four locations: West Pomerania, Ławki Marsh in Biebrza National Park (the biggest breeding site in Poland), Chelm Calcareous Marshes, Bubnów and Staw Marsh.

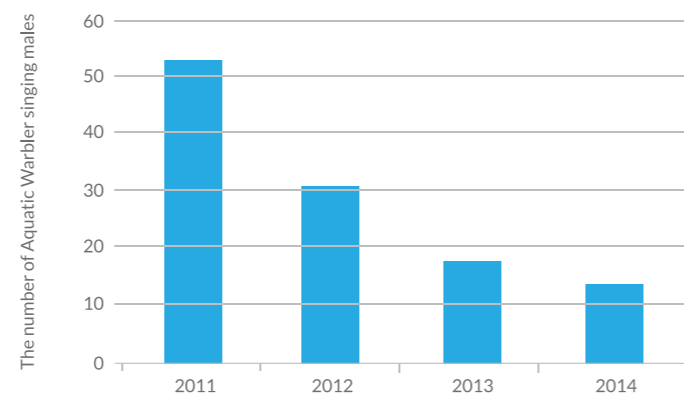


Fig. 1. The number of Aquatic Warbler singing males in West Pomerania during the LIFE+ project.

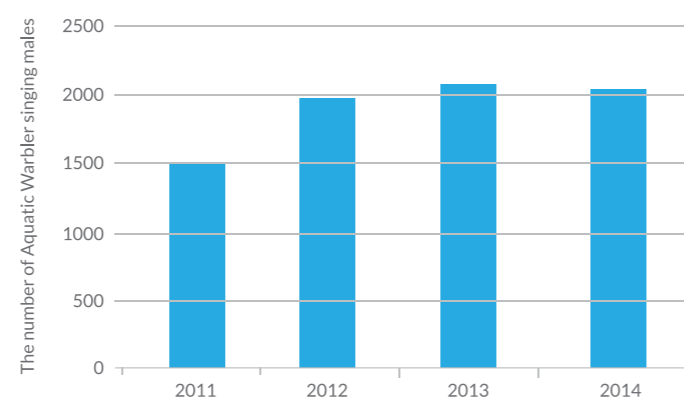


Fig. 2. The number of Aquatic Warbler singing males in Ławki Marsh during the LIFE+ project.

The monitoring measurements would be impossible without huge and priceless help of our volunteers. During the LIFE+ project more than 120 people took part in Aquatic Warbler counts. We would like to thank all volunteers for their sacrifice and involvement, counts were often very hard tasks because of hard field conditions. The data collected during monitoring is very useful and lets us better protect Aquatic Warblers.

General picture of Polish Aquatic Warbler population is positive, although characteristic for the species annually fluctuations, the size of population is not decreasing as it is happening in neighboring countries. We hope that also in future Poland will remain important Aquatic Warbler breeding area, what, if we look on monitoring data, is quite possible.

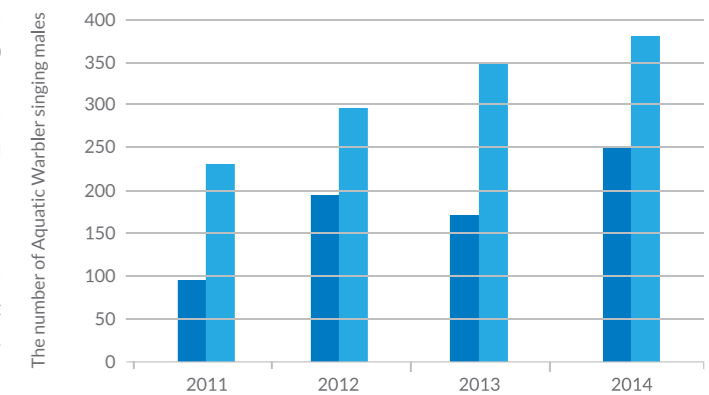


Fig. 3. The number of Aquatic Warbler singing males in Chelm Calcareous Marshes, Bubnów and Staw Marsh during the LIFE+ project.

■ Chelm Calcareous Marshes  
■ Bubnów and Staw Marsh



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Photos:

1. Outlining the route for volunteers in Bagno Staw – D. Gatkowski
2. Sunset is the best time to count the Aquatic Warbler, Bagno Staw – D. Gatkowski
3. Aquatic Warbler count in Bug Valley – J. Krogulec
4. Volunteers before fieldwork in Bagno Staw – D. Gatkowski
5. Access to the research area is not so simple – Bagno Bubnów – D. Gatkowski

# The results of Aquatic Warbler counts in years 2009-2014

Dariusz Gatkowski



As I mentioned in leader article, last months of the project is the time of summaries. One of the most interesting information we were waiting for was the result of Aquatic Warbler counts conducted during the time of project LIFE+ Aquatic Warbler and biomass implementation. Monitoring actions were done in four breeding seasons in years 2011-2014. How the counts were conducted we describe in another article in this newsletter. In the table below you can find the results of full counts done on project priority areas.

The most important and the biggest breeding site is Bagno Ławki in Biebrza Valley. The results look optimistic, during recent three years (2012-2014) the population number of Aquatic Warbler (the number of singing males) has stabilized on high level. In that period Bagno Ławki was inhabited by about 2000 singing males – it is very good result. Having in mind that in the area of Bagno Ławki in years 2007-2011 many active protection measurements were conducted (bush removal, regular large scale mowing since 2007 in frame of projects and Agri-Environmental Scheme) we can assume that the actions had significant positive influence on Aquatic Warbler population.

In Podlasie region the project was also covering 4 smaller sites, 3 of them placed in Biebrza Valley (Mścichy, Bagno Ławki-Szorze i Laskowiec-Zajki - in buffer zone of national park) and the fourth in Narew National Park, near Pańki village. The number of Aquatic Warbler singing males in national park buffer zone was strongly fluctuating between the seasons, so it is hard to find any trends. It is linked with proximity of Bagno Ławki where exists strong population of the species and huge area of optimal breeding habitats. In site in Narew Valley during the project implementation (counts in years 2010-2014) Aquatic Warblers were absent. This is because the habitat is suboptimal for the species, but still it is worth to observe that location.

The biggest population of Aquatic Warbler in Lublin region inhabits Bagno Bubnów and Bagno Staw in Poleski National Park. We are happy to inform that the population numbers of singing males in that areas were increasing every year, reaching 381 in 2014 year, which is 210% of 2009 year size! Here should be mentioned, that the area is managed according to Aquatic Warbler habitat requirements.

The second biggest population in Lublin region exists in Chelm Calcareous Marshes. Also in this area the population size was increasing during the project implementation. The result may be not so striking as it was in case of Bagno Bubnów and Bagno Staw, but still optimistic. In the area of Chelm Calcareous Marshes management was also done "Aquatic Warbler friendly" way.

Two smaller project priority areas in Lublin region are Ciesacin fen mire (part of SPA Polesie) and The Middle Valley of Bug River near Husynne village. In the second site, where habitats are suboptimal Aquatic Warblers were not observed during the project implementation. That result is not very surprising because of proximity of optimal habitats in Chelm Calcareous Marshes.

In Ciesacin fen mire in years 2010-2011 the species was not recorded. In following years Aquatic Warblers returned to the site, in 2014 year seven singing males were observed. That fact is linked with active protection actions:

bush removal and first time mowing conducted in frame of LIFE+ project "Aquatic Warbler and Biomass". In the area of Ciesacin fen mire the positive relation between protection measurements and the size of Aquatic Warbler population and state of its breeding habitats is visible

The results of Aquatic Warbler full counts shows that the population size stopped decreasing, it is at least stabilized if not slightly increased. Anyway years 2012-2014 is good period for Aquatic Warblers in east Poland. Why? Probably because of active protection actions (bush removal, first time mowing) and regular management of breeding areas according to Aquatic Warbler habitat requirements. The measurements were conducted in frame OTOPs projects financed by LIFE program (previous "Conserving Aquatic Warblers in Poland and Germany" and ongoing "Aquatic Warbler and Biomass") and with support of Agri-Environmental Scheme. Our efforts have paid off!

Site/Year	2009	2010	2011	2012	2013	2014
Biebrza Valley: Bagno Ławki	1602	2141	1498	1966	2058	2037
Biebrza Valley – site: Mścichy	76	54	126	64	14	61
Biebrza Valley – site: Laskowiec-Zajki	5	2	4	3	13	4
Biebrza Valley – site: Ławki-Szorze	12	17	21	12	13	16
Narew National Park (near Pańki village)	3	no data	0	0	0	0
Chelm Calcareous Marshes	3	no data	96	195	172	252
SPA Bagno Bubnów	172	no data	231	297	351	381
Ciesacin fen mire	1	0	0	2	3	7
Middle Bug Valley near Husynne	54	0	0	0	0	0
<b>SUM</b>	<b>2168</b>	<b>nd</b>	<b>1976</b>	<b>2539</b>	<b>2624</b>	<b>2758</b>

Tabla 1. The number of Aquatic Warbler singing males in priority areas of „Aquatic Warbler and Biomass” LIFE+ project  
Photo 1. Aquatic Warbler (Acrocephalus paludicola) – M. Matysiak, www.mateuszmatysiak.pl



**PROJECT SITES**

1. SPA Biebrza Valley
2. SPA Marshy Valley of the Narew River
3. SPA Polesie
4. SPA Bagno Bubnów
5. SPA Chelm Calcareous Marshes
6. SPA Middle Valley of the Bug River

# The meeting of Aquatic Warbler protection experts – Technical Task Force in Lublin region

Jarosław Krogulec

Annual meeting of Aquatic Warbler protection experts is an essential part of LIFE+ project „Aquatic Warbler and Biomass”. Participants are visiting areas of active protection actions, where they are discussing successes and failures of conservation measures. After drawing conclusions they try to plan future protection actions. In 2013 year project sites in Lublin region (Chelm Calcareous Marshes, Poleski National Park and Ciesacin Mire) were visited. In Chelm Calcareous Marshes participants of the meeting were observing results of the project actions in Błota Serebryskie and two reserves: Brzeźno and Bagno Serebryskie.

The area of **Błota Serebryskie** in seventies of XX century was divided into west and east part by the dyke. The west part because of intense drainage and mowing had significantly changed. The hay from that area was destined for cattle feed in nearby Production Collective “The Future”. In 1995 basing on Action Plan prepared by OTOP for its priority area – Chelm Calcareous Marshes, The Fen Mires Protection Plan was done. Part of the plan was to build sluices to increase the water level, what was successfully done. Combination of higher water level in west part of Błota Serebryskie and worse habitat conditions in nearby Aquatic Warbler breeding sites caused increase of population size. Nowadays the area is managed under the Agri-Environmental Scheme. In 2013 year 64 singing males of Aquatic Warbler were recorded. The number of birds is connected with the water level, Aquatic Warblers colonize even suboptimal areas with appropriate level of water. As intense drainage as in the west part of Błota Serebryskie was never conducted in the east part. The area is environmentally valuable, hosts the largest Lubelszczyzna lek site of Great Snipe. Aquatic Warbler is quite numerous, with population of 27 singing males in 2013. Water level is crucial factor for ensuring proper habitat conditions. Many beavers dams and sluices in the area help in keeping the appropriate water level. The important part of Błota Serebryskie landscape are numerous plots of dense vegetated saw-sedge habitat. The high increase of Aquatic Warbler population (100% more in comparison with recent years) is probably linked with decrease of population numbers in Roskosz fen mire. In every site in Chelm Calcareous Marshes main factors influencing Aquatic Warbler population numbers and habitat conditions are water level, frequency, method and period of mowing. During evaluation of conservation measures, it is important to remember about high micro diversity of habitats in the area. Population of Aquatic Warbler in Chelm Calcareous Marshes is stable, although birds are moving between sites in the location.

**Bagno Serebryskie** is part of landscape park, Natura 2000 area and nature reserve. Important part of habitat is saw-sedge, which is strongly dependent from proper habitat conditions. In 2013 year 55 singing males of Aquatic Warbler were recorded, population had increased by 100% comparing with recent years. Like in Błota Serebryskie that fact is connected with decrease of population in Roskosz fen-mire. The big part of the area was covered by Agri-Environmental Scheme, in variant with mowing 20% of the plot every year. That frequency of mowing fits Aquatic Warbler habitat even better than special variant dedicated for the species (with 50% of moving every year). The crucial factor of Aquatic Warbler and Saw-sedge presence in the area

is water level. Nowadays thanks to the new sluice (constructed by RDOŚ Lublin) the water level is higher but fluctuations in different periods are still occurring. The period, method and frequency of mowing are also important, as well as habitat conditions during the measure. If after mowing of Saw-sedge habitat the water level is higher than the sprout bases the plant cannot regenerate. In that case reeds are rapidly colonizing the area (reed is present in Saw-sedge habitat in low numbers). Choosing the right period for mowing is difficult, requires monitoring of water level in fen mire and high mobility of farmers. Too early mowing is also dangerous for late broods of Aquatic Warblers. The best for habitat would be winter mowing of frozen fen mire what prevents Saw-sedge sprouts from destroying. Unfortunately winter mowing is not a part of Agri-Environmental Scheme 2007-13, so the local unit of Agency of Restructuration and Modernization of Agriculture has to decide in every single case if farmer can do it or not. The Agency may assume that winter mowing is not agricultural measure and cancel Agri-Environmental payments. Collecting of biomass (difficult when the water level is high) is also important, accumulation of organic matter causes abandoning of the habitat by Saw-sedge. Existence of Saw-sedge habitats is significant for Aquatic Warbler population in Chelm Calcareous Marshes.

**Brzeźno** is an area protected in the same way like Bagno Serebryskie. The water level in 2013 year in that site was the highest recorded during last 30 years. The Saw-sedge is abandoning the area, probably because of high water level during mowing and after (the plant cannot regenerate). Although in some plots the Saw-sedge is regenerating, what is caused by micro diversity of the habitat. All that factors influent Aquatic Warbler population, and because of them the number of birds is low (6 singing males in 2013).

**Ciesacin fen mire** is a site with relatively big area where habitats stay in good condition. It is not covered by any country form of nature protection (the fen mire is placed in Natura 2000 area). On the east side of road connecting villages Garbatówka and Grabniak the big plot of open fen mire exists. Thanks to regular mowing and bush removal the succession of willow was stopped. Moreover the share of reed in the habitat has decreased. The Aquatic Warbler is present in the location in very low numbers (2 singing males in 2013 year). Other interesting birds inhabiting Ciesacin are Corn Crake and Common Snipe.

**Bagno Bubnów and Bagno Staw** are located in Polesie National Park. The area is lower than neighboring arable land, what causes flowing of fertilizers with water to the protected area. Fertile habitat is than colonized by reeds. High water level in Bagno Staw (since 2011 year) is a reason of abandoning of the site by waders and Aquatic Warbler. Part of land is leased by local farmers, who are managing the area due to Agri-Environmental Scheme. Thanks to their measurements open fen mire area exists. The biomass collected in the National Park is destined for energetic use, reeds are used as a litter for cattle. Bagno Bubnów and Bagno Staw are hosting the biggest population of Aquatic Warbler in Lublin region (326-351 singing males in 2013 year).

## Summary

Two main factors influencing on Aquatic Warbler population in Lublin region are water level height and mowing management of the areas (frequency, period and method).

### Regulation of water level:

- by sluices – enable regulation of water level height in fen mire, in dry conditions sluices are closed, in wet conditions they are open
- with help of beavers – dams and lodges of beavers are blocking water flow from fen mires; the disadvantage of that solution is that the water level height cannot be regulated; inserting the pipes in dams to enlarge the water flow is planned

### Proper method of mowing:

- Crucial factor is the water level height, the measurement should not be conducted when it is too high
- Spring and summer mowing is not harmful for the vegetation if conducted when water level is proper, but it is dangerous for Aquatic Warbler

- The best solution is winter mowing, which is technically feasible but not in frame of Agri-Environmental Scheme (possibility of payments loss)
- Too frequent mowing influences negatively on Aquatic Warbler population; the measurement conducted in frame of Agri-Environmental Scheme, even in “Aquatic Warbler variant” – 50% of area mowed every year is too frequent (another variant with 20% of area mowed every year is better for the species)
- Heavy machines moving in the fen mires have negative influence on vegetation (tractor, ratrik); good solution is winter mowing; in conditions of Chelm Calcareous Marshes making one track used to access the fen mire is good solution – the vegetation is destroyed in limited area, and because of hard calcareous rockbed machines are not endangered by sinking into the fen mire



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Photos:

1. Mown habitat of Aquatic Warbler in Bagno Bubnów – D. Gatkowski
2. Project experts in Brzeźno - Dariusz Gatkowski – D. Gatkowski
3. Aquatic Warbler habitats, Bagno Bubnów – D. Gatkowski

4. Project experts on the access track for mowing machines, Bagno Serebryskie – D. Gatkowski
5. Managed Aquatic Warbler habitat in west part of Błota Serebryskie – D. Gatkowski

## OTOPellet plant – next steps

Dariusz Tatarczuk

In April of 2013 Polish Society for the Protection of Birds (OTOP) has launched a pellet production plant, called OTOPellet. This ambitious plan was implemented with the significant help of EU funds from LIFE + program, as a project "Aquatic Warbler and biomass". The main goal of this project is an active protection of wild birds habitats, with emphasis on Aquatic Warbler species. The population of this species on a global scale has decreased to

line in form of bales. The fragmented biomass goes to the dryer and next to the mill, which reduce size of biomass further. In this form, material goes into the granulator - a device which extrude granules with a diameter of eight millimeters and a length of three and a half centimeters. It goes under high pressure and which is the most important, without using of additional toxic components. Ready-made pellet just has to be cooled down and in

Currently, the main consumer of OTOPellet's product is the power plant in Ostrołęka, which receives about 100 tons of pellets per month. Positive news about the production of "Aquatic Warbler's pellet" has spread throughout the whole country. There are customers interested in buying our pellet even near the German and Czech borders. The limitation of such sales is still costs of transport, which at the moment significantly reduce the viability of sales in such distant places.

The production plant is located in former sawmill building, which at the moment is modernized. The offices and social rooms are done up, with a total area of approx. 120m<sup>2</sup>. Very soon Podlasie Regional OTOP Office, which until now was located in a rented apartment in Trzcianne, will be moved to the OTOPellet rooms and thus concentrating all activities and all the local staff in one place.

As we wrote, to build a position on the biofuel market, in the next plans of expansion OTOPellet plant, is an introduction of second shift. With the EU support, OTOP also intends to build silos for pellets, in order to increase storage capacities and reduce the time of loading. It is also planned to prepare the place for the storage of hay bales.

OTOP has a lot of ideas for the future. Nowadays we can observe that the mentality of the society is changing, and with it the demand for clean energy, which is comes from renewable sources. As a result of pilot project, OTOPellet plant shows that nature conservation can be combined with business, that can be profitable and worthwhile to maintain this course of action.

**OTOPellet**  
ENERGY FROM NATURE



just several thousand individuals during XX and beginning of XXI century. In Poland, population numbers maintains on level slightly above three thousand individuals. Without an active protection of Aquatic Warbler habitat, these species is threatened with extinction.

such form goes to the store in the form of loose pellets or is being packed in Polypropylene BIG BAGs (1 tone weight). It can also be packed in smaller (15 kg) plastic bags.

At this moment, OTOPellet plant employs 4 people and produces approx. 115 tons of pellet per month. So far, only one shift works, but there are plans to organize a second shift. Our pellets proved to be a good fuel and reaches almost 16 GJ caloric content. This is more than comparable pellet made of straw and only slightly less than wooden pellets. However, the pellets produced by OTOP is very price competitive and thus has already gained recognition among the closest inhabitants, and this interest is constantly growing.

OTOP's pellet production plant was established with the aim of processing of biomass. It is a specific biomass, as its main shortcoming is the high humidity, due to marsh origin. The solution of this problem was the selection of appropriate pellet production line, to be able to effectively process the biomass. Pellet production process consists of several stages and starts with size reduction of biomass. Next the biomass is placed on the production



Photos:

1. OTOPellet – D. Gatkowski
2. OTOPellet facility in Trzcianne – Ł. Mucha
3. The roof renovation – D. Gatkowski
4. Offices before renovation – D. Gatkowski
5. Offices after renovation – Ł. Mucha

6. Unloading biomass – Ł. Mucha
7. Unloading biomass – D. Gatkowski
8. Machines in OTOPellet facility – D. Gatkowski
9. Machines in OTOPellet facility – D. Gatkowski

# Profile of Biebrza OTOP Reserves – projects sites of Aquatic Warbler active conservation

Lukasz Mucha

Since its beginning, Polish Society for the Protection of Birds (OTOP) puts emphasis on the protection of particularly valuable bird habitats and leads buying of lands in the most vulnerable areas. The first land OTOP bought in 1993 on Karsiborska Kepa, near Świnoujście and established there the first social nature reserve.

Long-time projects, such as LIFE project "Protection of Aquatic Warbler in Poland and Germany" finalized in 2011 and the second one, ongoing LIFE+ project "Aquatic Warbler and biomass", had budget which allowed to make more land buyouts. Most of them purchased in Biebrza Valley in Podlasie. These lands were bought inside the buffer zone of the Biebrza National Park (BbPN), which is located around its borders. They characterize by high number of Aquatic Warbler. OTOP selected three such places: meadows near the Mścichy village, meadows near the Zajki village and part of the Male Ławki - fen near the Szorce village. The primary criterion for the selection of lands was just presence of the Aquatic Warbler in areas excluded from BbPN. Each of the selected location was different, including terms of land management, water level and vegetation.

The meadows located near the Mścichy village, on both sides of the road leading to Biały Grąd, to the border of BbPN, are the areas of about 450 hectares, which up to 80s were mown by the local farmers. In addition, on the north-east part they extracted peat for the fuel. Currently, only the driest plots are mown and only in years with low water level. At this time, the peat is not extracted, but commercial gathering of *Menyanthes trifoliata* is very popular within local people.

As a result of ceasing of farming, the areas once exposed, overgrown again by willow and birch. Which negatively impacts on the bird habitats (Aquatic Warbler and waders). Similar impact on Aquatic Warbler habitat has the water level, which is not equal in all areas. The northern and southern part

differ from each other quite significantly, because of the causeway separating these two parts. The northern part has no direct contact with the river and only one drainage ditch drains water from this part to Biebrza. This serves the birds well, which find here good feeding base and a convenient place for nesting. On the north side we can observe the most bird species richness. Such conditions also are the best for Aquatic Warbler. In this area, it occurs most often - in 2011, 126 singing males were counted here, which represents 1% of the world population of this species! The southern part of the area Mścichy has a direct inflow of water to the Biebrza River and this affects with faster drying of the land, after the spring thaw. At the same time the water level rises faster when the water in the river comes.

Since 2006, the area OTOP has bought more than 200 ha and immediately started to work on maintaining habitats which exist and rescuing those habitats which have already overgrown. Thanks to buyout the lands, mowing about 250 ha of the meadows (every two years) is now possible. Most of them mows OTOP, within the scope of agri-environmental programs. Ongoing activities (manual and mechanical bush removal), with great effort and often in very difficult conditions, succeed with exposing 10% of the land, which means an increase of Aquatic Warbler habitat range for about 45 ha. To natural Mścichy values, may also include numerous orchids. In overgrown drainage ditches appears also thunder fish. There are also elks in large numbers and who is lucky, may even meet the wolves!

The second area is the meadow near the Zajki village, near Carska Road, with an area of 480 ha. This area was intensively cultivated until lately. The whole complex of meadows were drained in the 70s of last century. That time the meadows were the most intensively used by farmers, who mown them even two times per year. In next years, ditches gradually overgrown. Political changes in the country and lack of funds made cleaning of ditches more difficult. This period was a time of the most abundant occurrence of

birds in the area. However, due to increase of water level, farmers gradually ceased to use this area what caused overgrowing of meadows and losing attractiveness for birds. Farmers often express dissatisfaction with the fact that because of the high water level could not to mow meadows, thus could not get animal feed. In recent years, there were even cases of lawless cleaning ditches for farmers, which is against the law and may result in revocation of agri-environmental payments.

Currently OTOP owns 54 hectares of Zajki meadows and trying to reconcile extensive wetland areas management with the protection of birds. This is not a simple task. Currently we mow about 40 hectares of once every two years - annually mowing 50% the plot.

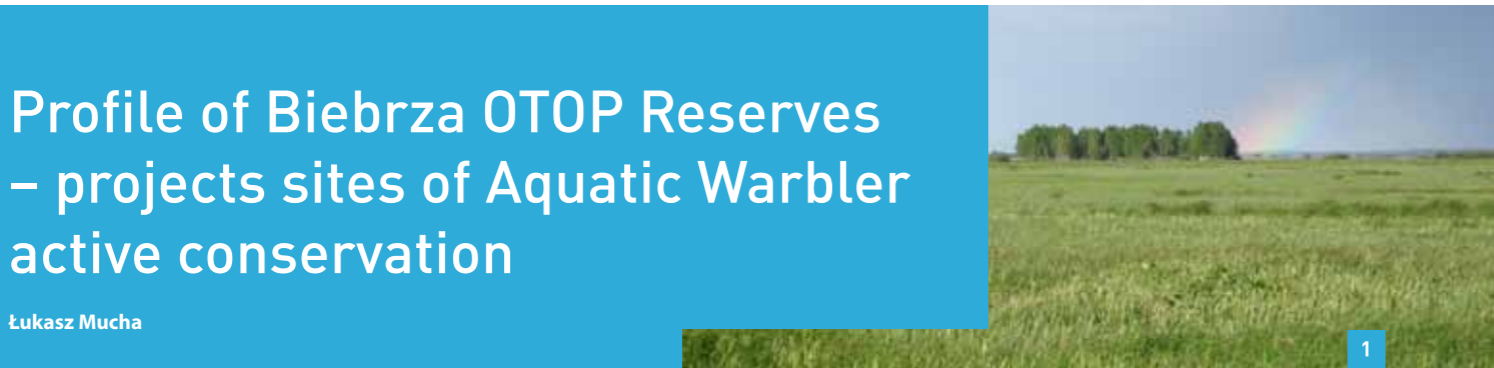
Some plots are lent to farmers, provided for use, on the condition that usage will be accord with Aquatic Warbler requirements – brings the advantage of both: farmers and birds. This year removal of bushes is scheduled on two plots in this location. For natural values of the area in addition to the Aquatic Warbler (some to dozen or more singing males) may also include appearing in favorable conditions breeding colony of white-winged tern, lapwings nesting annually, common redshank and black-tailed godwits. Rarely short eared owl can be seen hunting during the day. Every year a pair of whooper swan is trying to set up the nest here, but so far without success. Large mammals are represented by beavers, deer and elks. From the northern side, in the evenings and in the morning we can observe feeding deer and wild boar. The best place to observe the nature are OTOP observation tower and observation hide.

Fragment Marshes Benches, due to the proximity of the Szorce village is called Szorce. The area, which OTOP is interested, is not within BbPN. With an area of 110 hectares. The main reason of OTOP interest, is presence of Aquatic Warbler (from several to over twenty singing males).

As in the previous locations, also here, farmers abandoned the mowing, because of the low value of the hay and the difficulty of its production. The proximity of the forest made the succession of shrubs and trees very quickly and spread on the whole area. At the moment, OTOP owns 76 ha here. First action was manual and mechanical bush removal shrubs and trees. Today extensive agricultural use is conducted in the area of approx. 60 ha. Every year OTOP mows by turns, one half of each plot (agri-environmental programs). The fieldwork is often difficult because of very high level of water, in part due to the insulation by Carska Road. It has the embankment with few passages, often dammed by beavers, which prevents the outflow of water.

Natural richness of the area, is not limited to the Aquatic Warbler. There are rare plants here, as moor king lousewort or orchids. Fauna is represented mainly by birds: lapwings, common redshanks and black-tailed godwits, you can listen to the blue throat and watch the white-tailed eagles and greater spotted eagle. Until 2011, were also the black grouses. About large mammals: occur here raccoon dogs, deer, elks and wolves hunting them. Entrance into the Szorce is admittedly difficult, but tourists can watch this area also from the observation platform, standing at the Carska Road Way belonging to BbPN.

Unfortunately, on these reserves there are still many plots, which are not used for agricultural purposes and every day are covering with a layer of shrubs and trees, which makes them poorer biodiversity from year to year. In the ongoing LIFE+ project, OTOP will continue to purchase land and introduce extensive use on bigger and bigger area to preserve the richness of biodiversity.



Photos:

1. The meadows in Mścichy Reserve – D. Gatkowski
2. Bush removal by piste basher with mulching header in Mścichy reserve – Ł. Mucha
3. Biomass collected in bales in Mścichy reserve – Ł. Mucha
4. Mowing by tractor with twin wheels and disc mower in Mścichy reserve – Ł. Mucha
5. The way to OTOPs observation hide in Laskowiec-Zajki reserve – D. Gatkowski
6. The meadows in Laskowiec-Zajki reserve – D. Gatkowski

# Rural Development Programme – agri-environment programme and Natura 2000 areas after 2013

Bogumiła Błaszowska



Agricultural areas make approx. 60% of the total Polish area. About 30% of the country make forest lands. On rural areas remains almost one third of all households. A characteristic feature of Polish agriculture is higher than in other European countries fragmentation of farms. From an economic point of view, this is a disadvantage because it limits the efficiency of production and weakens the competitive position, but from the environmental point of view - the mosaic of habitats plays an important role in the maintenance of natural resources. Rural areas hosts the majority of natural resources of the country.

Changes in the natural environment agricultural areas illustrates the abundance of indicator species of farmland birds, as summarized in the index Farmland Bird Index (FBI). The year 2000 was taken as the baseline (FBI = 1.00). In the last five years have seen a marked decline in the number of birds in this group. In 2013 indicator FBI reached its lowest level in the history of research, its value was 0.82 or almost 20% less than in the base year. This unfavorable trend requires urgent concrete action. For this reason, the rural development plans in the coming years are of interest not only to farmers but also naturalists.

In 2014 Ministry of Agriculture and Rural Development presented a new strategy to support rural areas - Rural Development Programme 2014-2020, which implements the main principles of the Common Agricultural Policy of the European Union.

Among the identified 12 major developmental needs of the Polish rural areas, 3 to a large extent take into account environmental aspects. The main support for pro-environmental farm management will be provided by agri-environmental-climatic scheme. In framework of that scheme, will be supported:

1. Sustainable Agriculture
2. Soil and water protection
3. The preservation of traditional orchards and diversity of fruit trees
4. Valuable habitats and endangered species of birds on Natura 2000 sites
5. Valuable habitats outside Natura 2000 sites.

OTOP is monitoring the process of the preparation of the RDP and is actively involved in the subsequent stages of work on it. From the preparation and presentation in March 2012, "Proposal shape of the agri-environment and Natura 2000 payments after 2013", to the delivering the Notes to presented in the beginning of 2014 Project of RDP 2014 to 2020.

Particularly important from the environmental point of view, is to establish the rules allowing management to protect valuable species of birds in agricultural areas. In the new strategy, such support will be limited only to the part of the Natura 2000 areas, and its main aim will be to improve the living conditions of certain endangered bird species whose breeding habitats are linked with permanent pasture, occurring in Natura 2000 areas. Managing the area of meadows and pastures due to birds (mainly Waders) requirements and extensification of farming will be subsidized.

The support of birds-friendly management on arable lands or outside Natura 2000 will be probably not provided. What is particularly important, outside the national parks, the agri-environmental payments altitude will be linked with the farm area inversely.

Support outside Natura 2000 will be provided only for management measures conducted to maintain or restore a proper state, or prevent the degradation of natural habitats defined according to the classification of habitat types of the Habitats Directive and other valuable natural habitats found in meadows and pastures (package habitat). This package goal is to reduce fertilization, keep convenient for birds terms of mowing and grazing. The support is limited up to 20 hectares area.

According to OTOP, planned for 2014-2020 RDP, contains many environmental adverse statements. First of all, it does not provide a sufficiently high priority for preventing potential threats to wildlife and supporting the positive impact of high diversity agricultural landscape on agricultural production in the long term. In comparison to the 2007-2013 period, support for bird-friendly management will be smaller. Limiting the area covered by full paid agri-environmental scheme, may be danger for many valuable bird species and habitats, especially placed outside Natura 2000 areas.

The aims of CAP	Priorities of RDP
Supporting the competitiveness of agriculture	<ul style="list-style-type: none"> <li>• Promoting the transfer of knowledge and innovation in agriculture, forestry and rural areas</li> <li>• Increasing the profitability of farms and competitiveness of all types of agriculture in all regions and promoting innovative farm technologies and sustainable forest management</li> <li>• Support the organization of the food supply chain, including processing and marketing of agricultural products, promoting animal welfare and risk management in agriculture</li> <li>• Restoration, protection and enhancement of ecosystems associated with agriculture and forestry</li> <li>• Promoting resource efficiency and the transition to a low carbon economy and climate resilient in the agricultural, food and forestry</li> <li>• Promoting social inclusion, poverty reduction and economic development in rural areas</li> </ul>
Ensuring sustainable management of natural resources and climate actions	
Achieving a balanced territorial development of rural economies and communities in the creation and maintenance of jobs	
General objectives: 1. innovation 2. the environment 3. climate change mitigation and adaptation to the climate change	



Photos:

1. First mowing – B. Błaszowska
2. Agricultural landscape – B. Błaszowska
3. Vegetable growing – B. Błaszowska
4. Horses in the meadow in Karsiborska Kępa reserve – B. Błaszowska
5. Agricultural landscape – B. Błaszowska
6. The meadow with domination of Trollius – B. Błaszowska

# Aquatic Warbler in Tyśmienica Valley

Krzysztof Gaszewski

Tyśmienica Valley is placed in north part of Lublin region in east Poland. The area because of its natural wealth is protected as a Special Protected Area "Tyśmienica Valley". Although melioration measurements, the main habitats are wet meadows with mosaic of peat bogs, young birch and alder woodlands and willow bushes. The valley is a very important place for Ferruginous Duck, Little Crake and Eurasian Curlew, significant part of Polish population of those species breeds in the area. Other rare species breeding in Tyśmienica Valley are: Short-eared Owl, Redshank, Black Tern, White-winged Tern, Whiskered Tern, Eurasian Eagle-owl and Bearded reedling. Since 2013 confirmed inhabitant of the valley is also Aquatic Warbler.

In June 2013 Tomasz Bajdak from Lublin Regional Directorate of Environment Protection, during the field visit in the Tyśmienica Valley discovered singing males of Aquatic Warbler. Later, also in June the area was visited by OTOPs co-worker Joanna Dziarska-Pałac accompanied by members of French association ACROLA - Julien Foucher and Benjamin Jeanneau. The group confirmed observation of Aquatic Warblers, 10 singing males were recorded. The site is one of a few small breeding sites in Lublin region, like Żelazna Reservoir (see the article in previous newsletter) placed outside the main breeding areas – Chełm Calcareous Marshes and Poleski National Park.

The fact that Aquatic Warbler is inhabiting so isolated from bigger populations site is very interesting but not surprising. During few years of conducting monitoring of Aquatic Warbler by OTOP we have learned a lot about this birds habits. As we have observed, Aquatic Warblers in some years colonize new areas or return to formerly abandoned sites.

The best example from Poland is population inhabiting Middle Bug Valley near Husynne (Polish-Ukrainian border). In 2009 year 54 singing males were discovered in that place, where the habitat was not very suitable for Aquatic Warblers (lack of sedges) but the water level was appropriate for the species. Unfortunately the site was completely abandoned in next years and good for Aquatic Warbler water conditions have never repeat.

We hope that Tyśmienica Valley will not share the fate of site near Husynne, although that type of populations are often ephemeral, because of irregularity of water conditions or size of population. Important for Aquatic Warblers factor is also human activity in the areas of breeding, especially mowing. When the measurement is done too early it is harmful and causes dead of fledglings. Luckily because of big population of Corn Crake existing in the valley, many meadows are managed under Agri-Environmental Scheme and farmers start to mow them in late August, when the most of Aquatic Warblers end breeding. New budget perspective of European Union may cause that less money will be destined for habitat and species protection in Polish agriculture land. The biggest threat is planned lowering of Agri-Environmental Scheme payments if the area of the farm exceeds the limit, which can cause that many farmers will change their management from extensive to intensive, often harmful for birds and the whole environment. Anyway, as long as extensive management of meadows in Tyśmienica Valley is carried on, the site is appropriate for Aquatic Warblers and we believe that they can survive in the valley.



Photos:  
1. Aquatic Warbler habitat in Tyśmienica Valley – J. Dziarska-Pałac  
2. Setting up ornithological nets – J. Dziarska-Pałac

3. Bird watching in Tyśmienica Valley – J. Dziarska-Pałac

# The new autumn Aquatic Warbler migration route discovered using geolocators

Krzysztof Gaszewski

Although the Aquatic Warbler is globally threatened species, we still do not know much about its wintering areas. Recently discovered wintering sites are placed in Senegal and Mali, but both seems to be not big enough to maintain the whole Aquatic Warbler wintering population. The research conducted in years 2010-2011 brings interesting data, concerning migration routes and wintering areas of Aquatic Warbler population which breeds in central Ukraine.



In July 2010 in the Supii marshes in central Ukraine 46 males of Aquatic Warbler were captured in mist-nets. All of them were ringed and weighted, 30 were additionally equipped with very light and small geolocators. These devices were collecting data about sunlight intensity and the sun elevation angles, which could be calculated into geographical position using appropriate software. The parameters were recorded with five minutes interval. The biggest disadvantage of geolocators is that birds have to be recaptured to gain the data. In May 2011 in the Supii marshes six Aquatic Warbler males which were holding the devices were recaptured. Unfortunately two of them have lost geolocators, the device of the third bird stopped collecting data after eight days of work. The information from three remaining geolocators showed interesting picture of Aquatic Warbler autumn migration route. Birds did not follow the main Aquatic Warbler autumn migration route which runs through Netherlands, Belgium and north France, but started to migrate with

south-west direction through Balkan Peninsula and south Italy to south France or Spain. One of the aims of the research was to maintain where the main stopover sites of Aquatic Warbler are placed. The stopover site was defined as a place where birds spend four or more days. The research shows that first stopover sites are located in west Europe, birds did not stay in Balkan Peninsula or Italy for long period. After the regeneration two of three birds started to migrate southwards directly to sub-Saharan Africa but the third male spend some more time foraging in south-west Iberian Peninsula and north-west Morocco. The geolocators of the birds stopped recording data at wintering areas in Africa. After analysis it turned out that last, collected by one of the devices data was from area located far southwards from already known Aquatic Warbler wintering areas.

Despite the small sample size the research shows new, interesting facts about Aquatic Warbler,

its migration routes, stopover and wintering sites. It turned out that birds from south-east populations can chose the different migration route than the majority of population, what is linked with different stopover sites used by migrants, even if there were not detected in the research due to the sample size. Information that one of the birds was spending the winter southwards from previously expected wintering areas of Aquatic Warbler, suggests that the range of potential suitable for wintering habitats should be expanded.

The article is based on the publication: Volker Salewski, Martin Flade, Anatolii Poluda, Grzegorz Kiljan, Felix Liechti, Simeon Lisovski & Steffen Hahn "An unknown migration route of the 'globally threatened' Aquatic Warbler revealed by geolocators" – Journal of Ornithology, vol. 154

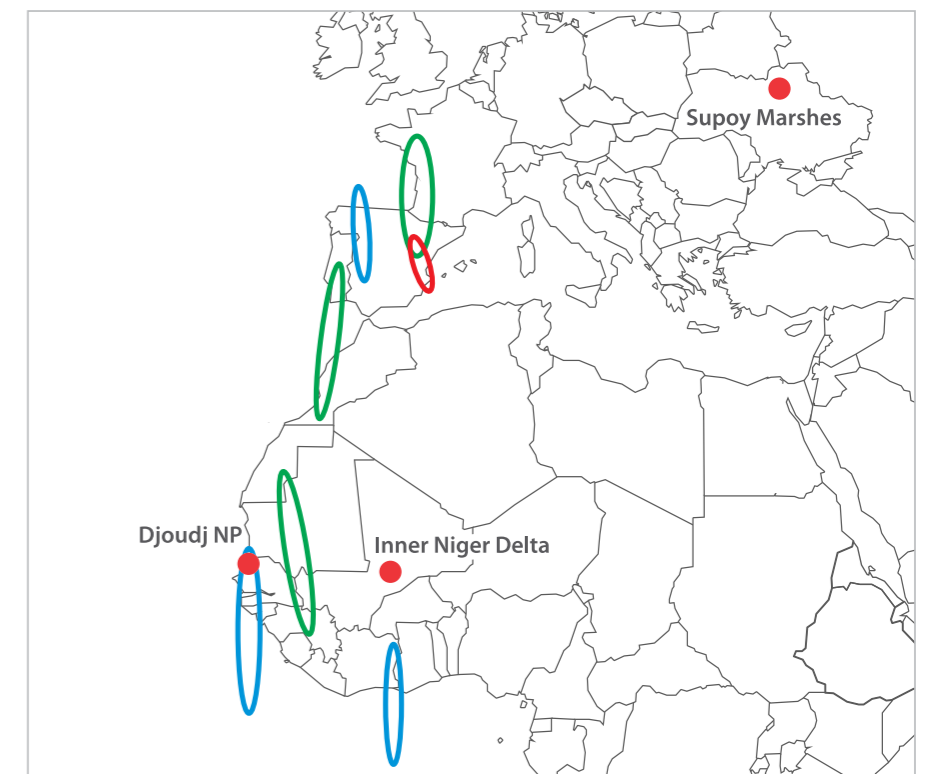


Fig. 1. Wintering and stopover areas of three Aquatic Warbler males in 2010 year.  
Photo. 1. The Aquatic Warbler male with geolocator



# A summary of active conservation field work for bird habitats in Biebrza Valley– season 2013/2014

Lukasz Mucha



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Summing up the work of another season of active protection OTOPI reserves in Biebrza Valley, should be emphasized that this was a difficult season due to high water level. It kept from mid-September 2013 until the spring of this year. The work was carried out under the agri-environmental programs and project "Aquatic Warbler and biomass", benefiting from LIFE+ program.

With 300 hectares planned to be mowed in the BbPN and its buffer zone (Aquatic Warbler habitat), we succeeded on about 260 hectares. On the rest area destined to mow, water level made the entry and proper execution of the procedure impossible. Risk of damage of peat land in such conditions is too high. It is worth noting that 14 hectares of the most sensitive for pressing Aquatic Warbler habitat called moss land, was mown manually, using traditional scythe and the hay after drying was arranged in dozens.

In this season of field work two tractors with twin wheels and two piste bashers were used. One of piste bashers has disc mower and lays mown biomass on side and the second one mows with mulching header moving biomass directly to the trailer. The tractors worked with disc mower or bailing press with twin wheels. Among other activities carried out in the framework of Aquatic Warbler habitat conservation, should be mentioned first mowing, which is made by piste basher with special mulching header equipped in very strong blades which are able to cut and crush even large branches. The goal of this action is to eliminate one-year outgrowths of bushes or trees and to cut in pieces branches that had left from earlier shrub removal carried out with chainsaws. Thanks to this action regular mowing is possible, in open habitat birds, especially Aquatic Warbler and Charadriiformes, can start to breed.

This season we were also removing the branches which had left after bush removal conducted last year with chainsaws. The material was shredded in the field with mobile shredder and then transported to the pellet plant to be used as a fuel to the drier.

Because of high water level, from planned 6 hectares of bush removal in Zajki site the action was conducted only on the area of half hectare.

During the winter we were waiting for frost to transport hay ballots, which were left after mowing. The appropriate weather came in mid-January and lasted only for two weeks. Fortunately, during this short time, we succeeded to transport more than 2,600 ballots from Biebrza Valley to the pellet plant, where the biomass will be used to produce environmentally friendly fuel in the form of pellets.

Despite high water and hard work conditions, most of the planned activities had been completed. And what we could not do, must wait for the next season - because here, in Biebrza Valley the Nature has its own rules and does not look at our plans.



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Photos:

1. Bales of biomass – Ł. Mucha
2. Mechanical mowing – Ł. Mucha



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