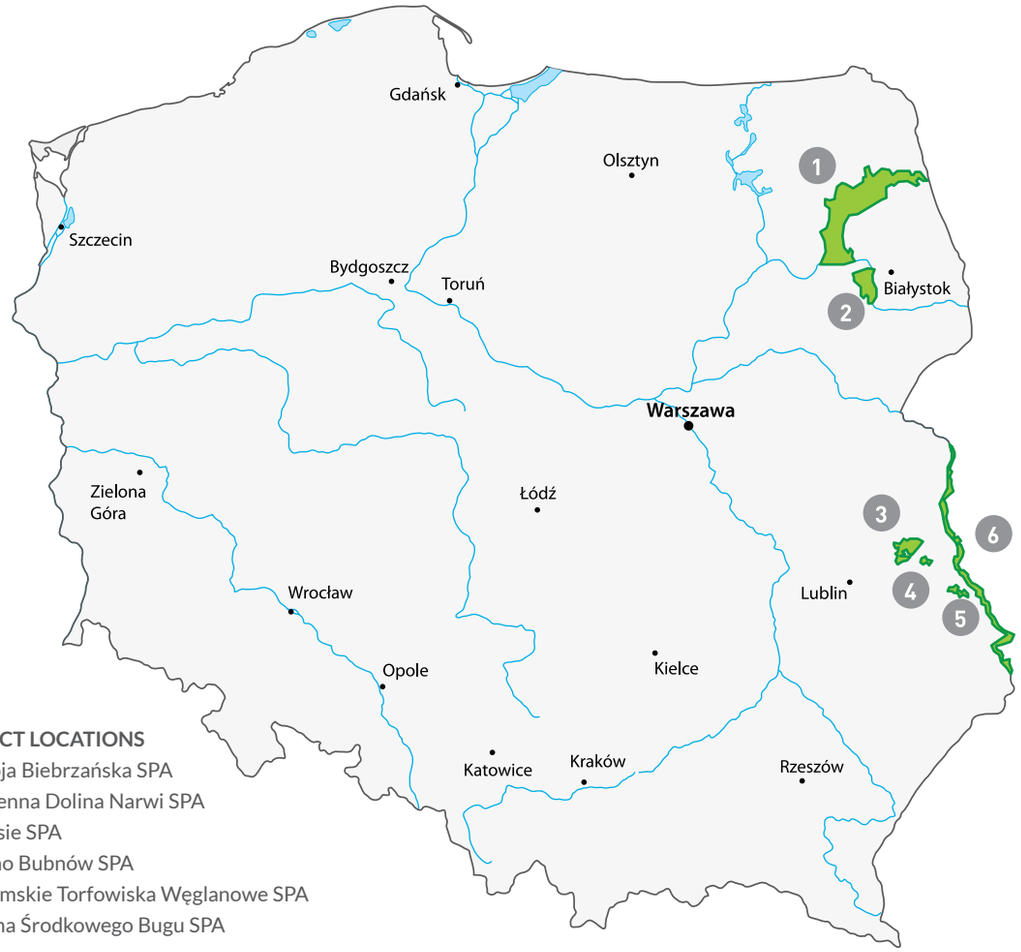
Conserving Aquatic Warbler in Eastern Poland

Achievements of the 'Biomass use for Aquatic Warblers' LIFE Project

BirdLife INTERNATIONAL PARTNER

The project 'Facilitating Aquatic Warbler (Acrocephalus paludicola) habitat management through sustainable systems of biomass use' (LIFE09 NAT/PL/000260), short – 'Biomass use for Aquatic Warblers', started in September 2010 and ended in March 2015. It was based on experience gained during implementation of a previous project, 'Conserving Aquatic Warbler in Poland and Germany' (LIFE05 NAT/PL/000101). It focused on six locations, dominated by fen mires and marshy meadows, protected as Natura 2000 areas. Our actions covered habitats of c. 80% of the Polish breeding population of Aquatic Warbler, corresponding to 21% of the worldwide population.



PROJECT LOCATIONS

1. Ostoja Biebrzańska SPA
2. Bagienna Dolina Narwi SPA
3. Polesie SPA
4. Bagno Bubnów SPA
5. Chełmskie Torfowiska Węglanowe SPA
6. Dolina Środkowego Bugu SPA

Project partners

FUT Przemysław Zelent
Eko-Różanka sp. z o.o.

Sponsors

Cooperation

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Photo on the cover: Zymantas Morkvenas

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Why do we protect Aquatic Warbler?

Aquatic Warbler is one of the three globally threatened species of birds which regularly occur in Poland. Of these, it is the only bird species whose population in Poland forms a significant part (25%) of the world population. Therefore, our country has an exceptional responsibility to conserve this species. Aquatic Warbler is the so-called umbrella species of fen mires and marshy meadows, so talking about its protection we should always have in mind conservation of the entire ecosystem.

Aquatic Warbler is the rarest passerine migrant bird in Europe and also the only globally threatened bird on the continent. It is classified as 'vulnerable' on the IUCN Red List of Endangered Species (IUCN 2010) because of a rapid decrease of population numbers in the past and a limited breeding range (<1500 km²). Once numerous and widespread, it abandoned most of its breeding range following habitat loss. The world population is now estimated at 10,200 – 13,500 singing males, of which 25% inhabit Poland.

Poland is a signatory of the Memorandum of Understanding (MoU 2004), which is an agreement concerning the conservation needs of Aquatic Warbler. This document is part of the Convention on the Conservation of Migratory Species of Wild Animals (short: CMS or Bonn Convention). In 2009, Poland also accepted the International Species Action Plan for the Aquatic Warbler (Acrocephalus paludicola).

Protecting Aquatic Warbler we also protect:

Fen mires

Orchids

Black-tailed Godwit

Common Snipe

Header photo: Aquatic Warbler - Z. Morkvenas
Photos above: D. Gatkowski, D. Gatkowski, Ł. Mucha, L. Lachmann

What does Aquatic Warbler look like?

Aquatic Warbler, a species which every European birdwatcher would like to have on his checklist, is a passerine belonging to the reed warblers family. It is a small bird with body length of c. 13 cm and body mass of approximately 12 g. Its size is comparable to that of a sparrow or a tit. It has a long, pointed bill, typical of insect-eating species.

Aquatic Warblers have brownish upperparts, with well visible black and pale stripes on the back, and dark streaks on the rump. The supercilium is pale. The most characteristic identification feature, distinguishing Aquatic Warbler from the much more common Sedge Warbler, is the distinct pale central crown-stripe.

A unique feature of Aquatic Warbler is the time when it sings – at the sunset, unlike other song birds do. If you want to see an Aquatic Warbler, you should visit fen mires in the evening, ideally between mid-May and end of July.

Header photo: Aquatic Warbler - M. Matysiak, www.mateuszmatysiak.pl
Photos above: Comparison of Aquatic Warbler (with a pale stripe on the head) and Sedge Warbler during ringing - J. Krogulec

How does Aquatic Warbler live?

Aquatic Warblers inhabit fen mires and extensive, wet peat meadows covered by sedges, with or without scattered bushes. The nest is built directly on the ground, on sedge tussocks or among dry plant material. This is why a high and stable water level is essential for this species – high enough to enable growth of suitable vegetation and stable enough to avoid a sudden rise of water and flooding of nests. For this reason, Aquatic Warblers prefer habitat conditions with water level up to 10 cm during the whole breeding season.

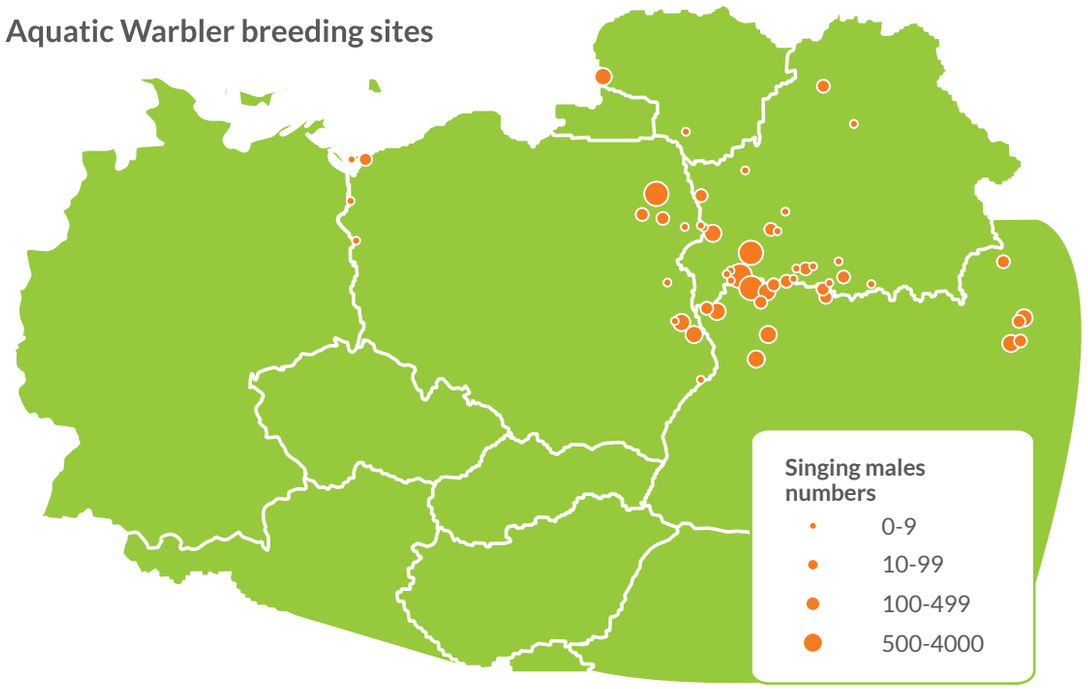
Aquatic Warblers do not form pairs and in fact they meet only during copulation, as both sexes mate with a large number of partners (this breeding strategy is a special case of promiscuity). Therefore, in a majority of cases, offspring within one brood is sired by several (sometimes up to five) fathers. Males leave the parental duties to females, which build nests and feed their offspring alone. This is why the quality of the breeding habitat is so important for Aquatic Warbler. It is the exceptional abundance of insects, which enables the female to feed its young alone.

Header photo: Nest of Aquatic Warbler - Z. Morkvenas
Photos above: Habitat of Aquatic Warbler - D. Gatkowski

Where does Aquatic Warbler occur?

At the end of the 19th century, the breeding range of Aquatic Warbler covered a significant part of Europe, extending to France in the west, Italy and Bulgaria in the south, Latvia in the north and Western Siberia in the east. Currently, however, Aquatic Warblers nest at only c. 60 breeding sites, mainly in Poland, Belarus and Ukraine, which altogether cover less than 375 km².

Aquatic Warbler breeding sites

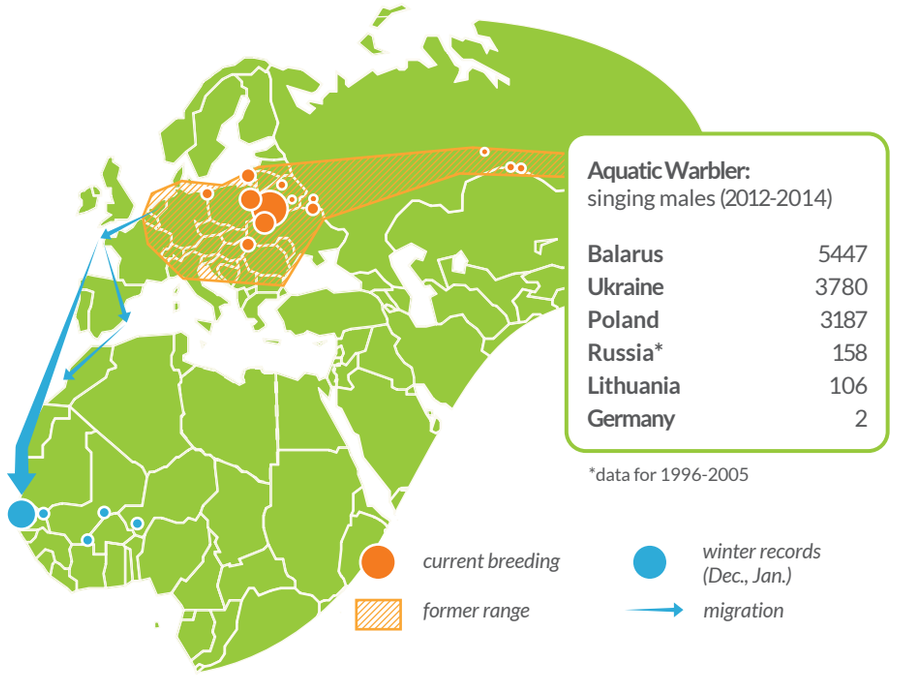


There are three main breeding populations of Aquatic Warbler:

1. Podlasie population
2. Lublin area population
3. Pomeranian population, whose range adjoins the last sites of occurrence of Aquatic Warbler in Germany

Header photo: Aquatic Warbler - Z. Morkvenas

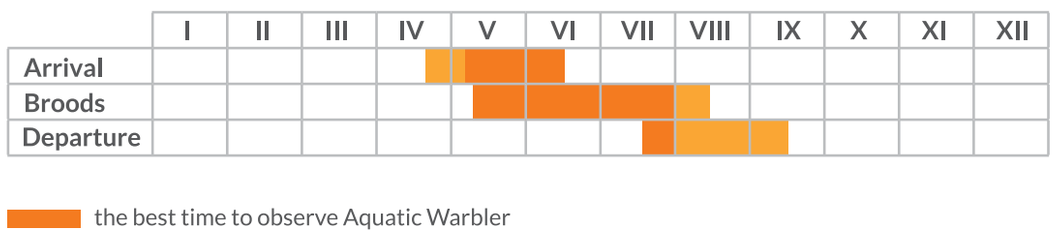
World distribution of the Aquatic Warbler



In Poland, there are two separate populations. The larger of them, inhabiting the eastern area of Poland (Podlasie and Lublin regions), together with the neighbouring Belarussian and Ukrainian populations forms the main European population. The Pomeranian population, whose breeding areas are located in north-west Poland and north-east Germany, is small and isolated.

Except for the countries with breeding areas, every year Aquatic Warblers are observed in 11 other states in Europe and Africa. The birds from Poland, Eastern Germany and probably also from the Polesie region, located in the borderland of Ukraine and Belarus, migrate westwards through the coast of the Baltic Sea in Poland and Eastern Germany, the coast of the North Sea (visiting western Germany, the Netherlands, Belgium and sometimes England), and then southwards along the French and Spanish Atlantic coast directly to Africa, where they spend winter. The migration route is quite long (16,000 – 20,000 km) and this is why the breeding season is relatively short.

Timetable of Aquatic Warblers' occurrence on their breeding grounds.



Main threats to the species

The main threat which Aquatic Warbler faces is the loss of their habitat, which was drained on a large scale during the last century for peat excavation or agriculture. Only a few percent of fen mires escaped this fate, although even these have been negatively affected by drainage of the surrounding areas. Despite this, in some cases favourable conditions for Aquatic Warblers were maintained thanks to the implementation of traditional, extensive farming, based on hand-mowing and cattle grazing. As long as these activities were carried out, Aquatic Warblers could inhabit even slightly drained sites. However, cessation of extensive land use, which took place during the last decades, led to overgrowing of marshes by dense reeds or bushes and trees, which in turn resulted in a gradual loss of habitat.

Some areas face a reverse problem – deterioration of habitat due to intensification of farming in marshland through further draining, too frequent or too early mowing, or too intensive grazing. Early mowing or intensive grazing in the breeding period disturbs the birds and destroys their nests.

Another problem is the loss of habitat in areas where Aquatic Warblers rest during migration (Western Europe) and in wintering grounds (Africa). This can be compensated by the actions targeted at increasing the breeding population numbers, which are conducted in Poland.

Header photo: Habitat of Aquatic Warbler overgrown with bushes - D. Gatkowski
Photos above: Habitat destruction through drainage (restoration of drainage ditches) - P. Marczakiewicz

Active conservation methods – water, reeds and bushes

As mentioned before, the main threat to Aquatic Warbler is habitat loss, as well as drainage and unfavourable land use (cessation of extensive farming or intensification of farming), which decrease habitat quality. In some areas, the first step is to restore the natural water level - through closing of ditches, building of sluices and adjusting the operation of water pumps. High water level also prevents growth of trees and bushes on marshes.

The second step is to introduce actions which imitate the traditional, but already abandoned farming practices – mowing or grazing – to eliminate reed or bushes, and maintain appropriate vegetation structure. In the current breeding range of Aquatic Warbler, mowing should be postponed until breeding is completed.

Header photo: Removal of bushes by hand; Removal of suckers - Ł. Mucha
Photos above: Raising water level by closing ditches - J. Krogulec; Mown meadow - D. Gatkowski

How to mow fen mire?

In the past, the natural breeding habitats of Aquatic Warblers were fen mires, which remained open for thousands of years without human management. Nowadays, this type of habitat does not occur in Europe. Even areas only slightly changed by agriculture, such as the fen mires in Biebrza Valley, were recently threatened by encroachment of bushes and trees. The effects of succession can be further deteriorated by small changes in peat mineralisation or hydrology.

Extensive land use of meadows by mowing and grazing, sometimes supported by small scale fires, used to be sufficient to hold succession. Unfortunately, in the 1970s management of marsh meadows changed in Poland and other countries in the breeding range of Aquatic Warbler. All the traditional methods of land use were discontinued, and, as a result, the process of bushes and trees encroachment speeded up. Overgrowing is one of the main reasons of abandoning the habitats by Aquatic Warblers.

An important problem for the conservation of fen mires and marshy meadows used to be lack of proper mowing equipment. There were no alternatives to hand scything, since even a tractor with twin wheels was unable to run in such a wet environment. Many solutions were tested but with no success. The idea to use piste bashers, a vehicle used on ski slopes, to mow meadows in the Biebrza Valley originated in the mind of a local businessman at the beginning of XXI century.

Piste bashers were rebuilt and adapted for the function of mowing machine and nowadays in autumn and winter we can watch former snow groomers mowing wet meadows. The machines are constantly modified and upgraded using the already gained experience, to mow in the most effective way with the lowest impact on the environment. The greatest advantage of using piste bashers is that they are equipped with wide caterpillar tracks. As a result, the pressure on the ground is not very high, which is crucial in marshy and boggy areas. If it is not possible to mow with tractor, the solution is hand scything or use of piste basher.

Header photo: Piste basher mowing a meadow - Ł. Mucha
Photos above: Hand scything; Mowing with a twin wheel tractor - Ł. Mucha

Frequency of mowing

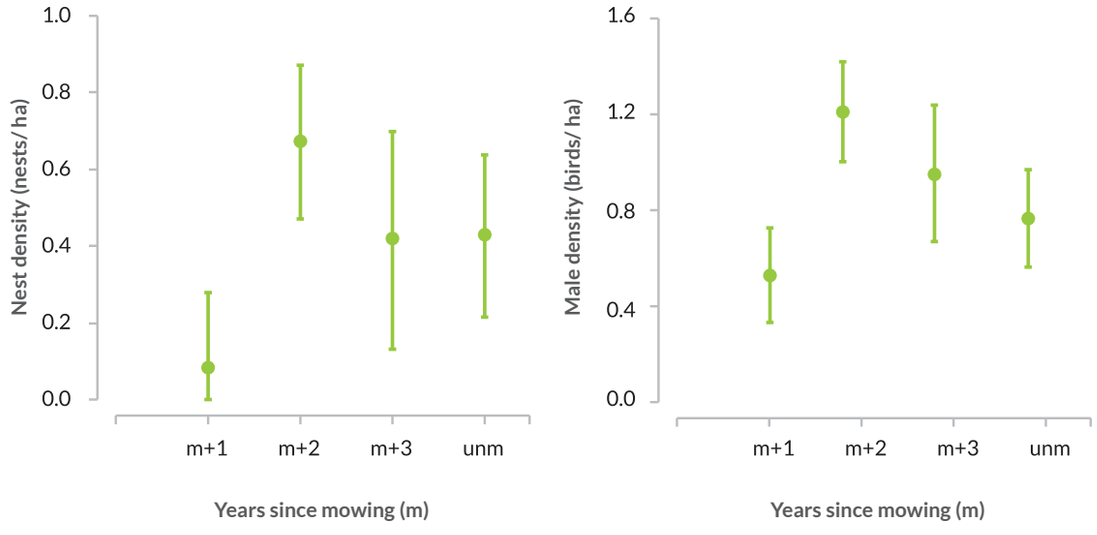
It now seems that we know what to do to protect breeding areas of the nowadays rare Aquatic Warbler. To mow! But – how frequently? In general, if we stop mowing, fen mires will overgrow; if we mow too frequently, the conditions will not be suitable for Aquatic Warblers and other species.

OTOP conducted a study which enabled to find an answer to the question about frequency of mowing and showed a range of interesting observations on species ecology. In the first year after mowing habitat conditions were unsuitable for Aquatic Warblers but they became optimal (had the highest bird density and breeding productivity) two years after mowing. In the next years the conditions deteriorated. This means that the best mowing frequency is once in 3 to 5 years (depending on habitat). The results of the study were implemented soon. In the Agri-Environment-Climate Scheme (AECS) 2014-2020 more flexible requirements were proposed by OTOP (mowing between 15 and 85% of area depending on the habitat) and accepted by lawmakers.

The study also showed a positive correlation between the numbers of singing males and nests. This means that counting singing males, which is a relatively non-invasive method – can be used as a useful indicator of population size in a particular area. Therefore, the census method applied by OTOP is scientifically justified.

Summing up, there now exists a solid, scientific background to conduct proper protection and monitoring actions in the breeding areas of Aquatic Warblers. There is nothing more to do than apply the recommendations, which were successfully implemented during the project.

Results of a study of Aquatic Warbler breeding productivity (2011-2012) in the Biebrza Valley (Bagno Ławki) [1]



1. Kubacka et al. (2014). Effect of mowing on productivity in the endangered Aquatic Warbler Acrocephalus paludicola. Bird Conservation International, 24, ss. 45-58
Header photo: Aquatic Warbler - Z. Morkvenas

What to do with biomass?

With the return of mowing of fen mires, land users encountered a problem of biomass (hay) management. Such hay is a material of low value for agriculture because of its low nutritional quality and high moisture. There was prepared a feasibility study which analysed three alternative ways of biomass management: biogas production, composting and production of solid fuel (briquet/pellet). Results showed that from both the technological and economic point of view, the best solution is process the biomass into a renewable solid fuel – briquette or pellet.

In the Biebrza Valley, which holds the largest Polish Aquatic Warbler breeding population, only in 2012 more than 3,000 ha of state-owned land were mown. Because the productivity of fen mires reaches 1 to 1.5 t of dry biomass per hectare, there was 3,000-4,500 t of mown material to manage. To solve this problem, in the LIFE+ 'Aquatic Warbler and Biomass' project, OTOP established a pelleting facility, which allows management of the whole biomass collected in fen mires of the Biebrza Valley. The production line, based in Trzcianne (Podlaskie province), was started in February 2013.

A different approach to the problem of biomass management was implemented by OTOP in the Lublin province. In that area, it was decided to test the existing solutions and setting up a new facility was not necessary. In the vicinity of the town of Chełm there are three plants which process biomass – two pelleting facilities and a cement plant of the Cemex company, where raw material from fen mires can be used as an alternative fuel in the cement furnace. All options were tested. The results are very promising - biomass can be used in all the three facilities.

In two regions of Poland the problem of management of low agricultural quality biomass was solved in different ways. In the Biebrza Valley, where fen mires cover large areas, it was decided to set up own pelleting facility, while in the Lublin region, where fen mires are smaller and diffused, and facilities processing biomass already exist, collaboration with local partners was launched. The goal was reached: biomass collected in the areas managed in line with the Aquatic Warbler habitat requirements can be processed to the benefit of the environment and climate.

Header photo: Transporting biomass - D. Gatkowski
Photos above: Chełm cement plant, shredding biomass to be used as fuel; Shredded biomass - J. Krogulec

Pelleting facility in Trzcianne

In February 2013, the Polish Society for the Protection of Birds (OTOP) opened a pelleting facility called 'OTOPellet'. It is based in Trzcianne in the Biebrza Valley, to allow management of biomass (hay) collected on fen mires and marshy meadows. This kind of biomass is characterised by low nutritional quality (sedges are not the fodder preferred by cattle) and high moisture (up to 70%), because of its marshy origin and late mowing (drying the material in the field is difficult).

OTOPellet turned out to be a very good fuel, reaching a caloric value of 16 GJ, which is even more than in straw pellet and slightly less than in wood pellet. The low ash content allows this product to be used in wood pellet boilers and the high heat value ensures a high efficiency.

The fuel is sold in the form of loose pellet (transported by trucks to the power station), 1 t BIG BAGS or smaller 15 kg bags.

OTOPellet

Header photo: OTOPellet - Ł. Mucha
Photos above: Unloading biomass; Machines of the pelleting facility - D. Gatkowski

What does a season of field conservation works look like?

What do the protection measures look like in practice? To illustrate this we would like to briefly describe the field works done by the Polish Society for the Protection of Birds in the season 2014/15 (OTOP) in the Biebrza Valley.

The period between March and July 2014 was spent on the planning of the conservation measures and maintenance and repairs of the equipment. By the end of July we were ready to work. In 2014 the weather was our ally: it was rainless and sunny, which made it much easier to mow and collect biomass on the whole of the planned area of 295 ha of Aquatic Warblers and waders habitats.

In the Biebrza Valley, OTOP owns and manages 350 ha of meadows, purchased during the two Aquatic Warbler conservation projects in the years 2005-2015, and located in three sites out of Biebrza National Park (BbPN): Mścichy (220 ha), Zajki (55 ha) and Szorce, which is part of Bagno Ławki (76 ha). Additionally, OTOP works on the land leased from the BbPN. The actions related to habitat improvement and restoration were done in the 'Biomass use for Aquatic Warblers' LIFE project (bush and suckers removal, fascine track construction) and the habitat quality maintenance in the Agro-Environmental Scheme (mowing and biomass collection).

Every year, including 2014, part of land managed by OTOP is mown to protect the fen mire habitat from overgrowing by trees and bushes. We started mowing in the beginning of August in the buffer zone of the Biebrza National Park, near the village of

Header photo: Meadows near the village of Mścichy - D. Gatkowski
Photos above: Collecting biomass; A piste basher mowing a meadow - Ł. Mucha

Mścichy and on Bagno Ławki in the BbPN. The order of plots to mow is dependent on the presence of birds and moisture of the ground. Places on which birds finished breeding and with low water level, allowing access of mowing vehicles, are mown first. Mowing was conducted using tractors with twin wheels and piste bashers (exerting lower pressure on the ground than tractors with standard wheels) equipped with disc mowers. In particularly vulnerable habitats, OTOP uses hand-scything. In 2014, 8.5 ha of fen mires was hand-mown with the scythe.

After drying, the mown biomass (sedges, reeds and grasses) was bailed. In most areas, the baling press worked in tandem with a tractor, in more marshy plots with a piste basher (the press was also equipped with a caterpillar track). It was collected 3,000 ballots from an area of almost 300 ha. Between September and November 2014, the whole biomass was transported to the OTOP's pelleting facility in Trzcianne, where it was processed into pellet – a climate friendly fuel.

To facilitate access to fen mires and protect the vulnerable structure of peat from destruction by frequent passage of machines, we built fortified tracks with bundles of wood placed across the track, the so called fascine tracks. In November and December a 1-km fascine track was constructed on the fen mire near the Mścichy village. We used the bushes and branches cut and collected in previous seasons during bush removal. The fascine track will serve us for the next few years.

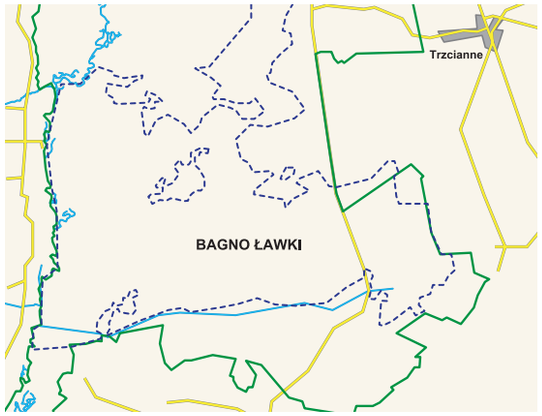
The end of the year is a period when habitat restoration actions are performed. In November and December, we cut one-year-old suckers of bushes or trees removed in the previous season. This activity was implemented on 20 ha with piste basher equipped with a special mulching head. In the next year, this area will be mown with a disc mower. We hope that Aquatic Warblers will return to the managed meadows.

Between December 2014 and February 2015, we conducted bush removal near the villages of Zajki and Mścichy using chainsaws. The high density of willow bushes and the raised water level after heavy rains made our work very difficult. We were impatiently waiting for frost to come, to be able to shred biomass and transport it out of the marsh. Only a frozen fen mire is accessible for a tractor with a trailer and a shredder. Before the end of February we finished removing dense willow, birch and alder bushes on the area of 3.5 ha. Before the beginning of March we could see the first cranes and lapwings returning from their wintering areas.

Photos above: A snipe appreciates our conservation activities - Ł. Mucha
Mechanical removal of bushes with a piste basher; Transport of cut bushes - Ł. Mucha

Priority project areas: Bagno Ławki

Bagno Ławki is the largest complex of open fen mires in Poland. Its Aquatic Warbler population constitutes 77% of the Polish, 56% of the European Union's and 17% of the global population of the species. Sedges and mosses form an optimal habitat for Aquatic Warbler and population densities are very high. The area is crucial for the protection of Aquatic Warbler in Poland and worldwide, and this is the reason why we focus our actions on that site. Bagno Ławki is also inhabited by many rare species of birds, such as Great Snipe, Black Grouse, Eurasian Curlew and Greater-Spotted Eagle, and mammals, represented by elks and wolves.



Border of the Biebrzański National Park

Location of the project 'Biomass use for Aquatic Warblers'

Nowadays, the main threat to the breeding habitats of Aquatic Warbler is encroachment of reeds, bushes and trees. This is the reason why one of the project's objectives was to restore and improve the state of the habitats by bush removal, mowing and management of the collected biomass. In the two LIFE projects bushes were removed from 476 ha of Aquatic Warbler breeding habitat (188 ha in the 'Aquatic Warbler and Biomass' project). All these areas are now managed (most of them are leased by local farmers from the Biebrza NP) according to the habitat requirements of Aquatic Warbler set in the Agri-Environmental Scheme. Biomass collected after mowing is processed in the pelleting facility in Trzcianne.

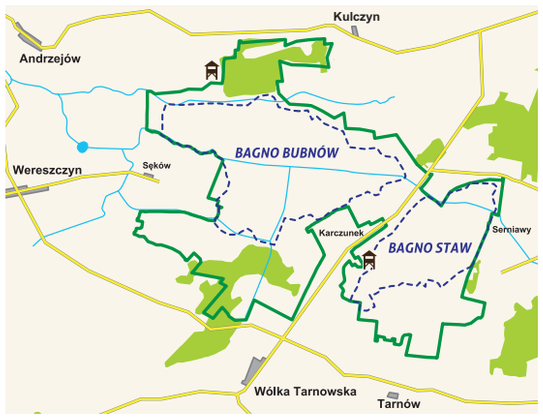
Restoration of the habitat of Aquatic Warbler and new ways of biomass management have had a positive effect on the global population of the species and on the local ecosystem. Bushes were removed, open areas were mown and biomass was collected and processed into pellet. These actions have resulted in high Aquatic Warbler numbers in the recent years.

The place where spotting Aquatic Warblers is the easiest in the world is the wooden board walk located near the Carska Szosa (Tsars Road) in the section of Bagno Ławki called Długa Luka (Long Gap). With a little bit of luck, everyone can watch singing males even without binoculars, because they are so close. Thanks to the actions conducted in the project and management of the area under the Agri-Environmental Scheme (which will prolong the effects of the project) it will be possible to watch Aquatic Warblers in Bagno Ławki for many years.

Header photo: Ławki Mire (Bagno Ławki) - D. Gatkowski

Priority project areas: Bagno Bubnów

The Natura 2000 Special Protection Area 'Bagno Bubnów' (Bubnów Marsh) consists of the fen mires Bagno Bubnów and Bagno Staw, which are also protected as part of the Poleski National Park. These fen mires developed on limestone bedrock. They are located in the valley of the Włodawka river. They are open marsh areas, although in some parts growth of bushes and trees can be a problem. The site is an important breeding area for Black-tailed Godwit, Eurasian Curlew, Montagu's Harrier, Great Snipe and White-winged Tern; it was also the first place in the Lublin province where the breeding of Great Egret was recorded. Bagno Bubnów and Bagno Staw host one of the largest gatherings of Cranes in Poland and, as stopover sites, are visited by many wetland bird species during spring and autumn migration.



Border of the Poleski National Park

Location of the project 'Biomass use for Aquatic Warblers'

Some parcels in Bagno Bubnów are leased from the Poleski National Park by local farmers. As in the Biebrza Valley, they are managing the area under the Agri-Environmental Scheme and so supporting the protection of Aquatic Warbler. Thanks to mowing and bush removal, in 2014 the population has reached record numbers (381 singing males).

Header photo: Bubnów Mire - J. Krogulec
Photos above: Bubnów Mire - J. Krogulec

Priority project areas: Ciesacin fen mire

The priority project area ‘Ciesacin fen mire’ covers a 130-ha part of the Natura 2000 Special Protection Area ‘Polesie’. This semi-calcareous fen mire is located near the Garbatówka village in the Lublin Province. Ciesacin is one of the last large and undrained fen mires of the Polesie region and is located outside the Poleski National Park. The site is an important breeding area for Aquatic Warbler, Marsh Harrier, Crane, Eurasian Curlew, Common Snipe, Great Snipe and Bluethroat. In the 1990s up to 12 singing males of Aquatic Warbler were recorded. Unfortunately, in the following years, due to the rapid growth of bushes and trees, the population numbers started to decrease. In 2009, one year before the start of the project, only one singing male was observed. In 2011, the species was not present on the site. Lack of land management caused overgrowing and habitat loss; the local Aquatic Warblers lost their home.

Border of the Natura 2000 site Polesie’

Location of the project ‘Biomass use for Aquatic Warblers’

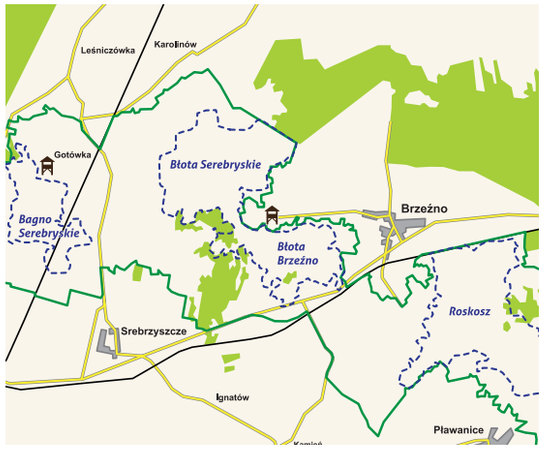
In the winter of 2010/11 and 2011/12 active conservation measures were conducted on the site. A project partner, the company F.U.T. Zelent removed bushes on the area of almost 50 ha. The fen mire was also mown under the Agri-Environmental Scheme. In 2012, 2 years after starting protection measures, Aquatic Warblers returned to Ciesacin. There were 2 singing males in 2012, 3 in 2013 and 7 in 2014! Thanks to bush removal, reed cutting and regular mowing the habitat has been restored and Aquatic Warblers sing there again. Ciesacin is a good example of what should be done in a degraded but undrained habitat of the species.

Header photo: Ciesacin Mire, mown and unmown - J. Krogulec
Photos above: Ciesacin Mire - J. Krogulec

Priority project areas: Chełm Calcareous Marshes

Chełm Calcareous Marshes, with an area of 2,000 ha, host one of the largest population of Aquatic Warbler in Poland. Unlike in other breeding sites, the preferred habitat is dominated by saw-sedge. Other interesting birds inhabiting these marshes are the Marsh and Montagu’s Harriers and Great Snipe, which leks on the edge of the fen mires.

A project partner, the company Eko-Różanka, removed bushes on an area of 15 ha and mowed (first time in the history!) over 300 ha of the fen mires. These actions prepared the site for a regular management by mowing under the Agri-Environmental Scheme. In 2012, the Regional Directorate for Environmental Protection in Lublin (RDOŚ Lublin), which manages the area, leased it to local farmers. They are now managing the fen mire under the AES and every year at least 100 ha is mown. Thanks to these actions at least 500 ha of Aquatic Warbler habitat is in a proper state. Biomass collected after mowing (saw-sedge, grasses, reeds) is processed into pellet in local pelleting facilities or used as fuel and burnt in the cement plant “Chełm”



Border of the Natura 2000 site ‘Chełm Calcareous Marshes’

Location of the project ‘Biomass use for Aquatic Warblers’

During the surveys of the Aquatic Warbler population, 96 singing males were recorded in 2011, 195 in 2012, 172 in 2013 and 252 in 2014. The recent high number of singing males is a result of the habitat conservation measures conducted in this project, under the Agri-Environmental Scheme and previous actions implemented by RDOŚ Lublin. Thanks to proper land use, including bush removal and mowing, it is possible to preserve, or even increase, the number of Aquatic Warblers and other mire bird species on the site.

Header photo: Roskosz – extensive fields of saw-sedge - J. Krogulec
Photo above: Błota Serebryskie East – removal of bushes - J. Krogulec

Summary of our actions

Protection of Aquatic Warblers is one of the priorities of the Polish Society for the Protection of Birds (OTOP). Activities started from 1991, when OTOP was established. A big step forward was the LIFE project 'Conserving Aquatic Warbler in Poland and Germany', which was implemented between 2005 and 2011. In this project, a scheme of protection of fen mires and marshy meadows was developed. It was learnt how to maintain habitats in a favourable state and what to do to protect Aquatic Warblers.

The next step of habitat restoration was the LIFE+ project 'Aquatic Warbler and Biomass' (LIFE09NAT/PL/000260), conducted between September 2010 and March 2015, which covered 6 sites in Natura 2000 Special Protection Areas. All of them are dominated by fen mire and marshy meadows. The project priority areas hold c. 80% of the Polish and 21% of the global population of Aquatic Warbler.

The project 'Aquatic Warbler and Biomass' covered a wide range of issues concerning Aquatic Warbler and protection of its habitats. It was also an effect of cooperation of several entities. The leading party was OTOP, which is a non–governmental organisation established for the protection of birds and their habitats; the partners were private agricultural companies, Eko-Różanka and FUT Zelent, as well as a British NGO - The Royal Society for the Protection of Birds (RSPB). We have collaborated also with national parks (Biebrzański NP, Narwiański NP, Poleski NP), Regional Directorate for Environmental Protection in Lublin, General Directorate for Environmental Protection (GDOŚ) and NGOs (Lublin Ornithological Society).

One of the objectives of the 'Aquatic Warbler and Biomass' project was to enlarge the area and to improve the state of habitats suitable for Aquatic Warbler in Eastern Poland. Degraded habitats were restored and their quality was improved by bush removal and first mowing of the meadows on which farming had been abandoned. These conservation measures were carried out on 1,000 ha, to prepare optimal or suboptimal habitats of Aquatic Warbler for regular management, i.e. mowing in line with the habitat requirements of this species, as well as for other animals and plants protected in the Natura 2000 areas.

Habitats of Aquatic Warbler must be managed in proper way. Directions on how to protect Aquatic Warbler and its habitats should be included in the management plans of Natura 2000 areas. In order to ensure this, OTOP prepared recommendations for the management of Aquatic Warbler breeding areas. They were later included into the management plans. Additionally, to ensure sustainable financing conservation measures after project completion, OTOP took part in developing of the new Agri-Environment-Climate Scheme (AECS). We advocate for a scheme, which would meet the habitat requirements of open landscape birds, on the national as well as the European level. As a result, the new AECS ensures financing management of habitats of Aquatic Warbler. We would like to emphasise that our efforts have brought benefits for both birds and local farmers.

One of the most important issues concerning management of Aquatic Warbler habitats is the use of biomass (mown sedges, reeds, grasses). Late mowing and low quality of hay excludes it from agricultural use. Therefore innovative system of biomass use was created, improved and tested. Thanks to the LIFE+ project 'Aquatic Warbler and Biomass' we have learnt that material from the Chełm Calcareous Marshes can be combusted in the cement plant in Chełm or used to produce pellet; in the Biebrza Valley we produce pellet from hay. The biomass, which was earlier treated as waste and was a problem for farmers, has become an excellent source of renewable energy.

Have our actions been successful? Before the project started, we had planned that more than 5,000 ha of land would be regularly mown, according to Aquatic Warbler habitat requirements and that all the collected biomass would be used. Today, we know that we did it! Moreover, the results of the Aquatic Warbler monitoring scheme clearly show that the numbers of Aquatic Warblers in the project priority areas before the end of the project (2014) were 26% higher than before the project started (2009).

Header photo: Aquatic Warbler - Z. Morkvenas
Photos above: Unloading biomass; Progress of the project was evaluated by experts (inspection on the site) - D. Gatkowski

Photo above: Educational part of the project. A welcome board to the Land of Aquatic Warbler - Ł. Mucha

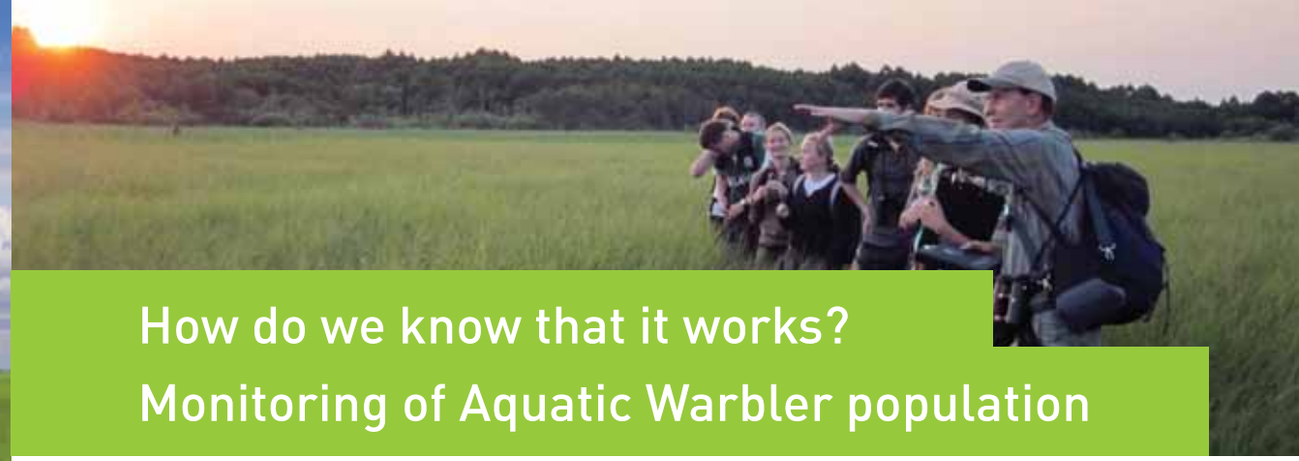
What are the next steps? Agri-Environment-Climate Scheme

Preservation of Aquatic Warbler habitats is possible only when they are under a proper management. Financial support is crucial for management of fen mires and one of its sources is the Agri-Environment-Climate Scheme. Its content was widely discussed, also with OTOP and the LIFE+ project partners. OTOP was monitoring the development of the Rural Development Programme 2014 – 2020 and took part in every stage of its preparation. We started in March 2012, by presenting the document 'Propositions for a new AEC Scheme and Natura 2000 payments after 2013' and finished by sending our comments and proposed changes to the draft of the new AEC Scheme 2014 – 2020 and regulations implementing it, prepared by the Ministry of Agriculture.

The first drafts of the new AEC Scheme 2014 – 2020 included many negative changes, such as reduction of payments to farmers managing large areas, limitation of the area covered by the AEC Scheme (only Natura 2000 Special Protection Areas) and shortening the list of species covered by the Scheme (e.g. excluding Corn Crake). OTOP advocate for a scheme which would meet the habitat requirements of open landscape birds on the national as well as the European level. As a result, the new AECS ensures financing management of habitats of Aquatic Warbler and other species. The land use requirements fit well into the specific needs of the concerned species, reduction of payments is limited and Corn Crake has returned to the species list. The highest disadvantage of the new AECS is that it only covers the meadows and pastures located in Natura 2000 Special Protection Areas, which cover only 6% of Poland. Luckily, this 6% includes most Aquatic Warbler breeding sites.

Header photo: The boardwalk on the Bagno Mire (Biebrza Valley), the world's best place to watch Aquatic Warbler - D. Gatkowski

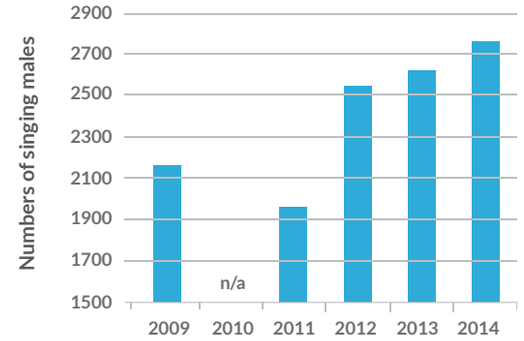
Photos above: Watching the future (Tyśmienica Valley) - J. Dziarska-Pałac



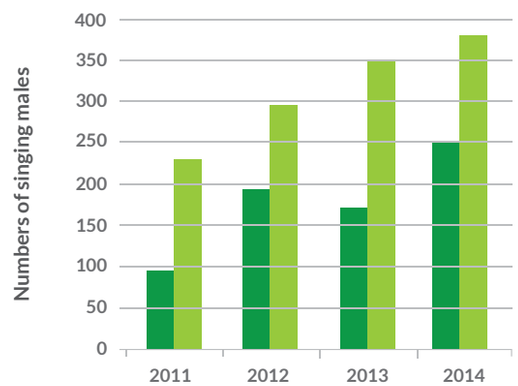
How do we know that it works? Monitoring of Aquatic Warbler population

In the years 2011 – 2014, in the LIFE+ project OTOP conducted yearly population surveys in all the 6 project priority areas. In the case of Aquatic Warbler, the count unit is a singing male. As mentioned in the section on the effect of mowing on Aquatic Warbler nest productivity, this method of monitoring has a solid scientific background, and can be successfully applied thanks to its simplicity. In 2012, monitoring of Aquatic Warbler became part of the Polish State Environmental Monitoring Programme, conducted by the Chief Inspectorate of Environmental Protection (GIOŚ). This ensures stable financial resources for the monitoring of Aquatic Warbler after the project is finished. The monitoring data is now shared between the state administration and OTOP.

Results of the scheme show that the population of Aquatic Warblers in the project priority areas has increased by about 26% (575 singing males) relative to one year after the start of the project (years 2009–2014). Such a high population increase is a clear sign that the active conservation measures have been effective and we can say that the extinction of Aquatic Warblers has been prevented. Nevertheless, we should bear in mind that there is still a lot to do to take the species off the list of birds threatened with extinction. It is a challenge for the future.



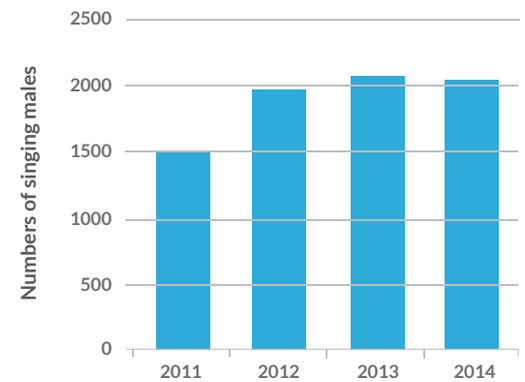
Numbers of Aquatic Warbler singing males in all locations of the project.



Numbers of Aquatic Warbler singing males in Chełm Calcareous Marshes and Bubnów Marsh SPAs in successive years of project duration.

Chełm Calcareous Marshes SPA

Bubnów Marsh SPA



Numbers of Aquatic Warbler singing males in the Ławki Mire (Biebrza Valley) in successive years of project duration.

Header photo: Setting the walking route for volunteers counting singing males - D. Gatkowski

Aquatic Warbler - Z. Morkvenas

‘Biomass use for Aquatic Warblers’ LIFE Project

Read more information about the Aquatic Warbler LIFE project, Biomass use for Aquatic Warblers LIFE+ project and other actions related to Aquatic Warbler conservation in Poland on our website: www.wodniczka.pl

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