Issue 2 May 2010

Newsletter

Aquatic Warbler Flyway

PUBLISHED UNDER THE AUSPICES OF THE MEMORANDUM OF UNDERSTANDING CONCERNING CONSERVATION MEASURES FOR THE AQUATIC WARBLER

In this issue:

Aquatic Warbler Flyway Newsletter

Issue 2, May 2010

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Content

MoU List of Signatory States

(as at 30 March 2010)

Range State	MoU signed	National contact point	Postal Address	Phone and e-mail
Belarus	30.04.2003	Mr. Vitaly Korenchuk Chief Expert	Reserves' Department Ministry of Natural Resources and Environmental Protection of Belarus 10 Kollectornaja str., Minsk 220048	Tel: (+375 17) 2006420 Fax: (+375 17) 2004771 Email: vkorenchuk@tut.by
Belgium	24.11.2006	Ms. Sarah Roggeman	Agency for Nature and Forest Central Services Koning Albert II-laan 20 bus 8 1000 Brussels	Tel: (+32 2) 5538280 Email: sarah.roggeman@lin.vlaanderen.be
Bulgaria	30.04.2003	Dr. Pavel Hristov Zehtinjiev Assistant Professor	Kalimok Biological Station Institue of Zoology - Bulgarian Academy of Sciences 1, Tsar Osvoboditel blvd. Sofia 1000	Tel: (+359 2) 9885115 (int. 638) Fax: (+359 2) 9882897 Email: pavel.zehtindjiev@gmail.com
France				
Germany	30.04.2003	Dr. Torsten Langgemach	Landesumweltamt Brandenburg Staatliche Vogelschutzwarte (Brandenburg State Bird Conservation Centre) Buckower Dorfstrasse 34 D-17415 Buckow	Tel: (+ 49)33878 60257 Fax: (+49) 33878 60600 Email: torsten.langgemach@lua.brandenburg.de
Hungary	30.04.2003	Mr. András Schmidt Head of Natura 2000 Unit	Department for Nature Conservation State Secretariat for Nature Conservation Ministry of the Environment and Water Föu. 44-501011 Budapest	Tel: (+36 1)4573490 Fax: (+36 1) 2014617 Email: schmidt@mail.kvvm.hu
Latvia	30.04.2003	Mr. Martins Kalnins Head of Division	Species and Habitat Division Nature Protection Board Baznicas 7 Sigulda, LV-2150	Tel: (+371) 67509764 Fax: (+371)67599544 Email: martins.kalnins@daba.gov.lv
Lithuania	30.04.2003	Yet to receive		
Luxembourg				
Mali				
Marocco				

Range State	MoU signed	National contact point	Postal Address	Phone and e-mail
Mauritania				
The Netherlands				
Poland	13.07.2004	Ms. Dorota Lukasik Head Inspector	Department of Nature Conservation Ministry of the Environment Wawelska 52/5400-922 Warsaw	Tel: (+48 22) 5792734 Fax: (+48 22) 5792555 Email: dorota.lukasik@gdos.gov.pl
Portugal				
Russian Federation	not a part of CMS			
Senegal	30.04.2003	Mr. Ibrahima Diop Directeur	Station Biologique du Park National des Oiseaux du Djoudj Direction des Parcs Nationaux B.P. 80 Saint Lous	Tel: (+221)339638707 Fax: (+221)339638702 Email: ibraadiop@yahoo.fr
Slovakia				
Spain		Mr. Juan Jose Areces Maqueda Jefe de Servicio de conservacion	Subdirección General de Biodiversidad Dirección General de Medio Natural y Politica Forestal Ministerio de Medio Ambiente, y Medio Rural y Marino C/Rios Rosas 2428009 Madrid	Tel: (+34 91) 47493933 Fax: (+34 91) 7493873 Email: jareces@mma.es
Switzerland				
Ukraine	25.05.2003	Dr. Anatoly Poluda Senior Scientific Associate	Schmalhausen Institute of Zoology Bogdana Khmelnitskogo Str. 15 01601 Kyiv 30	Tel: (+38 044)2350112 Fax: (+38 044)2350112 Email: polud@izan.kiev.ua
United Kingdom	30.04.2003	Ms. Elaine Kendall Head of Wildlife Crime, Zoos and Birds Policy Biodiversity Programme	Department for Environment, Food & Rural Affairs (Defra) Global Wildlife Division Zone 1/12, Temple Quay House 2 The Square; Temple Quay Bristol BS1 6PN	Tel: (+44 117)3728322 Fax: (+44 117)3728534 Email: elaine.kendall@defra.gsi.gov.uk

The Second Meeting of the Signatory States

The Polish Government has kindly offered to host the Second Meeting of the Signatory States. The Meeting will take place in the Biebrza National Park, Poland, from 12-15 May 2010. The MoU meeting will be held in conjunction with a scientific conference on the Conservation of Aquatic Warblers organised by OTOP (BirdLife Poland) at the same venue from 11-12 May 2010. A number of technical experts will already be present at this conference.

The main objectives for discussion will be:

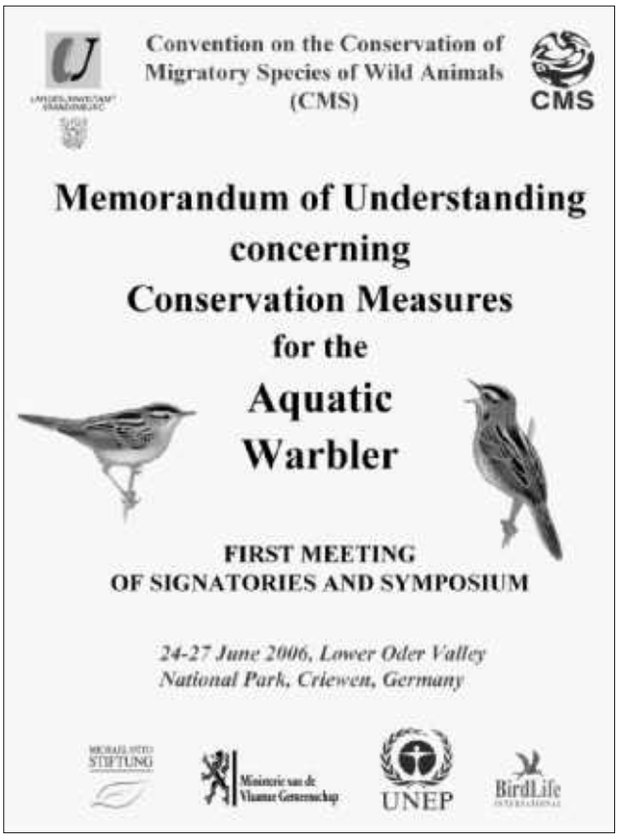
(a) to share information on the Aquatic Warblers' conservation status within the respective Range States,
(b) to review the MoU implementation status and the corresponding Action Plan, including respective national components,
(c) to consider the adoption of a revised version of the Action Plan annexed to the MoU,
(d) to consider an extension of the MoU's geographic scope and,
(e) to determine short-term priorities for action and funding.

The proposed amendments are as follows:

1. Consider the adoption of a revised version of the Action Plan annexed to the MoU

BirdLife International has revised and updated the Action Plan for the Aquatic Warbler *Acrocephalus paludicola* (BirdLife International 2008. International Species Action Plan for the Aquatic Warbler Acrocephalus paludicola). The scope of this Action Plan covers the whole range of the species, and technical experts from all Range States contributed to the final document. The preparations were made on behalf of the European Commission with the intension of merging both the EU and the CMS Action Plans together into one document. At this year's meeting, the revised version of the Action Plan will be considered for adoption as an annex to the MoU.

Fig. 1: The participants of the First Meeting of Signatories.



The First Meeting of the Signatory States to the MoU concerning Conservation Measures for the Aquatic Warbler took place in the Lower Oder Valley National Park, Criewen, Germany on the 25-27 June 2006. The meeting concluded that the main success of joint efforts, between the various governments, BirdLife International and CMS over the past few years, is the stabilisation of the species' core breeding population in its largest breeding sites. However, the loss of smaller breeding sites and especially the critical decline of the species' distinct population in Pomerania along the German-Polish border is highly alarming. During the meeting, the necessity to intensify the efforts in key countries of West Africa to identify the wintering sites of the species, which were still unknown before 2007, was underlined.

2. Consider an extension of the MoU's geographic scope

The MoU concerning conservation measures for the Aquatic Warbler *Acrocephalus paludicola* aims, inter alia, to maintain and protect the Aquatic Warbler throughout its range. However, in recent years regular sightings of Aquatic Warbler outside the agreement area of the MoU indicate that it would be appropriate to extend the MoU's geographic scope in order to meet its goals. Seven countries (Mali, Mauritania, Morocco, Slovakia, Luxembourg, Portugal, and Switzerland) will be under consideration to become new range states.

The Signatories attending the Second Meeting are expected to make a decision on the adoption of the proposed amendments.

Update to the International Species Action Plan

by Lars Lachmann

The International Aquatic Warbler Species Action Plan agreed as part of the CMS Aquatic Warbler MoU in 2003 was an updated version of the European Union's International Aquatic Warbler Species Action Plan of 1998. Owing to the large amount of new knowledge and experience gathered between these dates, both plans differed in the description of the species' distribution and ecology as well as the recommended actions.

In 2008, the European Union commission contracted BirdLife International to do a thorough review of the implementation of the 1998 action plan and to prepare an updated version of this plan. BirdLife used this occasion to evaluate both, the implementation of the EU as well as the newer CMS action plan, and to prepare an updated version of the International Action Plan to be accepted both as EU and CMS action plans in order to avoid potential discrepancies between both plans.

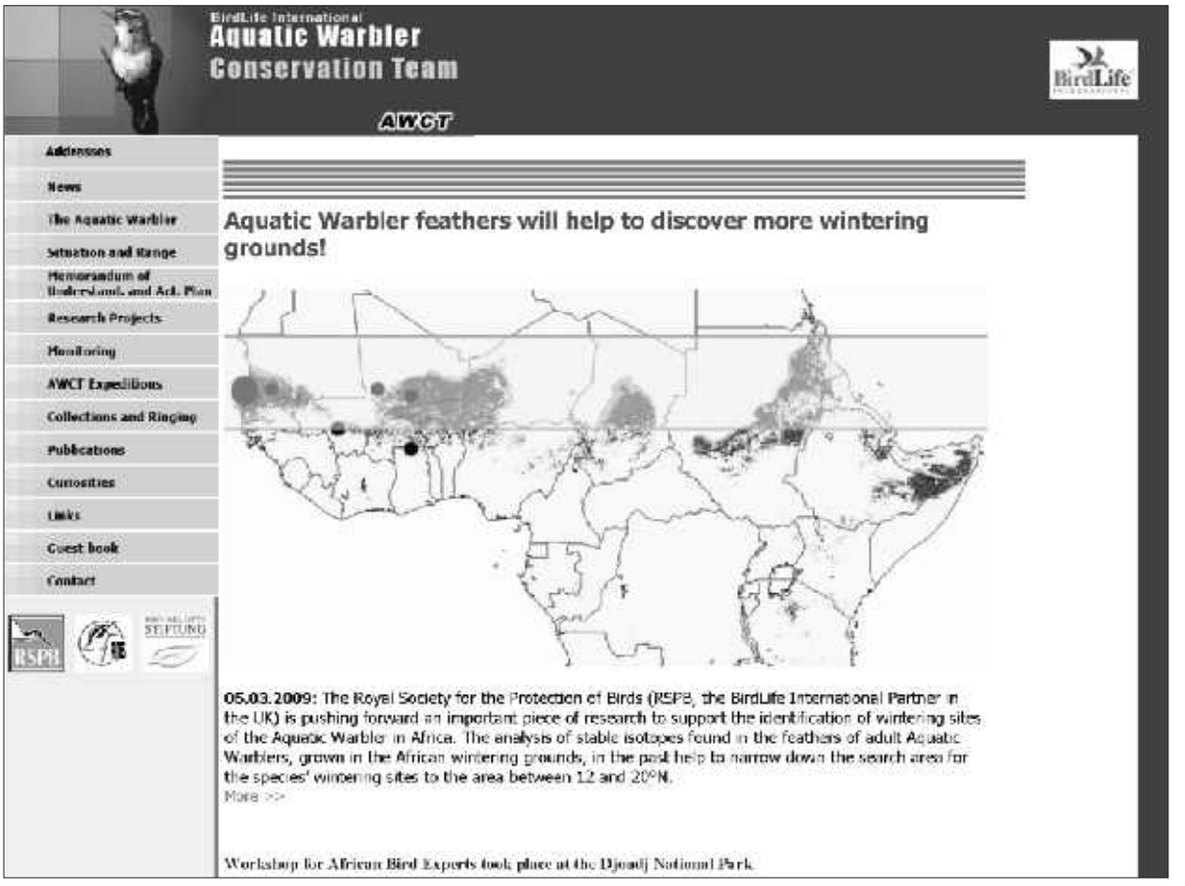
The 2008 implementation report states a significant progress in the implementation of the action plan compared to the previous evaluation in 2004. As the fast decline of the species could be halted by the late 1990ies, it can be concluded that important progress has been made towards achieving the short-term aim, while the medium to long-term aims to promote the expansion of the population have not yet been achieved, as two marginal populations are acutely threatened with extinction, and other populations still stagnate at low level or even show a slow decline, mainly due to negative vegetation developments at the breeding sites.

The new EU action plan contains no fundamental differences to the CMS plan from 2003. The descriptive part of the plan has been updated to reflect new information on the species' ecology, distribution, population size, threats and conservation measures taken. This also means the inclusion of a number of additional countries as range states for the species, owing to the discovery of the species' wintering grounds and growing information on the species' migration stopover sites.

The prescriptive part of the plan (recommended actions) has been newly structured in order to be more logical and easier to read. A higher importance than in previous versions of the plan has been given to the need for vegetation management, which now ranks equally high as the need for hydrological management.

Since 2009, the approved new EU action plan is available on http://ec.europa.eu/environment/nature/conservation/wildbirds/action_plans/docs/acrocephalus_paludicola.pdf . It is intended to approve this action plan also as International Action Plan under the CMS MoU during the next meeting of signatory states in May 2010 in Poland.

AWCT website updated



The Aquatic Warbler Conservation Team website www.aquaticwarbler.net was first launched in 2004, with the help of the RSPB (BirdLife UK), APB (BirdLife Belarus) and the Michael Otto Foundation. The Birdlife/CMS International Aquatic Warbler Conservation Officer maintains the website.

The content of this website was considerably updated during last year and it is now the biggest online resource for Aquatic Warbler conservation. Anybody interested in the Aquatic Warbler can find most of the actual data here on the species' biology, distribution and numbers, threats, and results of finished and ongoing conservation projects. The website contains more than 100 scientific articles and conference presentations, monitoring reports from five countries (Belarus, Lithuania, Poland, Ukraine, United Kingdom) since 1998, Site Data Sheets containing detailed habitat descriptions and regularly updated monitoring data from 24 breeding sites.

Issues of the MoU News-letter and EU LIFE Newsletter as well as an excellent management guide, issued from the AW LIFE project in Spain, have also been placed on-line.

How rare is the Aquatic Warbler?

by Martin Flade

The Aquatic Warbler regularly breeds in Belarus, Germany, Hungary, Lithuania, Poland and Ukraine (irregularly in Russia and Latvia), with major populations in Belarus, Poland and Ukraine. The breeding distribution is fragmented due to habitat constraints; all occupied mire tracts in Europe together cover a total area of less than 1,000 km² only.

Recent estimates of the global Aquatic Warbler population had to be revised substantially in 2007. After thorough complete counts of larger areas in Zvanets, Sporava and Dzikoe, our Belarusian colleagues realised that the extrapolations from small plots and transects were too high, especially for Dzikoe (recent population 150-220 males only). Thus, the national population estimate for Belarus had to be reduced from c. 10,000 to c. 5,500-6,000 males. On the other hand, some new local populations where found in Lithuania, northern Belarus, and, in particular, in NW-Ukraine in 2008 (e.g. lower Stohid, 170-180 singing males).

Based on the latest information, the global Aquatic Warber population consists of 10,500-14,000 vocalising males. The global population is confined to fewer than 40 regularly occupied sites (mire tracts, river valleys) in only five countries, with four sites supporting over 80 % of the global population.

Aquatic Warbler: average global population 1996-2009 (singing males)

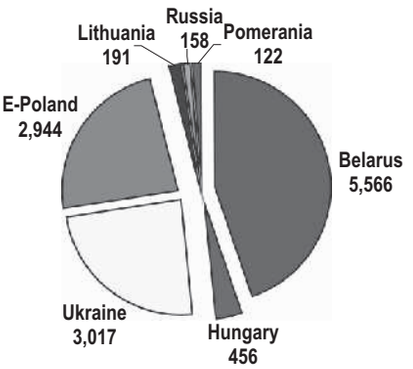


Fig. 2: Distribution of the global Aquatic Warbler population according to subpopulations (geometric mean of the period 1996-2009).

Status of the Pomeranian population

As opposed to earlier results, new extended research provides no support for genetic separation other than isolation by distance and/or potential drift effects, which exists from the study of six microsatellite loci. Analysing additional loci might increase evidence in either direction. For example, the status of an evolutionary significant unit would not be justified. The Pomeranian population may be treated as a management unit, based on:

- the distance to other sites,
- connectivity within the population (Karsiborska Kepa - Rozwarowo and Krajnik – Lower Oder Valley NP),
- its ongoing decline and,
- some degree of isolation.

No indications for loss of genetic diversity and/or inbreeding exist, but evidence from microsatellites is limited.

The Pomeranian population management unit still deserves very high conservation priority, because its loss would mean the loss of a large part of the species' current distribution range and the loss of a potential local source population for the re-colonisation of restored habitats in large parts of the species former range.

Discovery of the AW wintering grounds

by Martin Flade & Cosima Tegetmeyer

History and current knowledge

Although it was assumed, that the wintering sites of the Aquatic Warbler should be located somewhere in Sub-Saharan West Africa, precise locations as well as wintering and moulting habitats were unknown until January 2007. According to the Aquatic Warbler Species Action Plan, which is annexed to the Memorandum of Understanding under the CMS, the knowledge of the wintering sites was given highest priority at the Conference of Signatory Parties in June 2006 in Germany. Dramatic habitat changes in the Sahelian wetlands (habitat loss due to an increase in hydro-agriculture and construction of fresh water reservoirs, long-term changes in Sahel precipitation and salinity of suitable habitats) obviously could be an important limiting factor, but the extent to which this had affected the population dynamics of Aquatic Warbler remained unclear.

Thanks to substantial support from the British government (DEFRA), the CMS Secretariat in Bonn, the RSPB, and the German Ornithological Society (DO-G) it was possible to perform an AWCT expedition to W-Africa in January/February 2007 in order to identify the Aquatic Warbler wintering sites. Before this expedition took place, five years of preparatory studies were undertaken by several AWCT partners in order to narrow down the possible Aquatic Warbler wintering grounds:

- a desk study on all Aquatic Warbler records in Africa (SCHÄFFER *et al.* 2006);
- a study on stable isotopes in Aquatic Warbler feathers of different breeding populations and comparison with values of feathers of the African surrogate species Winding Cisticola *Cisticola galactotes* and Grey-backed Cameroptera *Cameroptera brachyura* (PAIN *et al.* 2004 and unpublished);
- a modelling study using vegetation and climate data to identify suitable zones in Sub-Saharan Africa (WALTHER *et al.* 2007).

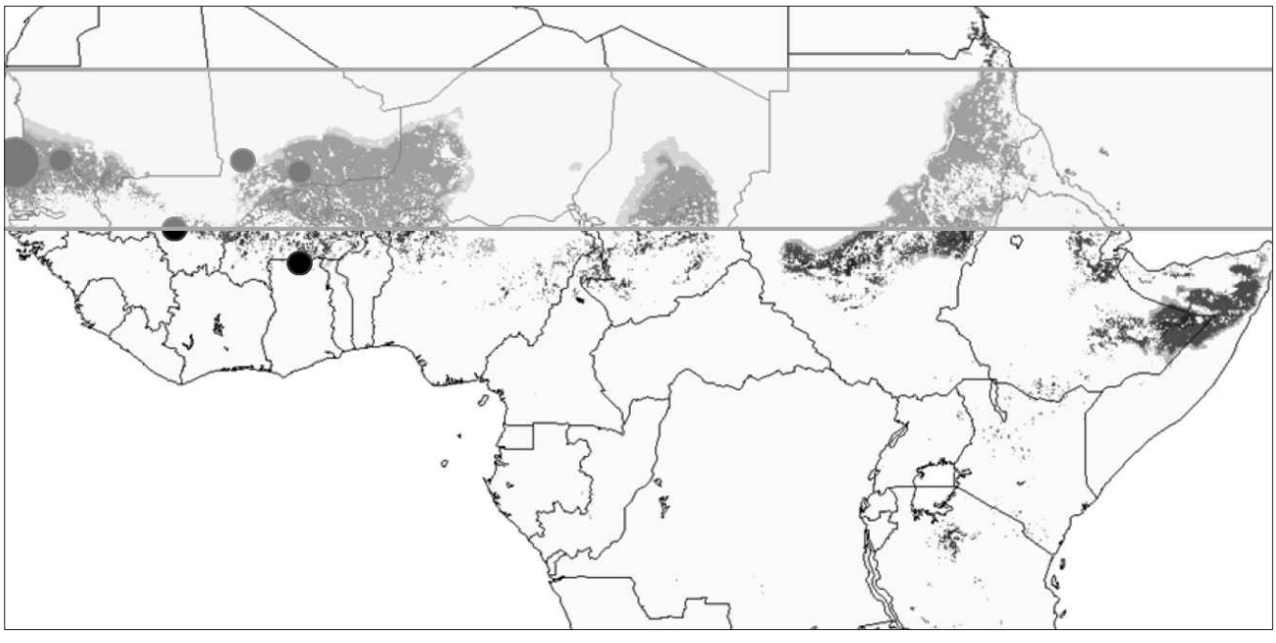


Fig. 3: The search area for the AW wintering sites.

Combining the results of all these preparatory studies resulted in the conclusion that a major Aquatic Warbler wintering site could be situated in the Senegal River estuary. The local logistics in Senegal were carried out by the administration of the 'Parc National des Oiseaux du Djoudj' (IBRAHIMA DIOP, Director of the Biological Station and Conservateur of the Park *(he is Conservateur since 10/2008)*). The necessary ringing work was organised by the French AWCT partner 'Bretagne Vivante' (BRUNO BARGAIN).

Fig. 4: European and Senegalese participants of the expedition. *(Photo: Volker Salewski)*

During this expedition, the wintering habitats in vast open marshes inside and north of the Djoudj National Park (Senegal) were discovered by the AWCT team, together with Senegalese and Mauritanian colleagues. The Aquatic Warbler was absent in dry grass marshes and areas with scattered bushes and trees, in narrow *Scirpus* belts at lake shores, in deep water and half-open habitats, and especially in the vast high cattail *Typha australis* stands of the Diama reservoir. Finally, the species was found in large open saline grass marshes of *Scirpus littoralis, Oryza longistaminata, Eleocharis mutata* and *Sporobolus robustus*. Its occurrence is restricted to water-logged areas. In total, 149 Aquatic Warblers were captured from January 2007 to February 2009 (one bird was caught in all three subsequent winters!). In order to link the Aquatic Warbler in Djoudj with breeding populations, feathers and DNA samples were taken. The Aquatic Warbler wintering habitat, vegetation types, water conditions and habitat structures were documented, as well as the whole assemblage of European wintering birds in the grass marshes.

The density was roughly estimated at 0.5-1.0 (-1.5) birds per hectare over a total area of suitable habitat of 4,000-10,000 hectares (extrapolation 2,000-10,000 birds in total). There might be more wintering sites in wetlands and floodplains of Mauritania and Mali (several winter records), but a further intensive search for suitable wintering sites by the AWCT in January 2008 in S-Mauritania and in Senegal along the Senegal River floodplain, and in January 2009 in Gambia have remained unsuccessful so far. All visited sites were either too small, already dry, converted into rice and sugar cane fields (hydro-agriculture) or into fresh-water reservoirs, overgrown by high stands of the invasive cattail *Typha australis*. We assume that potential wintering sites of AW in Sahelian W-Africa are under serious threat – and that, therefore, the population bottleneck may switch from the breeding to the wintering sites in the near future!

In the Djoudj area, potential threats arise from the ongoing changes in the whole hydrological regime and, possibly, habitat features in general. It is thus of prime importance to carry out further detailed studies on these potential or ongoing habitat changes and to elaborate on a thorough threat status analysis. A doctor thesis project (C. TEGETMEYER, Greifswald University), which started in January 2008, aims to achieve the following targets:

1. ascertain the spatial and temporal habitat usage in the Djoudj area,
2. identify the relevant biotic and abiotic site conditions,
3. investigate the threat status and the ongoing modifications of the occupied sites,
4. propose AW-friendly site management.

Elements of the study consider mist netting and radio-tagging Aquatic Warblers (to study home ranges, habitat use and seasonal movements during the wintering period), a detailed vegetation analysis, hydrological measurements, chemical measurements of habitat conditions (trophic level, salinity) and an investigation of the available food supply.

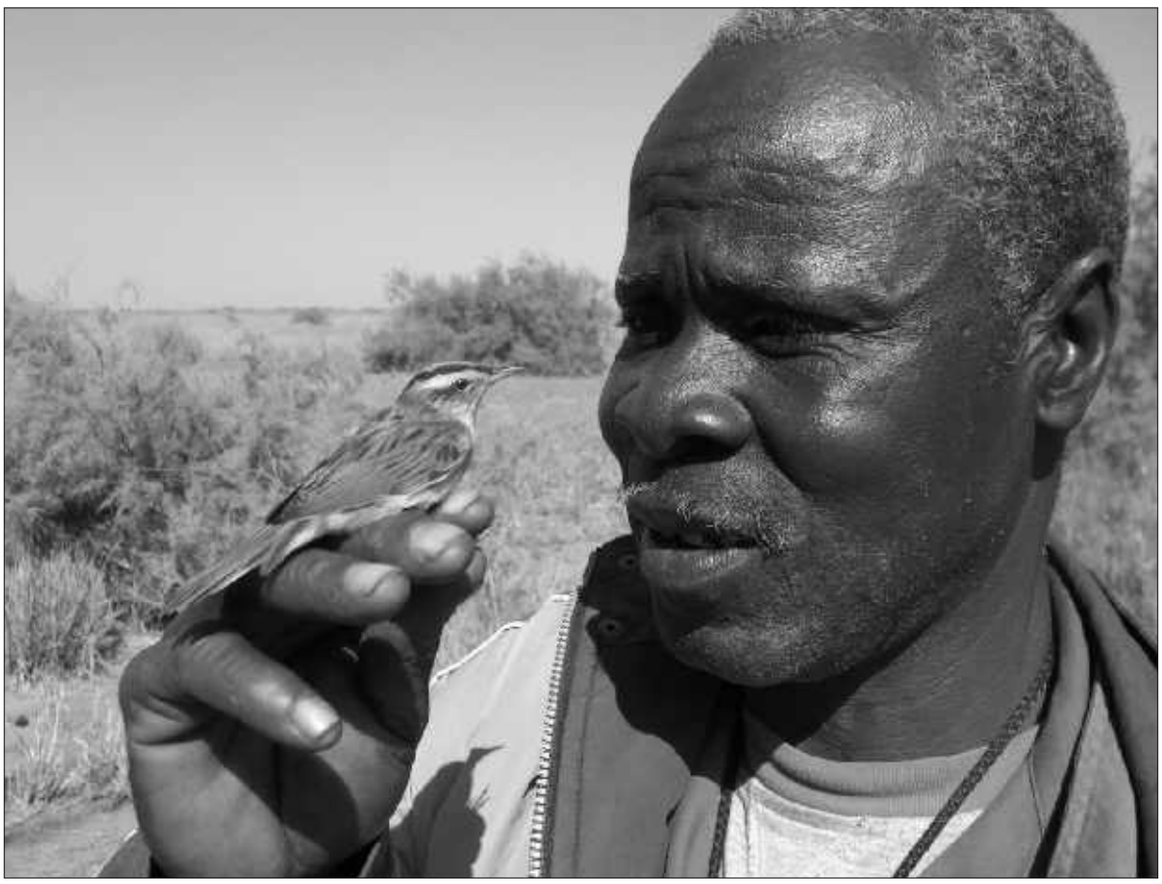


Fig. 5: Indega, the ornithologist from Djoudj NP, holds the first Aquatic Warbler that was caught by the expedition. *(Photo: Martin Flade)*

Workshop for African Bird Experts at the Djoudj National Park in January 2009

The idea to organise a workshop for African bird experts came up in September 2008 at a meeting in Quimper in France, when AWCT members agreed that successful detection of further West African wintering grounds of the Aquatic Warbler and their protection cannot be achieved without the help of local experts of the respective countries. It was intended to make local experts familiar with the Aquatic Warbler, the whole topic of European protection efforts and, above all, the wintering habitat with its characteristic water regime and vegetation structure.

With the help of IBRAHIMA DIOP (Conservateur of the Djoudj National Park and Director of the Parks Biological Station) and with financial support from the RSPB, the AWCT organised a three day workshop created by BRUNO BARGAIN, VOLKER SALEWSKI, and COSIMA TEGETMEYER for seven experts from Senegal, Gambia and Mali in Djoudj in January 2009. In addition, we made contact with appointed Mauritanian colleagues who unfortunately could not partici-pate in the workshop.

Our African colleagues received theoretical information about the biology and ecology of the Aquatic Warbler, migratory routes and conservation activities. Furthermore, the suitable Aquatic Warbler habitats around the Djoudj National Park were presented to the participants as well as the bird itself. During ringing work, habitat inspection demonst-rations were given on how to localise and to prove the presence of the birds in the humid grassy plains of West African savannahs. Our African colleagues were very interested and keen to contribute, so we expect that our guests will spread the infor-mation obtained in their home countries, with the hope that this way we may discover, so far unknown, Aquatic Warbler wintering grounds in the near future.

Fig. 6: The participants from Senegal, Gambia and Mali attended the seminar organised by the AWCT. *(Photo: Volker Salewski)*

Aquatic Warbler breeding habitat management

by Franziska Tanneberger & Martin Flade

Our knowledge on Aquatic Warbler breeding habitat management has improved strongly in recent years thanks to intensive research in Belarus, Poland, Germany, and other Range States. Whereas habitat conditions in the densely populated percolation mires of Poland and Belarus (research work of A. Dyrcz & colleagues and A. Kozulin & colleagues, respectively) have already been studied since the 1990s, research work in the floodplain habitats started more recently.

The groundwater fed percolation mire habitats in Poland, Ukraine, and Belarus hold approximately 97% of the current global population and are therefore regarded as typical Aquatic Warbler habitats (AWCT 1999, Kozulin & Flade 1999). The two main habitat types (Table 1) are similar in terms of vegetation height and cover of low herb species, but differ substantially in thickness of litter layer, moss cover and site conditions (water level etc.). A medium or thick litter layer and the oscillating moss layer allow nest placement above water level and provide typical nesting sites in the percolation mire habitats (Vergeichik & Kozulin 2006). In the floodplain polder habitats, the litter layer is thin, mosses and water above ground level are absent and nests are placed close to the soil surface in old vegetation.

Table 1: ***Main Aquatic Warbler habitat types across the breeding range***
(after Tanneberger et al. 2008)

	Density (sm/10 ha)	Vegetation height (m)	Thickness of litter layer (cm)	Cover of mosses (%)	Water level (cm)	Water level amplitude April-August (cm)	Nutrient availability[a] (soil C/N ratio)
Floodplain polders							
Germany, lower Oder valley polders[b]	0.9–1.7	0.4–0.8	low (0–8)	0	0	high (>50)	eutrophic (10–14)
Lithuania, Nemunas delta polders[c]	0.7–1.7	0.4–0.6	low (0–10)	0	0	high (>50)	eutrophic (11–18)
Percolation mires							
Poland, Biebrza valley[d]	1–11	0.6–0.8	high (29–39)	40–100	0–25	low	mesotrophic (mean ±SD: 21.45 ±2.2)
Belarus, fen mires[e]	1–13.5	0.6–0.7	medium to high (10-35)	60–100	0–10	low (0-20)	mesotrophic (mean: 20.2)
Ukraine, fen mires[f]	3.3–11.5	0.6–0.7	medium	60–100	0–20	low (<20)	mesotrophic

[a] nutrient availability classes (after Succow & Joosten 2001)
[b] this study (density data for long-term study plot before population decline; vegetation height data from May, all other vegetation data from June)
[c] F. Tanneberger & Z. Preiksa unpubl., density: Sysa polder for 2004 and 2006; all other: for 2006
[d] Sellin (1989), Dyrcz & Zdunek (1993) and P. Marczakiewicz unpubl. for 2006; soil C/N ratio: Wassen & Joosten (1996) for Biebrza upper basin
[e] Kozulin & Flade (1999), Vergeichik & Kozulin (2006); CSR and litter: J. Stepanovich pers. comm.; soil C/N ratio: N. Bambalov pers. comm.
[f] A. Poluda unpubl. for key habitats 2003 and F. Tanneberger unpubl. for 2005

Originally Aquatic Warblers probably found their natural habitat in low productive fen mires that remained treeless because their loose, water saturated peats guaranteed a permanently high water level and a limited weight carrying capacity. With increasing drainage and eutrophication, Aquatic Warbler habitats became more and more land use dependent (Fig. 8). The mesotrophic percolation mire habitats are characterised by smaller biomass production and slower succession speed, and sporadic mowing, grazing or burning are sufficient to maintain Aquatic Warbler habitats (AWCT 1999, Kozulin & Flade 1999).

Fig. 7: Optimal Aquatic Warbler breeding habitat in Biebrza National Park, Poland.
(Photo: Franziska Tanneberger)

The eutrophic conditions of floodplain habitats are mainly caused by inundation with nutrientrich river water and enhance biomass production and succession speed. Here, rapid habitat deterioration after the cessation of land use is an important threat for Aquatic Warblers. Whereas eutrophic - moderately rich sites depend on annual late land use (Kloskowski & Krogulec 1999), eutrophic - rich sites need annual early land use. The latter creates the most severe management problems, as nesting sites need to be protected. Alternating (rotational) land use will, in future, probably also be needed in other eastward located Aquatic Warbler breeding sites that are subject to succession, to higher and denser vegetation due to drainage and high nutrient loads (van Egmond et al. 2002, HELCOM 2006).

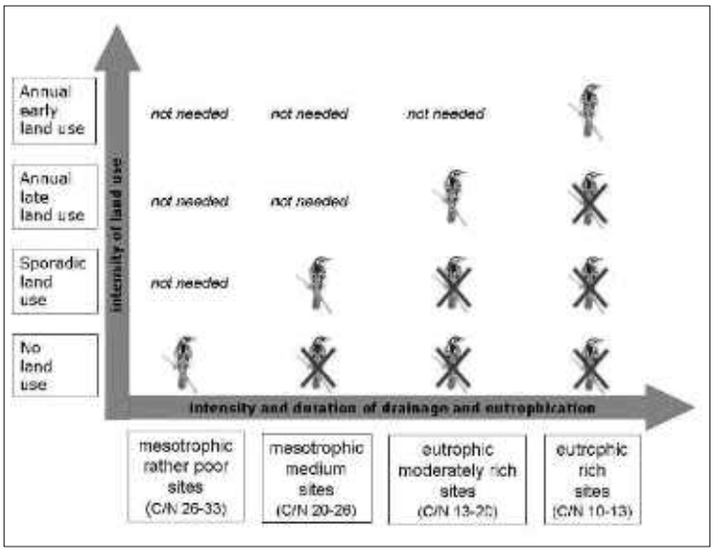


Fig. 8: Model of the occurrence of Aquatic Warblers under natural conditions and at three stages of increasingly intensive and long drainage and eutrophication in relation to the intensity of land use.

Biomass utilisation from wet peatlands in Belarus

by Wendelin Wichtmann, Franziska Tanneberger, Susanne Bärisch

Peatland habitats that are suitable for Aquatic Warblers need to be maintained through vegetation management activities (see other texts in this issue). In former times, such management was part of the usual land use practices of farmers. Harvesting biomass from peatlands depended primarily on water levels. When harvesting could take place at the optimal date, the biomass was used as hay. If the harvesting was delayed because of inappropriate conditions (i.e. too high water levels), it was used as bedding material. Burning was also common as a measure to keep peatlands free of trees and shrubs if harvesting was not possible at all. Some peatlands dominated by Common Reed were harvested for thatch.

Most of these forms of utilisation for harvested biomass from wet peatlands have been abandoned due to changes in drainage methodologies and the economy. Consequently, the peatlands have either been drained or abandoned and now their vegetation provides inadequate habitat conditions for the Aquatic Warbler and other species associated with open fen mires. Today's challenge is to develop new land use concepts that minimise costs for habitat management or at least provide farmers with additional income for continuing former land use activities on wet peatlands. Examples of promising pioneer work have been reported from Poland (thatch production – Rozwarowo Marshes; biomass briquettes for heating – Narew and Biebrza valleys) and are developing in Germany (biogas and big bales for energy production – Peene Valley).

Such land use concepts are also being developed in Belarus, within a peatland restoration project of the RSPB (BirdLife UK), APB (Birdlife Belarus) and the Michael Succow Foundation (Germany). A feasibility study on using biomass from wet peatlands has been prepared and as a result, the production of energy briquettes from biomass will start in 2010, using biomass harvested in the Sporava Protected Area in Southern Belarus. Biomass productivity at Sporava will range between 5 and 16 tons of dry matter per hectare depending on the dominating vegetation (Phragmites, Phalaris or Carex reeds). Mowing will be performed on approximately 500 hectares with a caterpillar mowing device, which has been specially adapted to peatland conditions. During further processing, the biomass will be dried, milled and compacted into briquettes. Buildings for housing the manufactured biomass, as well as the biomass harvesting and processing equipment, will be assigned to the Sporava zakaznik administration in 2010. There are plans to sell the biomass briquettes as a substitute mainly for peat briquettes (still in use in rural Belarus).

Hopefully, these pilot sites in Poland, Germany and Belarus will become model sites for the use of biomass from wet and re-wetted peatlands, thus benefiting climate, biodiversity and local income in many regions.

The French Life Project "Conservation of the Aquatic Warbler in Brittany"

by Arnaud Le Nevé

Over a 25 year period, ringing stations in the framework of the European Programme, ACROPROJECT, have collected information. This information shows that the principal stop-over and fattening-up zone during the post-nuptial migration of Aquatic Warblers is situated in the north-west of France along the coast of the Channel and further down along the Atlantic. Potentially, France could receive around 100 % of the global Aquatic Warbler population during the autumn migration at stop over sites. The zone is characterised by a string of coastal marshes along the Norman and Brittany coasts, from the Seine Bay to the Loire estuary. A secondary east migration flyway also exists in the east of the country for the spring migration.

The principal threat to these zones is the absence of habitat management, which favours the Aquatic Warbler. This is enhanced by the secretiveness of this little warbler and the lack of necessary knowledge on behalf of the managers. This absence of management often goes hand in hand with other threats that are always the fate of wetland zones, for example, the degradation of the hydraulic functioning, natural water levels, water pollution, man-made changes (artificial water levels, intensive reaping of the reed beds, development for leisure activities or for shooting). These threats all bring with them a loss of habitat diversity and a change in ecological functions for the Aquatic Warbler i.e. feeding, resting and nocturnal orientation.

Thus, the main motivation for this project is to increase the habitat surface, favourable for the migrating Aquatic Warbler along the Atlantic French coasts, and can be described by two specific aims:

- maintaining or rehabilitating the ecological functions, essential for receiving migrating Aquatic Warbler at some important stop-overs;

- promoting the experience in management, acquired by the persons in charge and by the managers of the string of coastal marshes.

In Brittany, the project is led on three sites designated as SPAs, under the responsibility of the proposer, Bretagne Vivante – SEPNB:

- to improve knowledge of the migratory stop-overs and the role of their habitats for the species: the project plans a radio-tracking operation, a

Fig. 9: Reedbeds mown in Rosconnec, September 2008.

study of the diet through analyses of droppings collected at the ringing stations and a further inventory of possible spring migratory stop-overs.

- to perpetuate the regulation and protection of the most important stop-overs: this means a control on the use and the property status of 30 hectares, via management agreements or acquisitions.

- to put in place management adapted to the vital habitats: the planned work concerns 265 hectares of marshes and consists in rehabilitation work on the marshes by clearing out, digging ditches, installing gates or maintenance work by reaping the reed beds and the subhalophilic meadows on a pluriannual basis and by the management of water levels (Fig. 9).

- to make the local population aware of the importance of these zones by the production and broadcasting of a film, by conferences in the localities, by the publishing of a brochure and by a programme of activities for the general public and school children. The Life Project will thus contribute to local under-standing and acceptance of the Natura2000 sites.

- to share acquired experience with the managers and persons in charge in France, by the organisation of technical workshops and the publishing, at the end of the programme, of a collection of best practice experiences. This booklet will at the same time propose a regional conservation strategy. The creation of a web site and planned exchanges with the Spanish Life Project LIFE2002NAT/E/8616REV complete the communication chapter.

The Life Project was planned over a 5 year period , from Jan 1st 2004 to April 30th 2009.

One of the best results of the Life Project is the announcement, by the French Ministry of Ecology in 2008, of the launch of a National Action Plan for the Aquatic Warbler 2010 – 2014. This plan is, at present, in the writing phase.

Amongst the best communication results, the Life Project has produced an English version of the final seminar proceedings. These proceedings can be ordered from the Bretagne Vivante – SEPNB Life's chairman Arnaud Le Neve.

Fig. 10: Participants from 10 European and African countries came to the final project conference, September 2008.

EU LIFE project on Aquatic Warbler in Poland and Germany catalyses change

by Lars Lachmann & Michal Maniakowski

Since 2005, the Polish Society for the Protection of Birds (OTOP - BirdLife Poland) and partners, amongst them the Biebrza National Park, have been implementing a large-scale project funded by the EU LIFE Programme targeting the conservation of Aquatic Warblers and their fen mire habitats in Poland and Germany. This project has catalysed the implementation of a landscape-scale solution for the restoration and sustainable management of fen mires and wet peat meadows, which are home to this globally threatened species. The project continues until May 2011, but has already achieved some exceptional successes.

The project managed to set up a strong partnership for the conservation of Aquatic Warblers in the project region, including not only the formal project partners but also the Ministry of Environment. The profile of the species in Poland has increased considerably.

Draft Management Plans have been prepared for the nine project sites, covering 42,000 ha. The project has so far enabled active habitat management through extensive mowing, in some cases combined with low-density grazing, on over 3300 ha, an area that will be further increased.

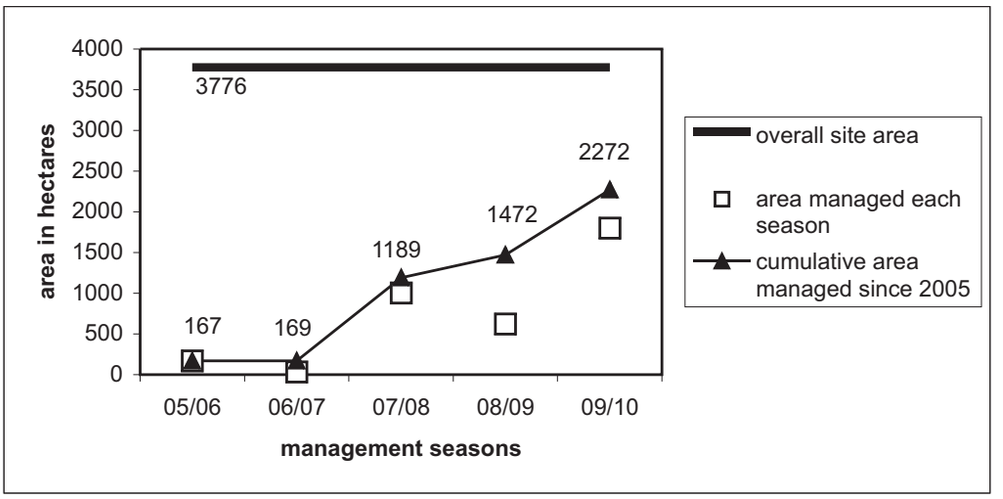


Fig. 11: Area covered by conservation management for Aquatic Warblers at Bagno Ławki

This was only possible after the LIFE project had been able to show that large-scale mechanised mowing of Aquatic Warbler habitats is possible without damage to the delicate peat soils through the introduction of innovative low-pressure and high-efficiency machinery based on piste bashers usually used to prepare ski runs in the mountains (Fig. 12).

It was also necessary to make land available for active management. 800 ha already purchased through the project and about 13,000 ha leased out by two Polish national parks ensured that active management can now cover about 80% of the Aquatic Warbler habitat within the project sites.

The species is reacting very well to the conservation measures implemented in the Biebrza Valley, the main population centre of the species in the EU, and the world's second largest Aquatic Warbler breeding site. The project monitoring is producing strong indications that the number of Aquatic Warblers is increasing on the managed areas, while decreasing on those left unmanaged, and shows that about 300 ha of new areas have been occupied by the species after they had been restored within the project.

Unfortunately, the Pomeranian population along the German-Polish border still gives reason for concern, as it continues to decrease. A quick response in numbers to the habitat management work imple-

Fig. 12: Prototype mowing equipment used to manage peat meadows in the Biebrza Valley since 2007. *(Photo: Lars Lachmann)*

mented in this area has never been expected, but we continue to hope that the LIFE project did not come too late to save this population. Regardless the situation at wintering and migration sites, the most suitable and effective way to save this population is the provision of increasing areas of good quality breeding habitat.

The project has been very successful to ensure sustainable mechanisms for the longterm management of Aquatic Warbler habitats at the project sites and beyond. New and specifically targeted attractive agri-environment schemes are in place in Poland since 2009. The project has also identified sustainable solutions for the remaining problems of large amounts of biomass arising and continued funding in case the new schemes cease to exist. Energetic use of biomass as alternative fuel for heating is envisaged as a long-term solution for Aquatic Warbler conservation in Poland. To implement this logical next step, OTOP is due to start a new LIFE+ project in 2010 addressing this issue.

For more information, please contact OTOP (Lars.Lachmann@ rspb.org.uk).

Fig. 13: The new mowing equipment does not leave traces on the delicate peat soils. *(Photo: Lars Lachmann)*

Belarus

by Uladzimir Malashevich & Viktar Fenchuk

The National Census of all known Aquatic Warbler breeding sites, including those that are irregularly occupied, was imple-mented in 2006 by APB (BirdLife Belarus), using funding from the Michael Otto Foundation (Germany). Now the Aquatic Warbler population in Belarus is estimated at 4000-7600 singing males. The key breeding sites are Zvanets, Sporava and Dzikoe, which hold 90% of the Belarusian, and 40% of the global, Aquatic Warbler population.

Management plans for these key territories were developed. The management plans identified the main threats, and prioritised actions that needed to be implemented. For all three sites, water management was deemed as the priority action and several conservation projects targeted restoration of these sites' hydrological regime. Hydrological management helped to stabilise the water level and prevent further habitats degrading quickly.

Following restoration of the water regime, vegetation management was pioneered. To prevent natural successions and overgrowing of open fen mires, the pilot project "Conservation of open fen mires in Sporauski reserve" started in 2006 as the second stage of the management plan's implementation. The project was initiated by APB (BirdLife Belarus) in partnership with the State biological reserve "Sporauski" in 2006 and was kindly supported by the GEF Small Grants Programme. The results showed that mowing is technically possible and can be economically justifiable. Altogether since 2006, 397 hectares of the Sporava mire have been mown and 30 hectares have been cleared of bushes (Fig. 14). Monitoring works that were implemented, showed a positive effect on habitat management, which lead up to a three times increase in the density of vocalising Aquatic Warbler males. It should also be noted that the implementation of large-scale management activities is vitally important for all key breeding sites.

The legislative base of controlled burning as an effective and cheap management tool was established in 2007. The Law of the Republic of Belarus on Wild Animals allows scientifically grounded burning of dry vegetation, with the purpose of benefiting red listed species in the framework of SPAs.

In 2005, Belarus co-hosted the field meeting of the BirdLife International Aquatic Warbler Conservation Team. The meeting took place at Zvanets mire and was also attended by non-AWCT members working at important sites for the Aquatic Warbler. The meeting participants were introduced to methods of counting the Aquatic Warbler adopted in Belarus and participated in the counts. They were also introduced to the methods of running studies on Aquatic Warbler and related species' nestlings diet (neck ligature sampling).

In the latest 2004 edition of the Red Data Book of the Republic of Belarus, the Aquatic Warbler has the status of a rare, locally distributed species. It is listed as an Endangered (EN) species in Category II. This means an increase in protection status compared to the 1994 edition, where it was listed in Category IV as a data deficient and insufficiently known species. This level of protection is sufficient to ensure adequate protection of the species and its breeding sites. 98% of the Belarusian Aquatic Warbler population breed in the SPA, 99% of the Aquatic Warbler population occupies habitats that are designed as IBAs and 92% breed at Ramsar sites.

Fig. 14: Winter mowing with double wheels tractors in Sporauski reserve, January 2009.
(Photo: Alexey Artiushevsky)

Belgium

by Wouter Faveyts & Norbert Roothaert

In 2006 the Agency for Nature and Forests, the nature conservation administration for the Flemish Region, granted an assignment to draft an action plan for the Aquatic Warbler in the Flemish Region of Belgium. This action plan was finished in December 2007. Since the Aquatic Warbler almost exclusively occurs in the northern Flemish Region of the country, the plan can be considered as relevant for the whole of Belgium. The action plan, in the first instance, is meant to give an accurate picture of the status of the species in the country. It confirms that the species is almost exclusively a rare, but regular passage migrant in the autumn. During the period 1875-2006, a total of 1523 birds were recorded in Belgium, the vast majority of them (1278 birds) being trapped by bird ringers. Most birds were recorded after 1986, when playback recordings started to be used by bird ringers in order to lure passerines into mist nets. In 1990, the maximum number recorded in any one year was 279 birds. The species passes through Belgium from the end of July until early October, with peak passage in the second week of August. The action plan confirmed that the Aquatic Warbler was recorded at 89 different locations in the Flemish Region. Most sightings were in the provinces of West-Vlaanderen, Oost-Vlaanderen and Antwerpen, with a clear focus on river valleys and coastal sites. The action plan also identified all the regular sites for the species in the Flemish Region and the habitat types that are important for the species while on migration here. The action plan made clear proposals for future conservation actions for this species. Since the Aquatic Warbler is a very elusive species (hence difficult to obtain policy attention), possible actions for this species were linked to other bird species, especially those included in Annex I of the Birds Directive.

After this action plan was set up, the first step was to ensure that the Aquatic Warbler was included in the list of species for which so called 'conservation goals' were established. These goals were made for Annex I bird species of the Birds Directive, which are regular breeders in the Flemish Region and also for regularly occurring migratory birds (under article 4 of the Directive) of which internationally important numbers pass through the Flemish Region. For every species, including the Aquatic Warbler, conservation targets and priority sites to meet these targets are set.

Bulgaria

by Petar Iankov

Notes on Aquatic Warbler breeding habitats proved to be unreliable (e.g. regarding the possible nesting in grassy gardens at the edge of villages and towns, KUZNETSOV 1967 cited in NANKINOV 1995). There is not any evidence for breeding in the countryside (P. IANKOV *pers. comm*.). NANKINOV (1995) published a summary of – almost unconfirmed and doubtful - records in Bulgaria. According to this paper, most of these observations and captures come from the period 1976 to 1988. 401 Aquatic Warblers have been ringed, most of them from August to October. A small peak also occurred in May. The reported maximum of birds caught for ringing was 186 in 1977 and 118 in 1980. However, all theses figures still need to be critically reviewed and confirmed.

Germany

by Franziska Tanneberger & Jochen Bellebaum

The Aquatic Warbler breeding population in Germany is the most western and smallest of all the European countries. Since 1999, there has been only one isolated site, the Lower Oder Valley National Park in the north-east corner of Germany close to the Polish border, in the polders of the Oder river near Schwedt and Friedrichsthal (Tanne-berger et al. 2008). In recent years, the remaining German population consisted of only 4-15 singing males in total. The National Park adminis-tration has tried to improve manage-ment since 2007 and a conservation project on alternating land use and GPS-aided mowing is in preparation. However, due to unknown reasons and despite the fact that habitat quality has not worsened, the population recently declined to only one singing male in 2008 and in 2009, not one bird was detected (the first year without any breeding records in Germany!). However, at the Polish side of the border, there were still 54 singing males present in 2008, so there is still the hope that the German side could be recolonised in future years.

The former population at the Baltic Sea coast near Greifswald became extinct in 1998 as a result of overgrazing. Habitat restoration measures (mowing, controlled burning etc.) have started in the lower Peene Valley as part of the Polish-German EU LIFE project (2005-2010). Despite autumn records, the species has not yet returned to the Peene Valley.

The Aquatic Warbler is classified as Critically Endangered in the German Red Data Book and is legally protected.

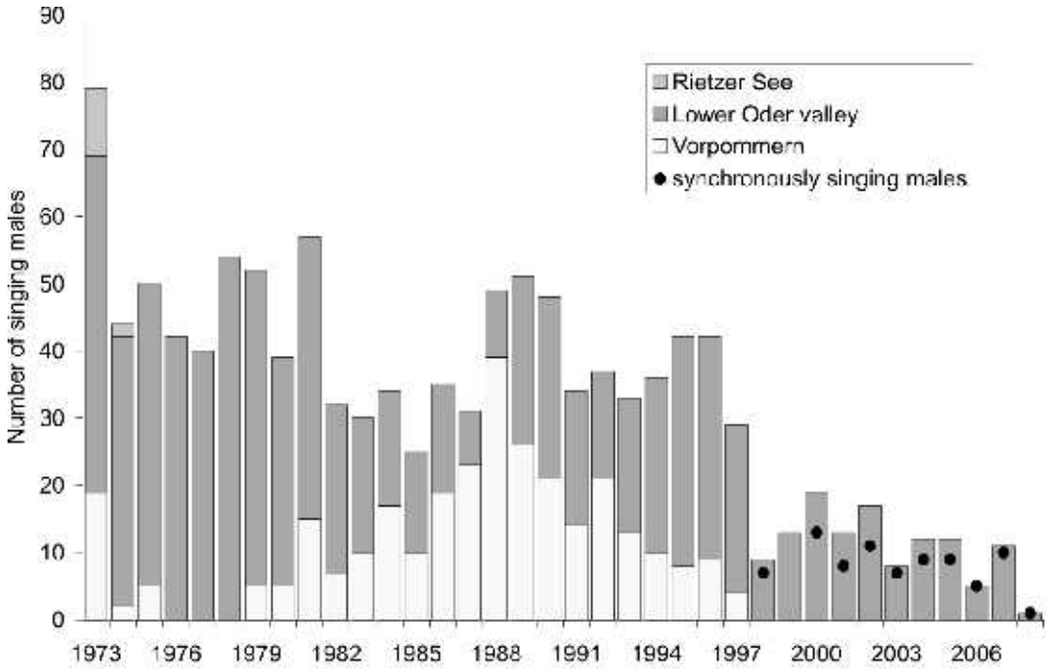


Fig. 15: Aquatic Warbler numbers in Germany 1973-2008.

Hungary

by Zsolt Vegvari

The only breeding population exists in the Hortobágy National Park, where it has increased from 19 singing males in 1971 to 700 singing males in 2001 (Kovács & Végvári 1999, Végvári pers. comm.). Following a serious drought in 2002 and the burning of 30 % of Aquatic Warbler habitats, only 386 singing males were recorded in that year. In 2006, after a big, long lasting and high spring flood, the population decreased severely to only 60 males, but recovered slightly to 132 males in 2007 and 225 males in 2008. A monitoring scheme has operated for more than 20 years, longer than in any other country. This species is a key factor in outlining conservation planning inside the National Park, especially in wetland management.

The species is strictly protected under Hungarian law for the conservation of nature and is listed as Endangered in the Hungarian Red Data Book.

France

by Arnaud Le Nevé

Large reedbeds on the coast (Channel, Atlantic and Mediter-ranean) are regularly used during migration. In addition, inland sites in the SE of the country during spring migration are also occasionally used. The species is rarely seen during the spring passage. In autumn, France can potentially receive up to 90-100 % of the global population. The number of birds ringed, has increased since the mid 1980's due to an increase in ringing efforts overall (National Action Plan 2009). Over a two thousand year period, the number varies between 173 and 466 individuals caught each year (JUILLARD *et al.* 2006; B. BARGAIN *pers. comm*.).

The Aquatic Warbler is strictly protected in France; it is included in the National Red Data Book as a Non-Evaluated Species (Bargain 1999). The main stopover resting sites are classified as SPAs. An EU-Life Project was recently (2004-2009) in operation at three experimental sites in Brittany (run by the NGO Bretagne Vivante). The French government launched the creation of a National Action Plan for Aquatic Warbler in 2008 and 2009. This National Action Plan is now approved by the French Ministry of Ecology (December 2009) and is ready to be implemented during the period 2010 - 2014.

Fig. 16: The ringing station in Trunvel, September 2008. *(Photo: Uladzimir Malashevich)*

Latvia

by Oskars Keiss

There are 36 confirmed records since 1940 (mostly captured at Lake Pape and Lake Liepāja, A. CELMIŅŠ, unpublished data) and further unconfirmed records, but only one confirmed proof of breeding at Lake Babīte in 1940 (ROMS 1942). In 1997, special searches took place to locate the species' breeding population at the ten most promising sites in the whole country, but the outcome was unsuccessful (O. KEIŠS, unpub-lished report), despite some suitable habitat areas being found. However, during 2000-2002, 1-3 singing males were observed at Lake Liepāja (A. CELMIŅŠ, unpublished data). In the following years up to 2009, the site was not occupied. Overgrowing reeds and willow-bushes, as well as having an unfavorable hydrological regime, heavily threaten this single Latvian site. Thus, the breeding occurrence of Aquatic Warbler in Latvia has to be classified as irregular and sporadic.

The species is listed as Endangered (category 1) in the Latvian Red Data Book (Lipsbergs 2000) and it has been included in the List of Strictly Protected Species of Latvia.

Fig. 17: Mowing during the breeding season leads to nearly zero breeding success in Sausgalviai meadows, Nemunas delta, Lithuania, June 2008. *(Photo: Zydrunas Preiksa)*

Lithuania

by Zydrunas Preiksa

In 1995-1997, a systematic survey (Ž. PREIKSA, unpublished report) in the central and western parts of the country revealed eight localities with 225-280 singing males in total. In addition, main breeding sites were identified along the Curonian Lagoon, especially in the Sakučiai - Dreverna area (200-300 singing males), the Nemunas/Neman Delta Regional Park (c. 50 males) and Žuvintas Biosphere Reserve (decrease from c. 25 in 1986 to 10-15 males in 2000-2002). In 2004, the total population reached a peak (309 males), but then declined to only 150 males in 2007. The same number (150) occurred in 2009. Altogether, habitat changes related to vegetation succession due to the cessation of cutting (or other appropriate habitat management such as controlled burning) is the most important threat (Žuvintas, Tyrai), followed by changes in the water table (Nemunas/Neman delta). Cutting of vegetation in the breeding season (Fig. 17) has been identified as a serious problem for Aquatic Warbler in the Nemunas/Neman Delta (P. MIERAUSKAS, Ž. PREIKSA pers. comm.). At the Curonian Lagoon, the two main sites (Tyrai and Svencele) are designated as SPAs. A manage-ment plan should be prepared for Tyrai site, whereas for Svencele site this has been already done.

An application for an EU LIFE Project in Lithuania and Latvia focused on Aquatic Warbler conservation (entitled “Securing sustainable farming to ensure conservation of globally threatened bird species in agrarian landscape”) was launched in September 2009 by the Baltic Environmental Forum, Vilnius (decision still pending). This project is thought to develop and pioneer solutions for major grassland management problems, especially in the Nemunas Delta as the core breeding site in Lithuania.

The Red Data Book (2001) classifies the species as especially protected and Vulnerable status.

Poland

by Lars Lachmann, Jaroslaw Krogulec, Michal Maniakowski

The most recent full-country survey of the species in 2009, resulted in 3,155 males. Rather large year-to-year differences in the national population can be mostly explained by fluctuations in the number of singing males at the key site, the Biebrza Marshes. Overall, the population is fluctuating with an underlying slow decline. Smaller sites especially, including those of the isolated Pomeranian population, show declining numbers. There are three main subpopulations:

1. The Podlasie population in north-eastern Poland in the valleys of the Biebrza and Narew rivers:

This is the largest population in Poland, with c. 2640 singing males in 2009 (83% of the national population). Of these, the bulk is found within the Biebrza National Park (c. 2135), especially at the highly populated site Bagno Lawki. Smaller numbers are found in the buffer zone of the Biebrza National Park (126) and along the Narew river valley, including the Narew National Park (38 in 2009). Overall, the population is fluctuating, but largely stable. Different forms of protection cover most of the breeding sites: national parks (Biebrza NP and Narew NP), landscape park (Narew Valley) and they are all included as SPA/Natura2000 sites.

Without conservation activities, a decline due to overgrowth by higher vegetation (high sedges, reeds and willow-birch communities) caused by the cessation of traditional cutting and grazing combined with the effects of historical drainage works would be inevitable. Conservation work, implemented by the Biebrza National Park administration and the Polish Society for the Protection of Birds (OTOP), especially within an EU-LIFE Project led by OTOP-BirdLife Poland ("Conserving Aquatic Warblers in Poland and Germany, LIFE05 NAT/PL/000101, duration 2006-2011), has considerably improved conditions at some main sites, while smaller sites are in danger of disappearing soon.

2. The Lublin Polesie population in south-eastern Poland:

In 2009, 458 singing males occupied two complexes of calcareous fen mires located within the Poleski National Park and NE of the town of Chelm. All sites are protected as SPAs/Natura2000 sites. All, but one site, are also included in national protected areas (Poleski National Park, Chelm Landscape Park). The population at these mires has slightly decreased during the past decade, due to overgrowth of the breeding sites after abandonment of land use and much more effective prevention of wild and illegal fires than in the past. All park administrations and two NGOs (Lublin Ornithological Society and OTOP) are making efforts to prevent further succession at these sites, and recently there have been some key achievements in the National Park and at some of the Chelm mires. The sites are not covered by the EU LIFE Project "Conserving Aquatic Warbler in Poland and Germany", but some new projects are on the way.

3. In Western Pomerania (lower Oder valley, Oder and Swina estuary):

The number of recorded singing males was 383 in 1991, 217 in 1993, 226-231 in 1997, 60-80 in 2002 and 60-89 males in 2003-2007, and just 56 in 2009, with 6 sites still occupied. All are located within SPAs, two sites are included in the Wolin and Warta Mouth National Parks, and all other sites are not protected under national designations. The largest Pomeranian breeding site of Aquatic Warblers, holding > 50% of the Pomeranian population in recent years, is located at the Rozwarowo Marshes near Wolin. The site is used for winter reed cutting, but currently agri-environmental schemes with 'bird packages' are taking over. All sites are focus areas of the EU-LIFE Project "Conserving Aquatic Warblers in Poland and Germany" (LIFE05 NAT/PL/000101, led by OTOP-BirdLife Poland, duration 2006-2011). Management plans for all these sites are being developed in cooperation with the relevant stakeholders and land users. Active management measures are being implemented at all sites, which are due to improve the habitat situation and to stop the further decline of this isolated population.

A few, not regularly occupied, small sites exist in central Poland that could provide a link between the above populations, the most stable of which currently seems to be the Ner River Valley with up to 10 singing males in 2007, and just 2 in 2009.

Fig. 18: The boardwalk in the Biebrza NP provides the best access to the breeding sites of Aquatic Warblers for tourists and birdwatchers, August 2008. *(Photo: Uladzimir Malashevich)*

An agri-environmental scheme focussing on Aquatic Warblers has been implemented since 2009, which should provide large-scale improvement of the habitat conditions across Poland.

The Aquatic Warbler is protected under the national Nature Conservation Law of 1991 and is listed in the Polish Red Data Book as Endangered (Glowacinski 1992).

Portugal

by Júlio Manuel Neto

The distribution, phenology and condition of Aquatic Warblers migrating through Portugal were recently reviewed, producing some interesting information.

All Portuguese records of this species relate to birds captured accidentally at ringing stations from 1977 to 2008 (67 first captures and 3 retraps). The low number of Aquatic Warblers is largely explained by the low ringing effort and, according to the ACROLA index (0.14%), Portugal is one of the most important countries for the migration of this species, just below France and Morocco. All seven sites where the species was detected are recognised for their biological importance and protected, though this could result from a geographical bias in ringing effort. A decline in the number of birds caught since 1977 was detected, particularly of juveniles, which might be associated with a decline in breeding success. All Aquatic Warblers were captured in August and September, showing a peak at the end of August, and adults migrate on average nine days earlier than juveniles.

In contrast to the French birds, both adults and juveniles increase in body condition during the season, which might reflect differences in fuelling rate, timing and speed of migration between the age classes. The analysis of the potential non-stop flight range indicates that some Aquatic Warblers stopping over in Portugal would be able to migrate to the wintering quarters in Senegal without replenishing fuel reserves. However, a considerable percentage of individuals would not be able to fly long distances without refuelling, particularly those captured early in the season, which suggests that at least some birds accumulate fat in Portugal.

Further research is being planned to clarify the stopover dynamics, distribution and origin of Aquatic Warblers migrating through Portugal. Preliminary work carried out during 2009 resulted in four additional captures that occurred at the peak of migration.

In Portugal, the Aquatic Warbler is classified as Critically Endangered according to the National Red Data Book (Cabral et al. 2005).

Russia

by Mikhail Kalyakin

The species is rare and erratically occurs at the Curonian Lagoon in the Kaliningrad region (not more than four singing males found, KALYAKIN 1996) closely neighbouring the Lithuanian core population. A review of all available literature data in Russia (KALYAKIN, unpublished report, 1998; AQUATIC WARBLER CONSERVATION TEAM 1999) shows that the species was rare in all territories within its Russian range during the last 100 years, but possibly overlooked at many sites during the first half of the 20th century. Only a small amount of data could be collected on its (occasional) breeding. Recently, no stable local breeding population has been identified, nor in European Russia in the past. Moreover, the small and decreasing number of records does not suggest the presence of large unknown breeding populations.

Special attempts to find breeding birds in the most promising parts of European Russia were made in 1993-1995 and especially 1998 (Perm, Ryazan, Moscow and Vladimir regions) and 2006 (Smolensk, Pskov and Tver regions), but remained unsuccessful - despite some smaller patches of suitable habitats being found (FLADE, KALYAKIN and co-workers).

Four AWCT expeditions to W-Siberia in 1999-2000 could not find any Aquatic Warblers in the Tomsk-Barabinsk-Novosibirsk region, despite large areas of suitable structured habitats occurring there. In the Shegarka mire W Tomsk, where RAVKIN (1973) reported a big population in 1967, the species was definitely absent in 1999. In 2000, very small numbers of singing males (11-15 in total) were found near Tyumen and at two sites in the northern Omsk oblast, but these sites were abandoned in subsequent years. The total West Siberian population is estimated at 50-500 males maximum, and it is believed that this is the last remnant of a former larger population connected with central Europe, now going extinct. Large areas of suitable fen mires exist in West Siberia, but the population is probably too isolated and small to survive in this region of sub-optimal climate at a great distance from the probable wintering sites.

No activities targeted by AW conservation have been implemented in the Russian Federation recently.

The Aquatic Warbler is included in the Red Data Book of 2000 in category 4 (Insufficiently Known). It is also listed in three regional official Red Data books, eleven regional scientific Red Data books, and five regional official Red Lists.

Senegal

by Martin Flade & Ibrahima Diop

Before 2007, only 45 records were known of and mainly came from the Djoudj National Park on the coast (SCHÄFFER *et al.* 2006). In January 2007, the wintering habitats located in vast open water-logged grass marshes inside and north of the Djoudj National Park were discovered by an AWCT expedition and 56 Aquatic Warblers were caught (up to February 2009: 149 birds in total). The density was estimated at 0.5-1.0 (-1.5) birds per hectare over a total area of suitable habitat of 4,000-10,000 hectares (extrapolation 2,000-10,000 birds in total). That means that this site holds between 20 and 50 %, and perhaps eventually even more, of the entire global population.

An intensive search for more potential wintering sites in northern Senegal in January 2008 was not successful. The very few potential marshes were either transformed into hydro-agriculture (Richard-Toll) or too dry (Lake Ndiael S of Ross-Béthio).

Potential threats arise from ongoing changes to the whole hydrological regime, since the Senegal River was enclosed with dikes in 1964 and dammed by the Diama dam upstream of St. Louis in 1986 (beginning of the process) to 1992. The flooding of the National Park and surrounding areas is now managed artificially. It is thus of prime importance that further detailed studies are carried out on these potential or ongoing habitat changes and to elaborate on a thorough threat status analysis. These studies were started through a PhD project (Cosima Tegetmeyer) in January 2008.

Another threat for grass marshes in Senegal and southern Mauritania is the transformation of grass marshes into hydro-agriculture, mainly sugar cane and rice fields. At Lac de Guiers east of Djoudj NP, large areas of grass marshes have been transformed into sugar cane fields in the past two decades. At Keur Massène in Mauritania, large areas of formerly suitable habitat have been recently transformed into a big fresh water reservoir and are overgrown with the invasive cattail *Typha australis*. We assume that other potential wintering sites of the Aquatic Warbler in sub-Saharan W-Africa could be under serious threat.

In Senegal the Aquatic Warbler is protected by law, but the conservation status is evaluated as Insufficient by the National Park administration (Direction des park nationaux du Sénégal 2006)

Spain

by Carlos Zumalacárregui Martínez

The Aquatic Warbler is a regular migrant, using both coastal and inland wetlands. It has been recorded in spring as well as in autumn, however, it is more abundant during autumn migration, when it is found in the wetlands of the western Iberian Peninsula. The Ebro valley acts as a connection corridor along the migration routes (ATIENZA *et al*. 2001).

The Laguna de la Nava in North Spain is the main identified site (687 birds ringed there from 1999 to 2007, occurring between end of July and mid-September, with maximum numbers in late August). The site benefits from a LIFE project run from 2002-2006. This was the first LIFE project with the specific objective of Aquatic Warbler conservation in Europe, and included, among other provisions, the restoration of lakes, land acquisition to increase the size of suitable habitats, improvement of water quality, studies of phenology and ecology of the species, and public awareness-raising campaigns.

The Aquatic Warbler is strictly protected in Spain; it is included in the National Catalogue of Endangered Species (Royal Decree 439/1990) in the category "of special interest", and thus the Autonomous Communities must elaborate on Management Plans for the species. In the Red Data Book, the species is listed as Vulnerable in accordance with IUCN criteria. The majority of the areas where the species is regularly recorded are protected, including by Ramsar sites and Special Protection Areas (SPAs), National Parks (Doñana) and Protected Natural Areas of the Autonomous Communities.

Ukraine

by Anatoly Poluda

Extensive surveys in 1996-1998 by A. POLUDA and co-workers in central and north-west Ukraine, and FLADE, GORBAN, KOZULIN, TISHECHKIN and co-workers along the upper Ukrainian Pripyat in the Volyn region, revealed a total population of 2,400-3,400 singing males, which are mainly concentrated at the following sites:

1.The Pripyat population group:

Upper Pripyat and tributaries (Volyn and Rivne regions) 1,850-2,500 males, with bigger subpopulations along the Pripyat between Ratno and Cyr mouth (1,120-1,450), Vizhery mire, lower Turiya (250), Stochid valley (200-300), and the Styr valley (150). In 2008 two new breeding territories (more 300 ha) were found in the valley of the Stokhid river (National Natural Park "Pripyat – Stokhid"). The number of AW in these sites comprised of 170-180 (2008) and 90-120 (2009) males.

2. The Desna-Dniepr population group:

Kyiv and Chernigiv regions c. 500-580 males, with bigger subpopulations in the Uday valley (250-270) and the Supoy valley (180-200).

Despite the lack of reliable reference data one can assume, that the Aquatic Warbler must have suffered a dramatic decline due to habitat loss in the whole of Ukraine during past decades. Nevertheless, the actual situation of the two sub-populations seems to be very different: the Uday and Supoy populations seem not to be actually threatened. Major parts are included in protected areas and, more importantly, habitat conditions seem to be rather stable without management. The habitat is mesotrophic fen mire, which oscillates according to the river water table and is not regularly used for cutting or grazing. There are also no signs of impact of burning in the survey years. In the past, the damming up of fishponds and an alteration in the water table has destroyed parts of Supoy valley suitable for Aquatic Warbler habitat, and big parts of the Uday valley have formerly been drained. Thus, the remaining breeding habitats are remnants of a much bigger area of suitable habitat. Legislative and administrative measures should be taken to ensure that the remaining habitats are protected under status quo conditions.

In 2007, the project "Preparation of the management-plan for protection of the Desna-Dnipro population of Aquatic Warbler" was implemented thanks to the funding from the United Kingdom "Environment for Europe Fund" and support of the UK Department of Environment, Food and Rural Affairs and British Council, as part of the Small Environmental Project Scheme. For all eight breeding sites of the Desna-Dnipro population, and besides AW counts and hydrological measurements, there were other activities conducted to provide for more effective monitoring and management of the habitats. This list of activities includes: geobotanical descriptions of habitats, setting up the monitoring of a botanic transect in Supoy and three monitoring botanic plots in Uday sites, detailed threats analysis for each breeding site, developing objectives and recommendations for site management whilst accounting for conservation needs and community interests.

Fig. 19: Hand mowing still takes place in some of Aquatic Warbler breeding habitats in upper Pripyat, August 2008.
(Photo: Uladzimir Malashevich)

In contrast, parts of the upper Pripyat population are threatened. Only about 50% of the population is disposed within protected territories. On the one hand, drainage work for agriculture and peat excavation has destroyed huge fen mire areas even during the past 5-10 years and is still continuing; the amount of direct habitat loss is difficult to assess, but is likely to exceed 80% within 30 years. On the other hand, the remaining fen mires are heavily impacted by vegetation succession, due to alterations of the hydro-regime and cessation of traditional land use practices.

The most suitable and stable (but also declining) habitats have survived very close to the Pripyat river, where regular flooding and high water table restrains vegetation succession. The two most important subsites, Zalessye mire (200-300 males) and the Pripyat marshes between the Vetly, Borki and Tsir mouth (600-800 males), are still used for hay making in some parts, mostly smaller patches (Fig. 19), but more than half of these floodplain mires are overgrown by willow shrubs in the meantime. Without large-scale habitat management, the Aquatic Warbler populations are likely to become extinct within the next 20-30 years.

Recently, a severe new threat has arisen at the upper Pripyat: parts of the Pripyat river channel have been cleaned and deepened. Consequently, the water table of adjacent floodplain sedge mires have declined and several (smaller) breeding sites were abandoned in 2006 and 2007.

The species is included in the Second Edition of the Red Data Book (1994).

United Kingdom

by Leigh Lock

In the UK, the bird is mostly recorded in August. Numbers have been maintained until at least the end of the 1990s, though this situation may be due to some extent to an increased ringing effort. All the most important sites known regularly to support the species have been designated as Special Protection Areas (SPAs) and/or are within nature reserves.

The Aquatic Warbler is identified as a Red List species owing to its status as globally threatened, and because more than 50% of the UK passage population is restricted to 10 or fewer sites (Gregory et al. 2002). A single species action plan for Aquatic Warbler in the UK was published in 1995 and has been implemented since then (*http://www.ukbap.org.uk/UKPlans.aspx?ID=76*)

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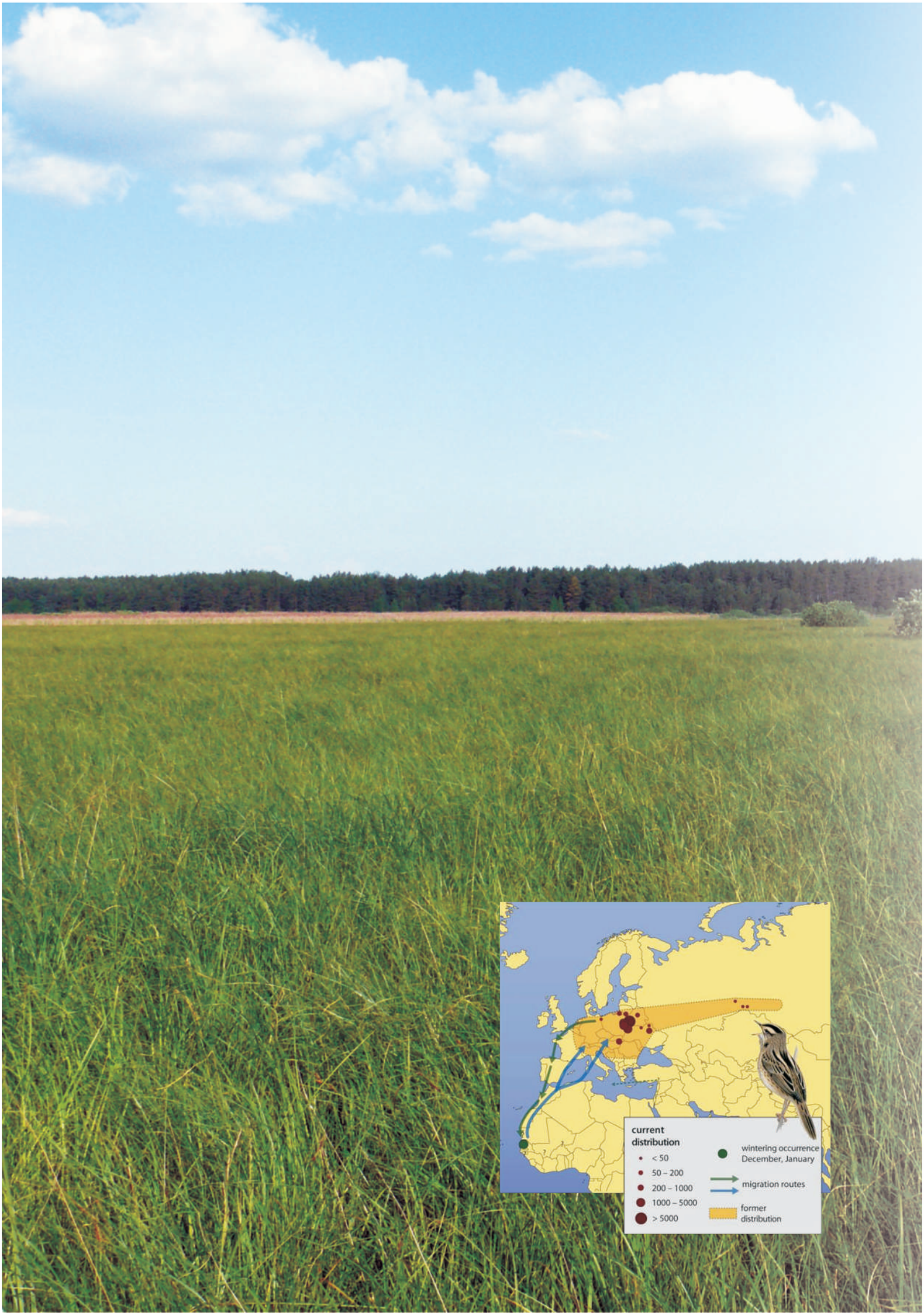
Aquatic Warbler in Biebrza Marshes, Poland – Arnaud Le Nevé (Bretagne Vivante)
Aqutic Warbler breeding habitat, Sporava mire, Belarus – Viktar Fenchuk (APB)
Global distribution of the Aquatic Warbler – Martin Flade (AWCT)


current distribution
< 50
50 – 200
200 – 1000
1000 – 5000
> 5000
wintering occurrence December, January
migration routes
former distribution