



Project „Securing sustainable farming to ensure conservation of globally threatened bird species in agrarian landscape“ **Projekto Nr. LIFE09 NAT/LT/000233** is co-financed by the EU LIFE+ Programme, Republic of Lithuania, Republic of Latvia and the project partners.

Project partners:



ANNEX 8:

Project success implementation monitoring report (2013)

Report on project

“SECURING SUSTAINABLE FARMING TO ENSURE CONSERVATION OF GLOBALLY THREATENED BIRD SPECIES IN AGRARIAN LANDSCAPE”



EVALUATION OF PROJECT REALIZATION SUCCESS (2013)

by Dr. Alexander Kozulin

2013

Methodology of the evaluation

This evaluation is carried out according to the *ACTION E.2: Monitoring/evaluation of project success*. (The expert will provide direct scientific advice to the project manager as well as nature conservation measures, he will travel to the project sites analyses data of post-ante monitoring and provide regular reports to the steering group).

Evaluation based on a preparatory study of documents related to the project cycle (project document, progress reports).

Information and data for the assessments of this evaluation have been obtained from:

Conduct desk-reviews, interviews and site-visits in order to obtain objective and verifiable data to substantive evaluation ratings and assessments;

Validate the strategies for management of project sites and monitoring of rehabilitation processes applied within the project;

Verify on-site immediate effects of rehabilitation from the biodiversity perspectives;

Interviews with Project Management Unit and key project stakeholders, and experts.

EVALUATION OF ACHIEVEMENT OF PROJECT OUTCOMES AND RECOMENDATION

Objective 1 – Ensuring favorable conservation status of the Aquatic warbler* by means of restoration of unfavorably managed or abandoned habitats in most important known sites in Lithuania and Latvia and forming favorable habitat conditions for species conservation

***ACTION A.1: Ex-ante and Post-ante monitoring of Aquatic warbler in the project sites
Development and approval of methodic for counts and mapping of singing males and breeding females.***

Mapping of singing males two times during the breeding season on all project sites every year during project implementation (according to methods approved); Absolute counts of singing males were carried out two times during the breeding season according to the methodic at all the project sites. Volunteers passed preliminary training were involved into counts. Position of each singing male was mapped. Thus, a quality results on number and location of all singing males at all the project territories were obtained in 2013.

The results of counts have shown the decline of Aquatic Warbler number in 2013 on the project site Sisa from 40 birds in 2012 till 2 birds in 2013. On the project site Tyrai the number of birds remains practically without changes. The number decline at Sysa is explained by the fact that the water level at this territory remains high till the mid June. It seems that some Aquatic Warblers from Sysa floodplain meadow moved to the new territories opened by project actions (C1 action in particular). The distribution and number of Aquatic Warbler at Tyrai Site practically has not changed despite the twice-repeated mowing of reeds in 2012. This fact could be explained by that mowing conducted only one year does not lead to full change of reed communities to sedge ones. Perhaps, the considerable weakening of reed communities and their replacement with sedges could be expected only on third year of mowing. Nonetheless, one male has already been recorded at the territory with rare reeds, where Aquatic Warblers were not registered earlier. Twice-repeated mowing of reeds was carried out and in 2013, which allows to assume gradual weakening of reeds, its replacement with sedges and distribution of Aquatic Warbler to new parts of Tyrai mire.

Implementation of mapping and description of vegetation structure before and after the implementation of the proposed management actions (according to methodology approved).

Besides, mapping of vegetation is the very important instrument for evaluation of effectiveness of project activities. The area (sedge communities) suitable for Aquatic Warbler should enlarge considerably as a result of project activities on mowing and removal of vegetation, which, in turn, will lead to increasing of Aquatic Warbler numbers. Mapping of vegetation after implementation of planned actions should demonstrate changes of areas and structure of vegetation communities.

In June 2013 field workers continued monitoring activities in the project sites as part of the post-ante monitoring. As planned, second season of data gathering for vegetation monitoring was carried out on summer 2013 as well. The results of botanical investigations have shown that distribution of reed communities after 2 years of mowing changed insignificantly. However, the density of stems per sq. meter declined considerably. The reeds growth speed slowed down as well. The reduction of projective coverage of reeds and slowing down of growth speed allow assuming that the process of replacement of reed communities with sedges has started.

Overall, the activity is progressing well according to the project implementation plan.

1.1.1. ACTION A.2: Development of specific regional agri-environmental measures for important Aquatic Warbler sites in the Nemunas delta (start – Sept. 2010; end – Jan. 2012)

Complex of works on development and agreement of the new agri-environmental measures was implemented since the start of the project BEF LT: conceptual negotiations with competent authorities (Ministry of Agriculture and other) on agri-environmental measures; definition of management requirements for the Aquatic Warbler under agri-environmental measures; practical design of the measures and calculation of compensation payments.

Currently the measures are included in the draft proposal of new agri-environmental measures package under measure M214 (agri-environment regulated under Article 39 of the Regulation 1698/2005).

Approval and realization of agri-environmental measures for important Aquatic Warbler sites will be one of the most important achievements of the project, as it will ensure the sustainability of project results – mowing of Aquatic Warbler habitats will be realized and after the project.

ACTION A3: Formation of ecological priority land-use plot in LT02-Tulkaragė project area (start – Sep. 2010; end – June 2012)

The action implementation is completed.

Despite the complex formal procedure for the Formation of the land plots, the Project team has shown the persistence and inventiveness in achievement of the goal. Eventually, in summer 2013 the process has been completed and planned milestone achieved.

As a result of actions taken, the responsible manager (Goldengrass) was found for the territory, which is interested in its usage taking into consideration the economic interest of the hosts and ecological need of the territory.

ACTION A.4: Development of the recommendations on the solutions for landowners to manage properly Aquatic Warbler habitats, ensuring sustainable economic benefit (start- Sept. 2010; end – Dec. 2012)

The action implementation is on-going.

Publication of the recommendations on the solutions for landowners to manage properly Aquatic Warbler habitats is not finished yet. Delay in preparation of publication of recommendations was quite expected. Recommendations should be elaborated on the basis of the analysis of achievements and mistakes received, and taking into consideration those normative documents which are not approved yet and the discussions are still ongoing. Thus, initially the preparation of such publication should be planned at the final stage of the project.

The project experts have conducted the large work on evaluation of experience in management of Aquatic Warbler habitats not only in Lithuania, but also in other countries, and such publication will be undoubtedly useful for organization of protection and sustainable use of Aquatic Warbler habitats throughout the whole distribution range.

C. Concrete conservation actions

LT1 TYRAI Action C1: Restoration of the main Aquatic warbler breeding site of Lithuania – Tyrai flooded meadows

(The area of habitat suitable for AW is 950 ha. 450 ha of Aquatic Warbler habitat restored/managed eliminating dense reed stands and scarce bushes).

Mowing for reed elimination on area of 450 ha two times per year (June and after breeding season in August) removing the mowed vegetation from the area;

Procurement of mowing machinery. It is recommended to use machinery with minimal pressure on the ground for mowing on fen mires with presence of peat layer. Crawler tractors (ratrak) with wide track and pressure on the ground about 0.07 kilos/sm² are widely used for mowing of mires in Poland. The mowing of fen mire by means of modified traditional wheel machinery was firstly tried at the project site Tyrai and the certain experience received. The mowing of the project site was conducted already during two years, and the important experience in machinery usage was received:

- use of maximally wide doubled wheels of low pressure on the tractor Valtra allowed to reduce pressure to 0.175 kg/sm²;
- the baler was modified to attach double-wheels, which creates good conditions for fully performing habitat restoration;
- establishment of leading ski on mower or use of trailer mower on doubled wheels.

Mowing and removal of reeds on an area of 450 hectares

The pilot territory Tyrai is characterized by increased water level starting from September, and generally unstable ice cover, which make mowing here from September till March impossible. Thus, the duration of the mowing season is about 2-3 month (July-September). The experience received and modification of the machinery allow implementing repeated mowing of the most part of reed stands at the project site during the short time in 2012 and 2013. Uncut parts were removed by means of controlled burning in winter 2012.

Botanical studies of 2013 confirmed the necessity of twice repeated mowing during first years to eliminate reed communities. The reed is characterized by rapid growth due to high water level and increased mineralization, and its height reaches more than 50 cm already in Mid May, starting of the first clutches period. Parts of the mire with such high reeds become unsuitable for breeding of the Aquatic Warbler. All the mowed biomass was removed from the mire in 2013.

The most important condition for the sustainability of the project, i.e. continuation of the mowing after the end of the project, is the presence of economical interest in mowing of the mire. Ideally, the mowed biomass should produce a profit, the part of which will be spent for the continuation of the mowing. Besides, the baled biomass, scattered along the periphery of the mire, changes the landscape. So, the important achievement of the project team is the considerable progress in solving of the question about use of mowed biomass. There has been principal agreement made with the heating boiler-house in Šilutė region (Juknaičiai settlement) to receive the biomass from the project area. In parallel to the solving removal of biomass from the project site, project manager has initiated dialogue with Šilute municipality and Nemunas Delta regional park administration leaders on creating the local market for such the use of such late cut biomass in municipal heating.

Mowing of habitat favorable for AW (open fen mire plots) by stripes of 50-meters wide alternating with uncut stripes of 20 meters wide for increasing productivity of habitat;

It is recommended to test this methodic during the season of 2013.

Study of project territory's parts, which are considered as relatively favourable for Aquatic Warbler, has shown, that sedge communities here are very dense due to multiannual absence of mowing and burning, and the large mass of dry vegetation accumulated. This decreases considerably the productivity of the ecosystem. Perhaps, this is the reason of relatively low density of Aquatic Warbler at such mire parts. Thus, it was decided to conduct the partial mowing of these plots by stripes of 50-meters wide alternating with uncut stripes of 20 meters wide. Such method to increase the site's productivity is applied for the first time. It is assumed that this method will allow preserving the protection conditions (uncut stripes) and considerably increasing the foraging base for insectivorous birds (mowed parts).

Recommendations 2012:

- to set dual wheels on the tractor;
- to set additional wheels on press-pickup machine.
- it is appropriate to conduct the controlled burning of uncut spots of reeds and rows of mowed and remained at the mire reeds during November 2012 – March 2013. Tyrai mire due to it's placement on the coast is an ideal object for use of controlled burning method. Applying of this method is especially important during the first year of mowing, when the old vegetation stocks are very abundant and thus it is quite difficult to remove all the mowed biomass from the mire. Accumulations of old grass, remained at the mire, prevent the formation of sedge communities.
- Special investigations should be carried out by botanists to define the terms of reeds mowing ensuring the repeated reeds sprouts grow not more than 30 cm long. This will let mowing of reeds just once during the season and reaching the necessary effect of gradual vanishing of reeds and its replacement with sedge communities. Repeated growth of reed sprouts up to 30 cm will ensure its weakening and will not disturb the vegetation structure suitable for the Aquatic Warbler during the next season.

All the recommendations from 2012 were fulfilled.

Recommendations 2013:

- to continue efforts jointly with Kretinga State Forest Enterprise on creating the local market for use of biomass in municipal heating and for pellets producing, which ensure the stability of mowing on project site Tyrai;
- to conduct the comparative study of insects abundance on mowed and uncut parts of sedge communities;
- to study the use of mowed and uncut plots by females for food collection;
- to conduct mapping of Aquatic Warbler males to study the changes in males' distribution to new plots;
- to set the system of selling and use of mowed biomass for different purposes, so that company get a certain profit;
- to calculate the economic effectiveness of works on mowing and the size of income from biomass selling.

LT04 ZUVINTAS Action C2: Restoration and further demonstrational management of the fens in the Žuvintas Biosphere Reserve – the oldest known breeding site of the Aquatic warbler in Lithuania (start – Jan. 2011; end – Aug. 2015)

(The area of suitable for AW habitat is 328 ha).

- Removal of reeds by means of controlled fire;

Habitat restoration by performing controlled fire management have been performed only on winter in early 2012 in 4 ha (out of 13 ha planned) territory due to very limited time of suitable weather conditions. Communication of reed burning management is planned in winter 2013-2014 by issuing fact sheet with listed experience: lessons learned, know-how advices and observed impact to the habitat vegetation.

The mowing of reeds at considerable part of the mire will be impossible considering the presence of several years with high water level. Commercial winter mowing of reeds by specialized machinery could be conducted only at limited area. Under these conditions fire management should be used on uncut parts of the mire which are potentially suitable for Aquatic Warbler.

Mowing of reeds in the late autumn/ winter time with the prototype tractor;

About 60 ha of 90 ha planned for mowing were mowed till the end of November. Mowing on the rest of the area was impossible due to high water level. It is planned to mow this part of the mire by special machines, which cut reeds for consequent use for roofs cover.

All the cut biomass was removed from the mire and delivered to factory for pellets production. This factory is working already, low-caloric pellets are being produced from grass biomass, and a part of pellets is used for heating of the Biosphere Reserve's office.

It is necessary to admit, that progressive overgrowing of sedge parts of the fen mire with reeds occurs mainly due to high water level during vegetation period (higher than soil surface) and absence of summer mean (in August-October, when water level at the mire 10-30 cm lower than soil surface).

In the mid XX before the beginning of large-scaled melioration the lakes-mires complex functioned in natural way. Presence of large sedge mires allows concluding that natural dynamic of water level in the lake and adjacent fen mire was as following: the water level on the fen mire in May-June was about the soil surface, then starting from July it dropped, and during summer-autumn mean it was about 10-30 cm below the soil surface. In October-November the water level at the fen mire rose up till 5-20 cm above the soil surface due to rains and was at this level till the spring flood (March-April). During spring flood the water level increased till 30 cm above soil surface for the short time, and than decreased till the soil surface in mid-end of May.

It is possible, that after construction of the overflow dam on the only river that flows out of the lake, the water level stabilized at higher level, which is the reason of progressive spreading of reeds. However, the reason of increased water level at the mire and in the lake could also be reduction of the flow capacity of the river, flowing out of the lake, as a result of its overgrowing and plugging with floating vegetation. In the nearest future it is necessary to receive and compare the water levels at the fen mire, in the lake and in the river near the dam. This will allow defining the reasons of high water level and developing recommendations for optimization of water level dynamic. It is possible, that reconstruction of the overflow dam to regulated sluice will be necessary for optimization of water levels regime. This will allow active regulating of the water level in the lake-mire complex. It is also possible, that clearing of the channel between the lake and the dam will be sufficient.

Removal of trees, bushes and cutting of the reed stands with the prototype tractor and manually, taking-away the biomass.

The action is conducted as planned. The only thing, the use of mulcher with loading should be recommended for annual mowing of newly grown shrubs, with consequently use of biomass for production of fuel pellets.

Recommendations 2013:

Zuvintas mire is isolated from other Aquatic Warbler habitats. So, the breeding success of the population should not be influenced by high floods or droughts to maintain the Aquatic Warbler population stable. Several years with high water level during the breeding season could lead to disappearance of Aquatic Warbler from this site due to high mortality of birds on wintering grounds and impossibility of birds' distribution from other areas. Thus, it is very important to optimize the water level at the fen mire, especially in case if Aquatic Warblers will be translocated here from other habitats.

- It is necessary to conduct analysis of available data on hydrology, to implement additional investigations of water level dynamics (if necessary) and to develop recommendations on optimization of hydrological regime of lake-mire complex Zuvintas. The goal of this work should be development of recommendations on optimization of hydrological regime and its restoration to natural state, existing before the melioration in the catchment. The water regime could be simulated on the basis of water regime typical for most natural sedge fen mires: 10-30 cm above the soil surface during spring flood (March-April), near the soil surface during vegetation period (May-July), below the soil surface till 30 cm during summer-autumn mean (August-October). Such water regime is typical for sedge communities and will prevent their overgrowing with reeds.

PAPE SITE, LAKE LIEPAJA Action C3: Demonstrational restoration management of the wet meadows at lake Liepaja and Pape site – the former breeding site and stopover sites of the Aquatic warbler in Latvia

Removal of trees and bushes, cutting of reed stands with the prototype tractor and manually, taking-away the biomass

Recommendations:

As it was recommended, the area cleared from dense woody vegetation in 2012 has been mown in summer 2013 by cutting the biomass and shoots of woody vegetation.

Cutting reeds in the late autumn/ winter time with the prototype tractor.

According to recommendations of 2012, the project's partner Latvian Fund for Nature organized mowing at planned area in 2012 and 2013 using special Seiga machinery.

At the end of the project the project on translocation of Aquatic Warblers to this restored area could be planned after the detailed independent evaluation of habitats' state.

LT02 TULKIARAGE Action C4: Restoration of the former important Aquatic warbler breeding site – Tulkiarage polder of the Nemunas delta SPA

(The area of habitat suitable for AW is 400 ha. 400 ha of Aquatic Warbler habitat restored/managed eliminating dense reed stands and scarce bushes).

This territory under necessary management could potentially become one of the most important for several threatened bird species.

Despite considerable difficulties, the project team jointly with the project partner JSC Goldengrass fulfilled a row of preparation activities to ensure the possibility to ecologically and economically sustainable management of this territory:

- restoration of the polder dykes in order to fix the holes (total 5 big holes) causing uncontrolled water flow into the project area;

- the experience on modernization of machinery for work under waterlogged conditions obtained;
- the experience on reed elimination obtained;
- the solution for water level regulation in polder was found and tested. It was decided to use mobile water pump, which would effectively pump out water from the polder and thus reduce water level allowing continuing habitat restoration work;
- the Company JSC Goldengrass constructed the factory for pellets production from vegetation biomass, and all the cut biomass is immediately used with economic profit, which ensures the necessary management and after the project's end.

The possibility of water level regulation should be ensured, which allows the formation of favourable for threatened birds habitats, as well as possibility to mow the area during proper period. For long-term management of the area it is necessary to raise funds for reconstruction of the dam, protecting the polder from water level changes in the bay.

LT03 SYSA Action C5: Demonstration management of grasslands for Aquatic warbler conservation in Šyša polder

The area of habitat suitable for AW – 300 ha. The area suitable for AW, sustainably managed (late mowing, without nests disturbing) – 60 ha in 2014. Water level in May-June is about the soil surface.

The large work on demonstration management of grasslands for Aquatic warbler conservation was conducted by the project team at this important for biodiversity and local people area (Šyša polder):

- ownership of nearly all the project area is defined (including contact information and basic data on farming specifics). This information is used for different project action implementation including negotiations with farmers, gathering data about economic farming activities, awareness raising etc.
- the demonstration mowing was conducted during 2012 at the area of 53 ha (out of 60 ha planned for two seasons);
- the “early mowing” was conducted at the area of 48 ha within the project site LT03-Sysa by the end of July;
- according to the analysis performed within the action A4, this project territory as a basis to calculate economic aspect of harvesting grassland in late mowing to fulfill conservation requirements for the Aquatic warbler. Results of the study illustrated that in such conditions farmers have very little possibilities on gaining any economic benefit.

It should be noted, that the main ecological as well as economical problems in organization of sustainable use of the polder arise due to absence of neatly working system of water regime regulation. Despite the understanding of this point, the problem of establishment of optimal water levels for biodiversity and its economical use is not solved at Šyša polder till 2013. Besides, there are working water regulating facilities at this polder that allow managing the water regime. However, the clear rules of exploitation to provide the optimal water regime are absent.

After the testing of methods of the folder sustainable use according to new rules of the Agro environmental Scheme, the project team proposed to develop the new strategy of the

polder wise use considering the experience received. The main attention should be paid to the following:

- to find the ways of regional economically efficient use of vegetation biomass;
- to prepare proposal for the revision of currently existing water regulation regime in the polder.

Prepared study would serve as basis for the dialogue between the project and Šilutė municipality as well as Ministries of Environment and Agriculture to setup a mechanism, which would allow in a long term to ensure appropriate conditions for sustainable farming in the polder securing conservation of Aquatic warbler and other protected species.

Recommendations:

- to develop and approve with local authorities the regulations of exploitation of polder system for maintenance of optimal water levels for conservation of Aquatic Warbler and ensuring stable hay making. Optimal water levels at polder could be reached by means of regulating of water release by pumping station and establishment of overflow optimal level on the sluice. The water level dynamic at the most of the polder's area in vegetation period should be as following: near the soil surface (0 - -10 cm) from the mid May till the end of June; then from the beginning of July till the end of September the water level should be lowered till 20 cm and lower below the soil surface.
- taking into consideration that the polder territory is divided by small parts between many owners, it is necessary to start work on their integration, or these owners could delegate the work on mowing to other special organization. Otherwise, the mowing for production of energetic pellets will be unprofitable later.

Objective 2 – Establish and promote favorable and sustainable conditions for farmers/landowners to implement conservation measures by renewed agro-environmental schemes and supported by alternative economic solutions

ACTION C.6: Demonstration of the innovative usage of late-cut biomass

Implementation of the action C6 is very important for ensuring the sustainability of the project and sustainable use of habitats with economic benefit for land users. Considerable success was reached to the end of 2013:

- equipment (pelleting machinery) was purchased and established, training of personnel was fulfilled, and the factory on pellets production started to work in Zuvintas Reserve (financed by the project). The second similar factory was constructed and started to work in region Šilutė (under financing of JSC Goldengrass);
- special heating boiler for low-caloric grass vegetation pellets was purchased for the office of Žuvintas biosphere reserve administration, the boiler was established and already works, successfully heating the office and thus demonstrating the real use of vegetation biomass;
- a row of seminars for experience exchange and demonstrational workshops for Lithuanian Ministries of Environment and Agriculture, local authorities, local people and farmers were conducted, allowing to share the positive experience of the project. Use of biomass pellets has been presented to the Šilutė municipality as a good practice and perspective to use this type of biofuel for municipal heating and at the same time support use of grasslands in the region in line to the nature conservation needs. Above-mentioned feasibility study, which would analyse practical aspects of grass biomass briquettes use for municipal heating would be very important complementary demonstration component of this action, and may lead to giving very practical

outcomes for the region in implementing socially-environmental responsibility and Šilutė municipality level.

ACHIEVEMENT OF PROJECT OUTCOMES AND INDICATORS

| Indicator | Target | Level of achievement |
|---|---|---|
| Action D1: Setup and maintenance of project website | Project website setup 30.12.2010 | Project website www.meldine.lt has been regularly updated, website has been visited by 4165 unique visitors (above 11000 visits, 328 visitors monthly). |
| Action D.2: Setup of visual infrastructure in the project sites | 8 information stands setup in all project sites before end of December 2014. Set-up special exposition in the protected area's visitor centre in project area LT04. | 8 information stands in Lithuanian project areas are already setup. Exposition in the Žuvintas Biosphere Reserve visitor center (project site LT04) about Aquatic warbler was setup in July 2013. |
| Action D3: International conference on Aquatic warbler conservation achievements | (start – Sept. 2013; end – June 2014) | The conference will be held in November 14-15 followed by working group meeting of international aquatic warbler conservation team. The conference was organized and held at a high level. Achievements and unsolved problems were discussed. |
| Action D4: Work with media | Foreseen indicator target in Progress report | Achieved indicator target in Progress report. Most of indicators tasks are over fulfilled at 10-50%. The work with media is organized and carried out at a high level, in 2013 almost all Lithuanians, especially in projects regions, aware about Aquatic Warbler and necessity of its conservation. |
| Action D5: Production and distribution of printed information materials about Aquatic warbler and agri-environmental measures | Project leaflet, Publication about Aquatic Warbler, Brochure on conservation measures, Book-toy for children, Poster, Wall calendar 1 st year, 2 nd year, 3 rd year | Project leaflet - Completed Publication about Aquatic Warbler - Ongoing Brochure on conservation measures - Ongoing Book-toy for children - Completed Poster - Completed Wall calendar 1 st year, 2 nd year - Completed All the publications were made at a high level with detailed investigation of interests of different groups of readers, and, undoubtedly, will considerably influence the understanding of necessity of conservation not only of Aquatic Warbler, but the whole nature as well. |
| Action D6: Project film | Project film produced 30.06.2014 | Ongoing |
| Action D7: Dialogue/negotiations with land-users to join implementation of the agri-environmental schemes | a) mapping of landowners in the project area and awareness raising about the project and AW; b) farmers consultation and involvement into design of new agri-environmental measure (action A4) and c) negotiations with farmers to postpone mowing activities in breeding sites of AW | 8 meetings with local stakeholders conducted during the reporting period (number of participants – 167). 80 Individual meetings with local landowners and farmers conducted during the reporting period (farmers consulted – 87). Dialogue/negotiations with land-users: the preliminary strategy and plan of works are elaborated. The large work is done, that allowed solving the practical problems on mowing terms, biomass use, planning of |

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|---|--|---|
| | | agri-environmental schemes. |
| Action D8: Seminar on dissemination of project results | 30.08.2015 | Not started |
| Action E2: Monitoring/evaluation of project success | 1 st - 4 th monitoring reports | 1 st monitoring reports completed "Overview and analysis of scientific data obtained during project implementation, aiming development of management strategy for project areas" 30.12.2011. 2 st monitoring reports "Evaluation of project realization success (2012)" finished 30.12.2012. 3 st monitoring reports "Evaluation of project realization success (2013)" will be finished 30.12.2012. |
| Action E4: Gathering of international know-how experience related to Aquatic warbler conservation - study visits and networking with other projects | Three study visits | First study visit has been organized to AW breeding sites in Belarus (June 2012). Second study visit to Poland targeting authorities for getting knowledge about habitat management and use of biomass has been organized (August 2012). Third study visit dedicated for farmers to gain experience about balancing nature conservation needs and economic interest is planned in 2013. The project team and experts participated in all practical seminars and conferences about Aquatic Warbler conservation and sustainable management of fen mires, which were held during that period. Thus, practical actions of the project were agreed and discussed with international experts. |

THE MAIN RECOMMENDATIONS

The state of vegetation and biodiversity on fen mires and floodplain meadows is mainly defined by water level dynamic and presence of traditional activities (hay making, grazing). Disturbance of water regime leads to total and fast changes of ecosystems. Long-lasting water standing above the soil surface during vegetation period leads to overgrowing of open sedge mires with reeds, and the lowered water level – to overgrowing with shrubs. Besides, the high water level in May-June makes breeding of land-nesting birds impossible. Maintenance of optimal water level and mowing of grass vegetation during right period are the main methods of managing fen mires and floodplain meadows ecosystems to ensure favourable habitat conditions for most of typical plant and animal species. As project experience showed, the possibility of mowing on fen mires and meadows during optimal period is defined by water level dynamic. Thus, despite the implementation of the whole complex of preparatory works (purchase and modification of machinery, negotiations with farmers and other), the mowing will be impossible to fulfill in optimal terms if water levels could not be regulated. In 2013 such situation was observed on three project sites, when the project team was unable to conduct all the planned activities on habitat management in required period due to impossibility of water level regulation because of different reasons. So, it is strongly recommended to conduct all the necessary negotiations and implement

the actions starting from the beginning of 2014, so that till the spring of 2014 all the project participants at sites Sysa and Zuvintas understand the importance and have the possibility to maintain the optimal water levels during different seasons. For this purpose on Polder Sysa it is necessary to elaborate and approve the clear rules of exploitation of the pumping station and sluice, in Zuvintas Reserve – to find out the reasons of disruptions of hydrological regime and fulfill the measures to ensure maintenance of water levels in different seasons at levels that are typical for natural sedge fen mires.

The similar problem of water regime disruptions (breaks of the dam), considerably affecting the biodiversity and leading to impossibility of mowing, is observed at project site Tulkiarage. However, for its successful solution the capital investments for dam reconstruction are needed.

The project achieved considerable progress in solution of another key problem - detection of ways of real use of cut biomass, which bring to landowners economical profit sufficient for continuation of economically efficient mowing and use of grass biomass. Ideally, the income from selling of grass biomass and its products as well as payments from agro environmental scheme should cover expenses for mowing and biomass processing. The following things are desirable till the end of the project in 2015:

- Company Kretinga State Forest Enterprise should find the ways of sustainable use of biomass from Tyrai mire,
- Company JSC Goldengrass should successfully process the grass biomass for pellets and has economic interest in mowing the project site Tulkiarage;
- the factory on processing of grass biomass in Žuvintas biosphere reserve should be profitable.

It is also necessary on example of these three pilot territories to estimate economical effectiveness of late mowing and processing of biomass taking into consideration the agro environmental scheme.

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Development and approval of methodic for counts and mapping of singing males and breeding females.***

Mapping of singing males two times during the breeding season on all project sites every year during project implementation (according to methods approved); Absolute counts of singing males were carried out two times during the breeding season according to the methodic at all the project sites. Volunteers passed preliminary training were involved into counts. Position of each singing male was mapped. Thus, a quality results on number and location of all singing males at all the project territories were obtained in 2013.

The results of counts have shown the decline of Aquatic Warbler number in 2013 on the project site Sisa from 40 birds in 2012 till 2 birds in 2013. On the project site Tyrai the number of birds remains practically without changes. The number decline at Sysa is explained by the fact that the water level at this territory remains high till the mid June. It seems that some Aquatic Warblers from Sysa floodplain meadow moved to the new territories opened by project actions (C1 action in particular). The distribution and number of Aquatic Warbler at Tyrai Site practically has not changed despite the twice-repeated mowing of reeds in 2012. This fact could be explained by that mowing conducted only one year does not lead to full change of reed communities to sedge ones. Perhaps, the considerable weakening of reed communities and their replacement with sedges could be expected only on third year of mowing. Nonetheless, one male has already been recorded at the territory with rare reeds, where Aquatic Warblers were not registered earlier. Twice-repeated mowing of reeds was carried out and in 2013, which allows to assume gradual weakening of reeds, its replacement with sedges and distribution of Aquatic Warbler to new parts of Tyrai mire.

Implementation of mapping and description of vegetation structure before and after the implementation of the proposed management actions (according to methodology approved).

Besides, mapping of vegetation is the very important instrument for evaluation of effectiveness of project activities. The area (sedge communities) suitable for Aquatic Warbler should enlarge considerably as a result of project activities on mowing and removal of vegetation, which, in turn, will lead to increasing of Aquatic Warbler numbers. Mapping of vegetation after implementation of planned actions should demonstrate changes of areas and structure of vegetation communities.

In June 2013 field workers continued monitoring activities in the project sites as part of the post-ante monitoring. As planned, second season of data gathering for vegetation monitoring was carried out on summer 2013 as well. The results of botanical investigations have shown that distribution of reed communities after 2 years of mowing changed insignificantly. However, the density of stems per sq. meter declined considerably. The reeds growth speed slowed down as well. The reduction of projective coverage of reeds and slowing down of growth speed allow assuming that the process of replacement of reed communities with sedges has started.

Overall, the activity is progressing well according to the project implementation plan.

1.1.1. ACTION A.2: Development of specific regional agri-environmental measures for important Aquatic Warbler sites in the Nemunas delta (start – Sept. 2010; end – Jan. 2012)

Complex of works on development and agreement of the new agri-environmental measures was implemented since the start of the project BEF LT: conceptual negotiations with competent authorities (Ministry of Agriculture and other) on agri-environmental measures; definition of management requirements for the Aquatic Warbler under agri-environmental measures; practical design of the measures and calculation of compensation payments.

Currently the measures are included in the draft proposal of new agri-environmental measures package under measure M214 (agri-environment regulated under Article 39 of the Regulation 1698/2005).

Approval and realization of agri-environmental measures for important Aquatic Warbler sites will be one of the most important achievements of the project, as it will ensure the sustainability of project results – mowing of Aquatic Warbler habitats will be realized and after the project.

ACTION A3: Formation of ecological priority land-use plot in LT02-Tulkaragė project area (start – Sep. 2010; end – June 2012)

The action implementation is completed.

Despite the complex formal procedure for the Formation of the land plots, the Project team has shown the persistence and inventiveness in achievement of the goal. Eventually, in summer 2013 the process has been completed and planned milestone achieved.

As a result of actions taken, the responsible manager (Goldengrass) was found for the territory, which is interested in its usage taking into consideration the economic interest of the hosts and ecological need of the territory.

ACTION A.4: Development of the recommendations on the solutions for landowners to manage properly Aquatic Warbler habitats, ensuring sustainable economic benefit (start- Sept. 2010; end – Dec. 2012)

The action implementation is on-going.

Publication of the recommendations on the solutions for landowners to manage properly Aquatic Warbler habitats is not finished yet. Delay in preparation of publication of recommendations was quite expected. Recommendations should be elaborated on the basis of the analysis of achievements and mistakes received, and taking into consideration those normative documents which are not approved yet and the discussions are still ongoing. Thus, initially the preparation of such publication should be planned at the final stage of the project.

The project experts have conducted the large work on evaluation of experience in management of Aquatic Warbler habitats not only in Lithuania, but also in other countries, and such publication will be undoubtedly useful for organization of protection and sustainable use of Aquatic Warbler habitats throughout the whole distribution range.

C. Concrete conservation actions

LT1 TYRAI Action C1: Restoration of the main Aquatic warbler breeding site of Lithuania – Tyrai flooded meadows

(The area of habitat suitable for AW is 950 ha. 450 ha of Aquatic Warbler habitat restored/managed eliminating dense reed stands and scarce bushes).

Mowing for reed elimination on area of 450 ha two times per year (June and after breeding season in August) removing the mowed vegetation from the area;

Procurement of mowing machinery. It is recommended to use machinery with minimal pressure on the ground for mowing on fen mires with presence of peat layer. Crawler tractors (ratrak) with wide track and pressure on the ground about 0.07 kilos/sm² are widely used for mowing of mires in Poland. The mowing of fen mire by means of modified traditional wheel machinery was firstly tried at the project site Tyrai and the certain experience received. The mowing of the project site was conducted already during two years, and the important experience in machinery usage was received:

- use of maximally wide doubled wheels of low pressure on the tractor Valtra allowed to reduce pressure to 0.175 kg/sm²;
- the baler was modified to attach double-wheels, which creates good conditions for fully performing habitat restoration;
- establishment of leading ski on mower or use of trailer mower on doubled wheels.

Mowing and removal of reeds on an area of 450 hectares

The pilot territory Tyrai is characterized by increased water level starting from September, and generally unstable ice cover, which make mowing here from September till March impossible. Thus, the duration of the mowing season is about 2-3 month (July-September). The experience received and modification of the machinery allow implementing repeated mowing of the most part of reed stands at the project site during the short time in 2012 and 2013. Uncut parts were removed by means of controlled burning in winter 2012.

Botanical studies of 2013 confirmed the necessity of twice repeated mowing during first years to eliminate reed communities. The reed is characterized by rapid growth due to high water level and increased mineralization, and its height reaches more than 50 cm already in Mid May, starting of the first clutches period. Parts of the mire with such high reeds become unsuitable for breeding of the Aquatic Warbler. All the mowed biomass was removed from the mire in 2013.

The most important condition for the sustainability of the project, i.e. continuation of the mowing after the end of the project, is the presence of economical interest in mowing of the mire. Ideally, the mowed biomass should produce a profit, the part of which will be spent for the continuation of the mowing. Besides, the baled biomass, scattered along the periphery of the mire, changes the landscape. So, the important achievement of the project team is the considerable progress in solving of the question about use of mowed biomass. There has been principal agreement made with the heating boiler-house in Šilutė region (Juknaičiai settlement) to receive the biomass from the project area. In parallel to the solving removal of biomass from the project site, project manager has initiated dialogue with Šilute municipality and Nemunas Delta regional park administration leaders on creating the local market for such the use of such late cut biomass in municipal heating.

Mowing of habitat favorable for AW (open fen mire plots) by stripes of 50-meters wide alternating with uncut stripes of 20 meters wide for increasing productivity of habitat;

It is recommended to test this methodic during the season of 2013.

Study of project territory's parts, which are considered as relatively favourable for Aquatic Warbler, has shown, that sedge communities here are very dense due to multiannual absence of mowing and burning, and the large mass of dry vegetation accumulated. This decreases considerably the productivity of the ecosystem. Perhaps, this is the reason of relatively low density of Aquatic Warbler at such mire parts. Thus, it was decided to conduct the partial mowing of these plots by stripes of 50-meters wide alternating with uncut stripes of 20 meters wide. Such method to increase the site's productivity is applied for the first time. It is assumed that this method will allow preserving the protection conditions (uncut stripes) and considerably increasing the foraging base for insectivorous birds (mowed parts).

Recommendations 2012:

- to set dual wheels on the tractor;
- to set additional wheels on press-pickup machine.
- it is appropriate to conduct the controlled burning of uncut spots of reeds and rows of mowed and remained at the mire reeds during November 2012 – March 2013. Tyrai mire due to it's placement on the coast is an ideal object for use of controlled burning method. Applying of this method is especially important during the first year of mowing, when the old vegetation stocks are very abundant and thus it is quite difficult to remove all the mowed biomass from the mire. Accumulations of old grass, remained at the mire, prevent the formation of sedge communities.
- Special investigations should be carried out by botanists to define the terms of reeds mowing ensuring the repeated reeds sprouts grow not more than 30 cm long. This will let mowing of reeds just once during the season and reaching the necessary effect of gradual vanishing of reeds and its replacement with sedge communities. Repeated growth of reed sprouts up to 30 cm will ensure its weakening and will not disturb the vegetation structure suitable for the Aquatic Warbler during the next season.

All the recommendations from 2012 were fulfilled.

Recommendations 2013:

- to continue efforts jointly with Kretinga State Forest Enterprise on creating the local market for use of biomass in municipal heating and for pellets producing, which ensure the stability of mowing on project site Tyrai;
- to conduct the comparative study of insects abundance on mowed and uncut parts of sedge communities;
- to study the use of mowed and uncut plots by females for food collection;
- to conduct mapping of Aquatic Warbler males to study the changes in males' distribution to new plots;
- to set the system of selling and use of mowed biomass for different purposes, so that company get a certain profit;
- to calculate the economic effectiveness of works on mowing and the size of income from biomass selling.

LT04 ŽUVINTAS Action C2: Restoration and further demonstrational management of the fens in the Žuvintas Biosphere Reserve – the oldest known breeding site of the Aquatic warbler in Lithuania (start – Jan. 2011; end – Aug. 2015)

(The area of suitable for AW habitat is 328 ha).

- Removal of reeds by means of controlled fire;

Habitat restoration by performing controlled fire management have been performed only on winter in early 2012 in 4 ha (out of 13 ha planned) territory due to very limited time of suitable weather conditions. Communication of reed burning management is planned in winter 2013-2014 by issuing fact sheet with listed experience: lessons learned, know-how advices and observed impact to the habitat vegetation.

The mowing of reeds at considerable part of the mire will be impossible considering the presence of several years with high water level. Commercial winter mowing of reeds by specialized machinery could be conducted only at limited area. Under these conditions fire management should be used on uncut parts of the mire which are potentially suitable for Aquatic Warbler.

Mowing of reeds in the late autumn/ winter time with the prototype tractor;

About 60 ha of 90 ha planned for mowing were mowed till the end of November. Mowing on the rest of the area was impossible due to high water level. It is planned to mow this part of the mire by special machines, which cut reeds for consequent use for roofs cover.

All the cut biomass was removed from the mire and delivered to factory for pellets production. This factory is working already, low-caloric pellets are being produced from grass biomass, and a part of pellets is used for heating of the Biosphere Reserve's office.

It is necessary to admit, that progressive overgrowing of sedge parts of the fen mire with reeds occurs mainly due to high water level during vegetation period (higher than soil surface) and absence of summer mean (in August-October, when water level at the mire 10-30 cm lower than soil surface).

In the mid XX before the beginning of large-scaled melioration the lakes-mires complex functioned in natural way. Presence of large sedge mires allows concluding that natural dynamic of water level in the lake and adjacent fen mire was as following: the water level on the fen mire in May-June was about the soil surface, then starting from July it dropped, and during summer-autumn mean it was about 10-30 cm below the soil surface. In October-November the water level at the fen mire rose up till 5-20 cm above the soil surface due to rains and was at this level till the spring flood (March-April). During spring flood the water level increased till 30 cm above soil surface for the short time, and than decreased till the soil surface in mid-end of May.

It is possible, that after construction of the overflow dam on the only river that flows out of the lake, the water level stabilized at higher level, which is the reason of progressive spreading of reeds. However, the reason of increased water level at the mire and in the lake could also be reduction of the flow capacity of the river, flowing out of the lake, as a result of its overgrowing and plugging with floating vegetation. In the nearest future it is necessary to receive and compare the water levels at the fen mire, in the lake and in the river near the dam. This will allow defining the reasons of high water level and developing recommendations for optimization of water level dynamic. It is possible, that reconstruction of the overflow dam to regulated sluice will be necessary for optimization of water levels regime. This will allow active regulating of the water level in the lake-mire complex. It is also possible, that clearing of the channel between the lake and the dam will be sufficient.

Removal of trees, bushes and cutting of the reed stands with the prototype tractor and manually, taking-away the biomass.

The action is conducted as planned. The only thing, the use of mulcher with loading should be recommended for annual mowing of newly grown shrubs, with consequently use of biomass for production of fuel pellets.

Recommendations 2013:

Zuvintas mire is isolated from other Aquatic Warbler habitats. So, the breeding success of the population should not be influenced by high floods or droughts to maintain the Aquatic Warbler population stable. Several years with high water level during the breeding season could lead to disappearance of Aquatic Warbler from this site due to high mortality of birds on wintering grounds and impossibility of birds' distribution from other areas. Thus, it is very important to optimize the water level at the fen mire, especially in case if Aquatic Warblers will be translocated here from other habitats.

- It is necessary to conduct analysis of available data on hydrology, to implement additional investigations of water level dynamics (if necessary) and to develop recommendations on optimization of hydrological regime of lake-mire complex Zuvintas. The goal of this work should be development of recommendations on optimization of hydrological regime and its restoration to natural state, existing before the melioration in the catchment. The water regime could be simulated on the basis of water regime typical for most natural sedge fen mires: 10-30 cm above the soil surface during spring flood (March-April), near the soil surface during vegetation period (May-July), below the soil surface till 30 cm during summer-autumn mean (August-October). Such water regime is typical for sedge communities and will prevent their overgrowing with reeds.

PAPE SITE, LAKE LIEPAJA Action C3: Demonstrational restoration management of the wet meadows at lake Liepaja and Pape site – the former breeding site and stopover sites of the Aquatic warbler in Latvia

Removal of trees and bushes, cutting of reed stands with the prototype tractor and manually, taking-away the biomass

Recommendations:

As it was recommended, the area cleared from dense woody vegetation in 2012 has been mown in summer 2013 by cutting the biomass and shoots of woody vegetation.

Cutting reeds in the late autumn/ winter time with the prototype tractor.

According to recommendations of 2012, the project's partner Latvian Fund for Nature organized mowing at planned area in 2012 and 2013 using special Seiga machinery.

At the end of the project the project on translocation of Aquatic Warblers to this restored area could be planned after the detailed independent evaluation of habitats' state.

LT02 TULKIARAGE Action C4: Restoration of the former important Aquatic warbler breeding site – Tulkiarage polder of the Nemunas delta SPA

(The area of habitat suitable for AW is 400 ha. 400 ha of Aquatic Warbler habitat restored/managed eliminating dense reed stands and scarce bushes).

This territory under necessary management could potentially become one of the most important for several threatened bird species.

Despite considerable difficulties, the project team jointly with the project partner JSC Goldengrass fulfilled a row of preparation activities to ensure the possibility to ecologically and economically sustainable management of this territory:

- restoration of the polder dykes in order to fix the holes (total 5 big holes) causing uncontrolled water flow into the project area;

- the experience on modernization of machinery for work under waterlogged conditions obtained;
- the experience on reed elimination obtained;
- the solution for water level regulation in polder was found and tested. It was decided to use mobile water pump, which would effectively pump out water from the polder and thus reduce water level allowing continuing habitat restoration work;
- the Company JSC Goldengrass constructed the factory for pellets production from vegetation biomass, and all the cut biomass is immediately used with economic profit, which ensures the necessary management and after the project's end.

The possibility of water level regulation should be ensured, which allows the formation of favourable for threatened birds habitats, as well as possibility to mow the area during proper period. For long-term management of the area it is necessary to raise funds for reconstruction of the dam, protecting the polder from water level changes in the bay.

LT03 SYSA Action C5: Demonstration management of grasslands for Aquatic warbler conservation in Šyša polder

The area of habitat suitable for AW – 300 ha. The area suitable for AW, sustainably managed (late mowing, without nests disturbing) – 60 ha in 2014. Water level in May-June is about the soil surface.

The large work on demonstration management of grasslands for Aquatic warbler conservation was conducted by the project team at this important for biodiversity and local people area (Šyša polder):

- ownership of nearly all the project area is defined (including contact information and basic data on farming specifics). This information is used for different project action implementation including negotiations with farmers, gathering data about economic farming activities, awareness raising etc.
- the demonstration mowing was conducted during 2012 at the area of 53 ha (out of 60 ha planned for two seasons);
- the “early mowing” was conducted at the area of 48 ha within the project site LT03-Sysa by the end of July;
- according to the analysis performed within the action A4, this project territory as a basis to calculate economic aspect of harvesting grassland in late mowing to fulfill conservation requirements for the Aquatic warbler. Results of the study illustrated that in such conditions farmers have very little possibilities on gaining any economic benefit.

It should be noted, that the main ecological as well as economical problems in organization of sustainable use of the polder arise due to absence of neatly working system of water regime regulation. Despite the understanding of this point, the problem of establishment of optimal water levels for biodiversity and its economical use is not solved at Šyša polder till 2013. Besides, there are working water regulating facilities at this polder that allow managing the water regime. However, the clear rules of exploitation to provide the optimal water regime are absent.

After the testing of methods of the folder sustainable use according to new rules of the Agro environmental Scheme, the project team proposed to develop the new strategy of the

polder wise use considering the experience received. The main attention should be paid to the following:

- to find the ways of regional economically efficient use of vegetation biomass;
- to prepare proposal for the revision of currently existing water regulation regime in the polder.

Prepared study would serve as basis for the dialogue between the project and Šilutė municipality as well as Ministries of Environment and Agriculture to setup a mechanism, which would allow in a long term to ensure appropriate conditions for sustainable farming in the polder securing conservation of Aquatic warbler and other protected species.

Recommendations:

- to develop and approve with local authorities the regulations of exploitation of polder system for maintenance of optimal water levels for conservation of Aquatic Warbler and ensuring stable hay making. Optimal water levels at polder could be reached by means of regulating of water release by pumping station and establishment of overflow optimal level on the sluice. The water level dynamic at the most of the polder's area in vegetation period should be as following: near the soil surface (0 - -10 cm) from the mid May till the end of June; then from the beginning of July till the end of September the water level should be lowered till 20 cm and lower below the soil surface.
- taking into consideration that the polder territory is divided by small parts between many owners, it is necessary to start work on their integration, or these owners could delegate the work on mowing to other special organization. Otherwise, the mowing for production of energetic pellets will be unprofitable later.

Objective 2 – Establish and promote favorable and sustainable conditions for farmers/landowners to implement conservation measures by renewed agro-environmental schemes and supported by alternative economic solutions

ACTION C.6: Demonstration of the innovative usage of late-cut biomass

Implementation of the action C6 is very important for ensuring the sustainability of the project and sustainable use of habitats with economic benefit for land users. Considerable success was reached to the end of 2013:

- equipment (pelleting machinery) was purchased and established, training of personnel was fulfilled, and the factory on pellets production started to work in Zuvintas Reserve (financed by the project). The second similar factory was constructed and started to work in region Šilutė (under financing of JSC Goldengrass);
- special heating boiler for low-caloric grass vegetation pellets was purchased for the office of Žuvintas biosphere reserve administration, the boiler was established and already works, successfully heating the office and thus demonstrating the real use of vegetation biomass;
- a row of seminars for experience exchange and demonstrational workshops for Lithuanian Ministries of Environment and Agriculture, local authorities, local people and farmers were conducted, allowing to share the positive experience of the project. Use of biomass pellets has been presented to the Šilutė municipality as a good practice and perspective to use this type of biofuel for municipal heating and at the same time support use of grasslands in the region in line to the nature conservation needs. Above-mentioned feasibility study, which would analyse practical aspects of grass biomass briquettes use for municipal heating would be very important complementary demonstration component of this action, and may lead to giving very practical

outcomes for the region in implementing socially-environmental responsibility and Šilutė municipality level.

ACHIEVEMENT OF PROJECT OUTCOMES AND INDICATORS

| Indicator | Target | Level of achievement |
|---|---|---|
| Action D1: Setup and maintenance of project website | Project website setup 30.12.2010 | Project website www.meldine.lt has been regularly updated, website has been visited by 4165 unique visitors (above 11000 visits, 328 visitors monthly). |
| Action D.2: Setup of visual infrastructure in the project sites | 8 information stands setup in all project sites before end of December 2014. Set-up special exposition in the protected area's visitor centre in project area LT04. | 8 information stands in Lithuanian project areas are already setup. Exposition in the Žuvintas Biosphere Reserve visitor center (project site LT04) about Aquatic warbler was setup in July 2013. |
| Action D3: International conference on Aquatic warbler conservation achievements | (start – Sept. 2013; end – June 2014) | The conference will be held in November 14-15 followed by working group meeting of international aquatic warbler conservation team. The conference was organized and held at a high level. Achievements and unsolved problems were discussed. |
| Action D4: Work with media | Foreseen indicator target in Progress report | Achieved indicator target in Progress report. Most of indicators tasks are over fulfilled at 10-50%. The work with media is organized and carried out at a high level, in 2013 almost all Lithuanians, especially in projects regions, aware about Aquatic Warbler and necessity of its conservation. |
| Action D5: Production and distribution of printed information materials about Aquatic warbler and agri-environmental measures | Project leaflet, Publication about Aquatic Warbler, Brochure on conservation measures, Book-toy for children, Poster, Wall calendar 1 st year, 2 nd year, 3 rd year | Project leaflet - Completed Publication about Aquatic Warbler - Ongoing Brochure on conservation measures - Ongoing Book-toy for children - Completed Poster - Completed Wall calendar 1 st year, 2 nd year - Completed All the publications were made at a high level with detailed investigation of interests of different groups of readers, and, undoubtedly, will considerably influence the understanding of necessity of conservation not only of Aquatic Warbler, but the whole nature as well. |
| Action D6: Project film | Project film produced 30.06.2014 | Ongoing |
| Action D7: Dialogue/negotiations with land-users to join implementation of the agri-environmental schemes | a) mapping of landowners in the project area and awareness raising about the project and AW; b) farmers consultation and involvement into design of new agri-environmental measure (action A4) and c) negotiations with farmers to postpone mowing activities in breeding sites of AW | 8 meetings with local stakeholders conducted during the reporting period (number of participants – 167). 80 Individual meetings with local landowners and farmers conducted during the reporting period (farmers consulted – 87). Dialogue/negotiations with land-users: the preliminary strategy and plan of works are elaborated. The large work is done, that allowed solving the practical problems on mowing terms, biomass use, planning of |

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|---|--|---|
| | | agri-environmental schemes. |
| Action D8: Seminar on dissemination of project results | 30.08.2015 | Not started |
| Action E2: Monitoring/evaluation of project success | 1 st - 4 th monitoring reports | 1 st monitoring reports completed "Overview and analysis of scientific data obtained during project implementation, aiming development of management strategy for project areas" 30.12.2011. 2 st monitoring reports "Evaluation of project realization success (2012)" finished 30.12.2012. 3 st monitoring reports "Evaluation of project realization success (2013)" will be finished 30.12.2012. |
| Action E4: Gathering of international know-how experience related to Aquatic warbler conservation - study visits and networking with other projects | Three study visits | First study visit has been organized to AW breeding sites in Belarus (June 2012). Second study visit to Poland targeting authorities for getting knowledge about habitat management and use of biomass has been organized (August 2012). Third study visit dedicated for farmers to gain experience about balancing nature conservation needs and economic interest is planned in 2013. The project team and experts participated in all practical seminars and conferences about Aquatic Warbler conservation and sustainable management of fen mires, which were held during that period. Thus, practical actions of the project were agreed and discussed with international experts. |

THE MAIN RECOMMENDATIONS

The state of vegetation and biodiversity on fen mires and floodplain meadows is mainly defined by water level dynamic and presence of traditional activities (hay making, grazing). Disturbance of water regime leads to total and fast changes of ecosystems. Long-lasting water standing above the soil surface during vegetation period leads to overgrowing of open sedge mires with reeds, and the lowered water level – to overgrowing with shrubs. Besides, the high water level in May-June makes breeding of land-nesting birds impossible. Maintenance of optimal water level and mowing of grass vegetation during right period are the main methods of managing fen mires and floodplain meadows ecosystems to ensure favourable habitat conditions for most of typical plant and animal species. As project experience showed, the possibility of mowing on fen mires and meadows during optimal period is defined by water level dynamic. Thus, despite the implementation of the whole complex of preparatory works (purchase and modification of machinery, negotiations with farmers and other), the mowing will be impossible to fulfill in optimal terms if water levels could not be regulated. In 2013 such situation was observed on three project sites, when the project team was unable to conduct all the planned activities on habitat management in required period due to impossibility of water level regulation because of different reasons. So, it is strongly recommended to conduct all the necessary negotiations and implement

the actions starting from the beginning of 2014, so that till the spring of 2014 all the project participants at sites Sysa and Zuvintas understand the importance and have the possibility to maintain the optimal water levels during different seasons. For this purpose on Polder Sysa it is necessary to elaborate and approve the clear rules of exploitation of the pumping station and sluice, in Zuvintas Reserve – to find out the reasons of disruptions of hydrological regime and fulfill the measures to ensure maintenance of water levels in different seasons at levels that are typical for natural sedge fen mires.

The similar problem of water regime disruptions (breaks of the dam), considerably affecting the biodiversity and leading to impossibility of mowing, is observed at project site Tulkiarage. However, for its successful solution the capital investments for dam reconstruction are needed.

The project achieved considerable progress in solution of another key problem - detection of ways of real use of cut biomass, which bring to landowners economical profit sufficient for continuation of economically efficient mowing and use of grass biomass. Ideally, the income from selling of grass biomass and its products as well as payments from agro environmental scheme should cover expenses for mowing and biomass processing. The following things are desirable till the end of the project in 2015:

- Company Kretinga State Forest Enterprise should find the ways of sustainable use of biomass from Tyrai mire,
- Company JSC Goldengrass should successfully process the grass biomass for pellets and has economic interest in mowing the project site Tulkiarage;
- the factory on processing of grass biomass in Žuvintas biosphere reserve should be profitable.

It is also necessary on example of these three pilot territories to estimate economical effectiveness of late mowing and processing of biomass taking into consideration the agro environmental scheme.