



LIFE08 NAT/LV/000449

Mid-term Report
Covering the project activities from 01/02/2010 to 01/12/2010

Reporting Date
31/12/2011

**Restoration of Raised Bog Habitats in the Especially
Protected Nature Areas of Latvia**

Data Project

Project location	Latvia
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Data Beneficiary

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1. List of key words and abbreviations

PSG - Project Steering Group
MPSG – Management Plan Steering Group
NPB - Nature Protection Board
NR – Nature Reserve
MP – Management Plan
TD – Technical design
LFN – Latvian Fund for Nature

2. Executive summary

2.1 *General progress.*

The aim of the project “Restoration of Raised bog Habitats in the Especially Protected Nature areas” is to re-establish the active raised bog habitats (7110*) in the areas influenced by drainage, restore project site hydrology and to protect the raised bog bird species of EU importance.

At present, all the planned project actions are carried out. From the 16 actions, in the reporting period 12 are being implemented. During the reporting period the following actions are implemented or are already completed:

1. Elaboration of Management Plans (A1)
2. Hydro-geological studies for the elaboration of technical designs for building dams (A2)
3. Organisation of public tender, preparation of agreements and contracts (A3)
4. Organisation of seminars (D1)
5. Re-establishing the active raised bog habitats and natural raised bog hydrology (C1)
6. Creation and updating of the project home page (D2)
7. Elaboration and publishing of information booklets and boards (D3)
8. Production of a documentary film (D5)
9. Establishment of the Raised Bog exhibition (D6)
10. Project administration by the University of Latvia (E1)
11. Monitoring the effects of management actions on raised bog habitats, bird species and site hydrology (E2)
12. Cooperation with LIFE+ projects, participation in study tours, seminars and conferences (E3)

In 2010/2011 the main project actions were Elaboration of the management plans (Action A1) and Hydro-geological studies for the elaboration of technical designs for building dams (Action A2), Monitoring the effects of management actions on raised bog habitats, bird species and site hydrology (E2) and public awareness activities.

DELIVERABLES OF THE PROJECT

Name of the Deliverable	Action	Deadline	Progress
The first project booklet published in Latvian and English	D3	May 2010	Completed, Inception Report Annex 6.2
Up-to date photographic information about the progress of the project	D2	April 2010	Home page updated with the latest information about the project actions. Inception Report Annex 6.10
Up-to date photographic information about the progress of the project	D2	July 2010	Home page updated with the latest information about the project actions. Inception Report Annex 6.10
Up-to date photographic information about the progress of the project	D2	October 2010	Home page updated with the latest information about the project actions. Inception Report Annex 6.10
Raised bog exhibition prepared	D6	November 2010	Completed in December, 2010
Monitoring Protocols summarised in Monitoring Reports	E2	November 2010	Completed in December 2010
Up-to date photographic information about the progress of the project	D2	January 2011	Home page updated with the latest information about the project actions.
4 technical designs for the restoration of active raised bog habitats and hydrology in Aklais, Melnais Lake, Aizkraukle Mire and Forests and Rozu Mires completed	A2	February 2011	4 technical designs were prepared in June, 2011. For 2 sites Melnais Lake Mire and Rozu Mire all the documentation is completed. For the other 2 sites – the Aklais Mire and Aizkraukle Mire and Forests still agreements are needed from 3 state institutions.
Management plans for Aizkraukle Mire and Forests, Aklais Mire, Rozu and Melnais Lake Mire completed	A1	March 2011	Rozu Mire Management Plan was completed in March 2010 and approved by the Ministry of Environment and Regional Planning in March 14, 2011 Melnais Lake Mire Management Plan was completed in March, 2010 and approved by the Ministry of Environment and Regional Planning in April 5, 2011 Aizkraukle Mire and forests Management Plan was completed in March, 2010 and

			approved by the Ministry of Environment in and Regional Planning in April 15, 2011 Aklais Mire Management plan completed in May, 2010 and approved Ministry of Environment in and Regional Planning in July 20, 2011
Up-to date photographic information about the progress of the project	D2	April 2011	Home page updated with the latest information about the project actions.
Up-to date photographic information about the progress of the project	D2	July 2011	Home page updated with the latest information about the project actions.
Information booklets about Aizkraukle, Aklais Mire, Rožu Melnais Lake Mire Nature Reserves published	D3	September 2011	Completed in November/December 2011
Information boards for Aizkraukle Mire and Forests, Rožu Mire, Aklais Mire and Melnais Lake Mire set up	D3	September 2011	Information boards printed in December 2011 and set up in Melnais Lake Mire, the other 3 will be set up in January 2012
Up-to date photographic information about the progress of the project	D2	October 2011	Home page updated with the latest information about the project actions.
Monitoring Protocols summarised in Monitoring Reports	E2	November 2011	Completed in November 2011
Up-to date photographic information about the progress of the project	D2	January 2012	-
Up-to date photographic information about the progress of the project	D2	April 2012	-
Up-to date photographic information about the progress of the project	D2	July 2012	-
Up-to date photographic information about the progress of the project	D2	October 2012	-
Monitoring Protocols summarised in Monitoring Reports	D2	November 2012	-
One documentary film produced	D6	December 2012	In progress, will be completed according to Time Schedule
Up-to date photographic information about the	D2	January 2013	-

progress of the project			
Up-to date photographic information about the progress of the project	D2	April 2013	-
Up-to date photographic information about the progress of the project	D2	August 2013	-
Methodology for the active raised bog restoration published	D5	July 2013	In progress, will be completed according to Time Schedule
Monitoring Protocols summarised in Monitoring Reports	D2	July 2013	-
Layman's report published	D7	July 2013	-
After-LIFE Conservation Plan prepared	E5	July 2013	-

MILESTONES OF THE PROJECT

Name of the Milestone	Code of the associated action	Deadline	Progress
First project Seminar in organised	D1	March 2010	Completed in March 2010, Inception Report Annex 6.5
Project Steering Committee established	E1	March 2010	Completed in March 2010, Inception Report
Information for the web page prepared	D2	March 2010	Completed in April, 2010
Monitoring plots established	E2	September 2010	Completed in October, 2010.
Monitoring wells established	E2	November 2010	Completed in December 2010
Second project seminar organised	D1	November 2010	Completed in December 17, 2010
Third project seminar organised	D1	May 2011	Completed in May 17, 2011
Fourth project seminar organised	D1	September 2011	Completed in September 22 and 23, 2011
International seminar organised	D1	June 2012	In progress
Final project Seminar organised	D1	January 2013	-
Independent audit of the project realised	F4	July 2013	-
Dam building completed in Rozu Mire	C1	July 2011	Delayed due to delay under Action A2; will be realised until June 2012
Dam building completed in Melnais Lake Mire	C1	July 2011	Delayed due to delay under Action A2; in progress, will be

			implemented until June 2012
Dam building completed in Aizkraukle Mire	C1	October 2011	Delayed due to delay under Action A2; will be realised until June 2012
Dam building completed in Aklais Mire	C1	October 2011	Delayed due to delay under Action A2; will be realised until June 2012
Final acceptance of the built dams from the sub-contractor	C1	July 2013	-

2.2 Assessment as to whether the project objectives and work plan are still viable

All the project objectives and the work plan is viable, the project is realised in accordance with the Project objectives that are as follows:

- Secure the most favourable conservation status and the restoration for the priority active raised bog habitat (7110*) of Habitats Directive and raised bog bird species of Birds Directive.
- Promote and demonstrate good practice for the management of active raised bog habitats by holding seminars for various interest groups and hosting project web site.
- Demonstrate and share the results of the raised bog conservation and restoration by involving local society and stakeholders in the conservation and management activities as well as to explain the need for the restoration actions.
- Raise public awareness regionally to influence local inhabitant's attitude towards the safeguarding of internationally valuable active raised bog habitat as well nationally and internationally through the practical raised bog restoration works and awareness raising activities as well as improve the understanding of the current nature conservation issues, habitats of EU importance and Natura 2000 network.

It is planned that the planned project results will be reached:

- The project will carry out practical restoration work to address the threats to the active raised bog habitats (7110*) and bird species of Birds Directive of the raised bogs.
- The project will bring significant and sustained improvement in the condition of the active raised bog habitat (7110*) and site hydrology in the 4 especially protected nature areas in the area of 290 ha, which in turn promote complimentary raised bog restoration work locally, nationally and internationally.
- The 4 management plans and regulatory documents for all the project sites - Melnais Lake Mire, Aizkraukle Mire and Forests, Aklais Mire and Rožu Mire will be elaborated and approved by the Ministry of Environment of Latvia.
- In the 6 project seminars and project meetings the good practice of active raised bog restoration will be demonstrated; stakeholders, schoolchildren, teachers and local public will be educated about the need of raised bog restoration, people involved in practical active raised bog conservation and restoration.
- The 5 project information booklets, Layman's report in Latvian and English, Raised bog exhibition, web page will raise awareness about the value of active raised bog habitat (7110*) as well as for the bird species of Birds Directive and the need of their conservation and restoration regionally, nationally and internationally.
- Methodology that is based on the experience on raised bog restoration of the LIFE – Nature and LIFE+ projects in Latvia and other EU countries will be elaborated to demonstrate the best practice on active raised bog habitat conservation and restoration.
- It is expected that the project will make a significant contribution to the further active raised bog conservation in Latvia and other EU countries.

In the implementation of the project activities 2 associated beneficiaries – Latvian Fund for Nature, “Foundation ELM MEDIA” and 2 co-financers that include Latvian Environment Fund that has taken over the co-financing from the Ministry of Environment of Latvia and Riga Forests Ltd. participate.

The main conservation issues addressed are as follows:

- Negative influence from drainage
- Loss of active raised bog bird species of Birds Directive due to drainage
- Lack of awareness about conservation and restoration need of active raised bog habitat

The Mid-term Report has been completed for the time period from February 1, 2010 until December 2011. It includes the following chapters – Executive Summary, Administrative Part, Technical Part, Financial Part and 16 Annexes.

2.3 Problems encountered

Administration of the project takes more time as planned as a lot of documentation has to be prepared for the University departments. Still, it does not make substantial delays in the implementation of the project actions.

Due to the slow reconciliation process of the technical designs that were prepared in June, 2011 by the sub-contractor – “Meliorprojekts” State Ltd., the Action A2 was delayed. As a consequence it was not possible to start the raised bog habitat and hydrology restoration (Action C1) in all the project sites, except for Melnais Lake Mire Nature Reserve. Until December 27, 2011, all the documentation for technical designs was completed only for 2 sites - Melnais Lake Mire and Rožu Mire Nature Reserve. For the other two sites - Aklais and Aizkraukle Mire and Forests, the final agreements are still needed from 3 institutions. After that, in January 2012, it will be possible to organise the public tender and start the raised bog restoration Action C1 in other 3 project sites – Rožu Mire, Aklais Mire and Aizkraukle Mire and Forests.

Due to the overload of work of the University of Latvia lawyers, the public tender for the elaboration of project information booklets and boards (Action A3) was not organised as planned in June but only in September that has caused the delay of this action (D3).

3. Administrative part

3.1 Description of project management

The Coordinating beneficiary has hired the project staff - project manager Dr. biol. Mara Pakalne, project assistant Aivars Slisans, information coordinator Daiga Brakmane and field manager Gunars Balodis exclusively for the project implementation and for the whole duration of the project.

The Project Steering Group was established, project staff meetings are organised every week by the project manager to discuss the progress of the project actions. The coordinating beneficiary has provided facilities for the project staff in the Botanical Garden of the University of Latvia.

The project implementation is supported administration of the University of Latvia and its Departments (Fig. 1).

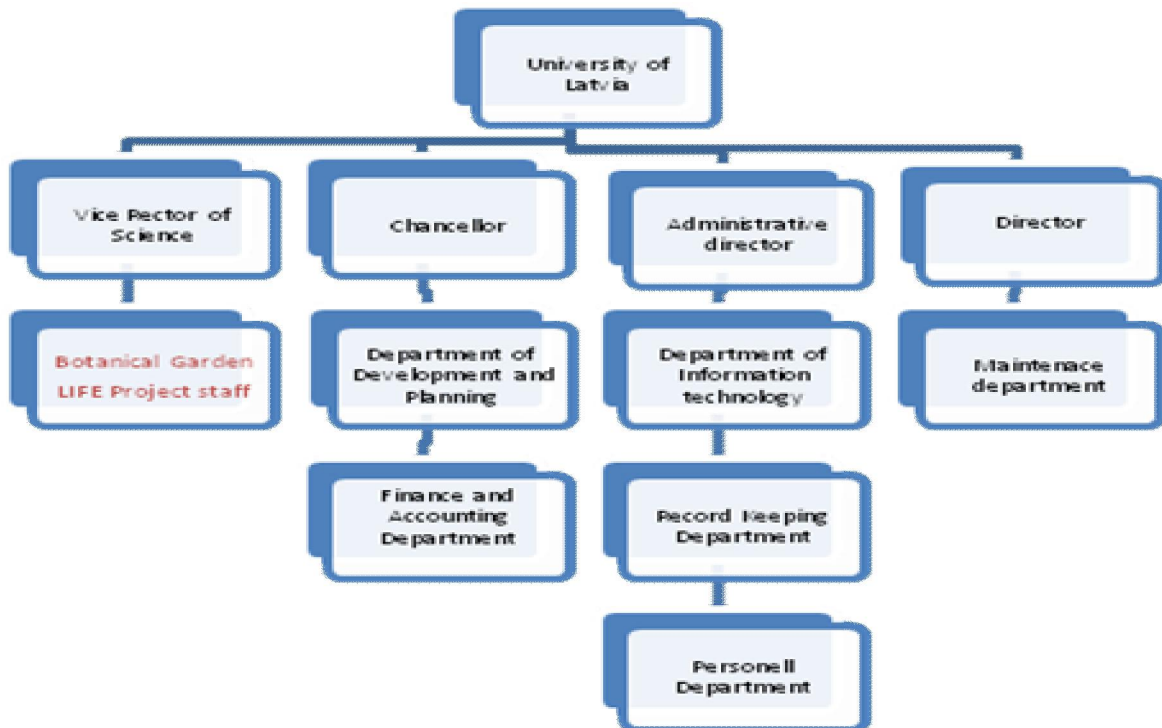


Fig.1. Structure of the University of Latvia

Project is coordinated by the Department of Development and Planning where all the original project documentation is kept. Finance and Accounting Department controls the project financial documentation.

The project manager coordinates the timely execution of all the project actions, is a contact person with the project associated beneficiaries and co-financers. The project manager has established contacts with the LIFE projects in Germany and Wales and organised the two study tours to Germany, Wales, Estonia and Latvia.

3.2 Organigramme of the project team and the project management structure

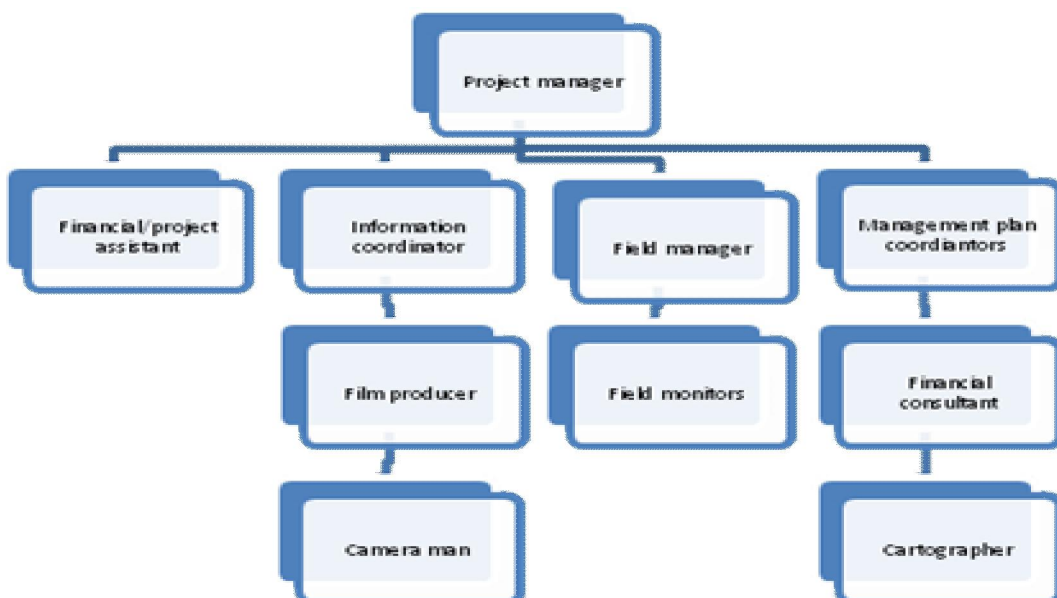


Fig. 2. Project team

4. Technical part

Active raised bog (7110*) is a priority habitat of Habitats Directive and one of the Europe's most rare and threatened habitats. The aim of the project is to re-establish the active raised bog habitats (7110*) in the areas influenced by drainage, restore project site hydrology and to protect the raised bog bird species of EU importance.

The project includes 4 especially protected nature areas (Nature Reserves) that are also Natura 2000 sites: Melnais Lake Mire, Aizkraukle Mire and Forests, Aklais Mire and Rožu Mire with the total area of 4843 ha, from which 290 ha are degraded areas in critical need of restoration as are subjected to the influence from drainage and peat extraction.

4.1 Actions

A. Preparatory actions, elaboration of management plans and/or of action plans

ACTION A.1

Name of the action: Elaboration of management plans

Time plan: I 2010 – II 2011

Progress: The management plans (MP) for all the 4 project sites - Aizkraukle Mire and Forests, Aklais Mire, Melnais Lake Mire and Rožu Mire Nature Reserves (NR) are completed as planned in the Time Schedule.

The work was started in March, 2010 after signing of an agreement with the project associate beneficiary - Latvian Fund for Nature. Management plans were prepared according to Latvian legislation for the 4 project sites – Aizkraukle Mire and Forests, Aklais Mire, Melnais Lake Mire and Rožu Mire NR.

At the start of the elaboration of the Management Plans, the Management Plan Steering Groups (MPSG) were organised by Nature Protection Board (NPB) to monitor the process of the elaboration of management plans. Participants from Municipalities, Regional Environmental Boards, NPB, forestry's, stakeholders, private landowners, NGOs, other interested persons or institutions were included in the groups that were separate for the each project site. Before and after the MPSG meetings regional mass media was informed about the start of elaboration of management plans. Information was also published on the project home page.

At the start of the elaboration of the MP Introduction meetings were organised in June, 2010 as well as the meetings of the MPSG in September and October, 2010.

Management plans were prepared under the guidance of the Management Plan coordinators who summarised the information for the MP that was collected and handed in as Reports from the experts. For the MP the following experts were hired by the Latvian Fund for Nature - habitat and plant species experts, geologist, hydrologist, ornithologist, invertebrate expert, expert in mammals, Lake Expert, expert in amphibians and cartographer.

Management plan coordinators were hired as personnel for one year (working part time) to prepare the management plan but management plan experts were contracted as external assistance.

Management plans include all the chapters that are needed according to Latvian legislation – Summary, information about legislation, plant and animal species, habitats, including species of EU importance, and those protected in Latvia as well as management actions.

Mapping of the habitats in the project sites was a part of the elaboration of the management plans. All the habitats of EU importance were mapped, like active raised bogs (7110*), bog woodland (91D0*), degraded raised bogs still capable of natural regeneration (7120), transition mires and quaking bogs (7140), depressions on peat substrates of the *Rhynchosporion* (7150), natural dystrophic lakes and ponds (3160). MP include maps with habitats of EU importance, maps with the provisional information about the planned management and monitoring areas as well as information on legislation, evaluation of biodiversity values, factors influencing the site and management activities. Maps include the location of the management actions as well as zoning of the project sites.

Rožu Mire Management Plan was completed in March 2010 and approved by the Order of the Ministry of Environment and Regional Planning Nr. 156 on March 14, 2011 (Annex 6.5, Copies of the management plans).

Melnais Lake Mire Management Plan was completed in March, 2010 and approved by the Order of the Ministry of Environment and Regional Planning Nr. 224 on April 5, 2011.

Aizkraukle Mire and Forests Management Plan was completed in March, 2010 and approved by the Order of the Ministry of Environment in and Regional Planning Nr. 231 on April 15, 2011.

Aklais Mire Management plan completed in May, 2010 and approved by the Order of Ministry of Environment in and Regional Planning Nr. 355 on July 20, 2011.

Copies of the Management plans are added to the Mid-term Report and include also the Order about the approval of the management plan.

The management plans for all the 4 project sites, including all the maps are published in the project home page www.purvi.lv, home page of the Latvian Fund for Nature and Environmental Board of Latvia.

Variations/complications/delays: In the project proposal the planned restored area was 290 ha but according to the management plans the area has increased up to 488 ha.

Additional information:

Annex 6.1 Maps of the project sites

Annex 6.2 Especially protected species of Latvia and of EU importance in the Project sites

Annex 6.3 Management actions in the project sites

Annex 6.4 Programs of the Management Plan meetings, copies of presentations

Annex 6.5 Copies of the Management Plans for the project sites, including the Regulations about their approval

Annex 6.16 Photos of the project actions

Annex 6.17 Publicity of the project

ACTION A.2

Name of the action: Hydro-geological studies for the elaboration of technical designs for building dams

Time plan: II 2010 – III 2011

Progress: In order to carry out the restoration of the active raised bog in the drained parts of the 4 project sites – Aizkraukle Mire and Forests, Aklais Mire, Melnais Lake Mire and Rožu

Mire Nature Reserves, the hydrological assessment of the sites and peat stratigraphical analysis was carried out as well by geologist. The impact after the change of the water level the possible risk of flooding of the surrounding area was determined and is revealed in the management plans for the project sites.

Technical designs (TD) were elaborated by the subcontractor - "Meliorprojekts" State Ltd. according to Latvian legislation that was chosen after the organisation of public tender by the University of Latvia.

A large-scale map 1:10000 was used for recording the data and the exact number and location of the dams in the project sites. Field studies needed for the elaboration of TD are completed. The possible implications of management of the site are evaluated during the preparation of technical designs (TD) and discussed during the meetings of MPSG. Aerial photographs and GIS (Geographical Information Systems) for the site management as well as historical maps are used. The precise number of dams is a part of the technical designs, where also their size and construction type is stated.

According to detailed studies carried during the elaboration of Management Plans and Technical designs, the exact location and number of dams was determined. Still, the planned restored area is larger as in the project proposal. In the project proposal it was planned that the restoration area is 290 ha, but after the studies it has increased up to 488 ha, where the positive effect of site hydrology restoration will be felt.

Peat stratigraphical analysis was carried out in all the project sites - Aizkraukle Mire and Forests, Aklais Mire, Melnais Lake Mire and Rožu Mire Nature Reserves. Results are summarised in the management plans for the 4 project sites, as well as information included in the booklets about the project sites. Results of geological studies were presented on the 3rd Project Steering Group meeting on September 6, 2011 and on the project home page www.purvi.lv

Dendrochronological studies were carried out and included the analysis of tree age – structure and growth dynamics. It helps to understand the mire habitat restoration process in the project sites.

The 4 technical designs for building of dams on the drainage ditches have been prepared. For 2 sites Melnais Lake Mire and Rožu Mire all the documentation has been completed. For 2 sites – Aklais Mire and Rožu, the project sub-contractor – "Meliorprojekts" State Ltd will obtain them in January, 2012.

Variations/complications/delays: The action has been delayed due to the fact that the sub-contractor "Meliorprojekts" State Ltd. has prepared the technical designs in June, 2011 but has been very slow in reconciliation of the technical designs. Therefore, it was not possible start the other Action (C1).

Until December 27, 2011, all the documentation for technical designs was completed only for 2 sites - Melnais Lake Mire and Rožu Mire Nature Reserve. For the other two sites - Aklais and Aizkraukle Mire and Forests, the final agreement is still needed from 3 state institutions. After that, in January 2012, it will be possible to organise the public tender and start the raised bog restoration Action C1 in other 3 project sites – Rožu Mire, Aklais Mire and Aizkraukle Mire and Forests.

There has been a meeting with the subcontractor on June 27, 2011 when it was agreed that "Meliorprojekts" State Ltd will completed all the project documentation until August, but it did not kept to its promises.

The project staff had got the necessary documentation for sub-contractor “Meliorprojekts” State Ltd. from Lielriga Regional Environment Board for the technical design of building dams in Melnais Lake Mire and the permits for building of dams in Aizkraukle and Aklais Mire, as well as the border maps of Aizkraukle and Aklais Mire Nature reserves from Joint – stock company “Latvian State Forests “. On September 15, 2011 the project staff had obtained the permit for the elaboration of technical designs in 2 project sites – Aklais Mire and Aizkraukle Mire and Forests.

The Coordinating beneficiary – University of Latvia has also sent 2 official letters to the sub-contractor “Meliorprojekts” State Ltd. to get to know the reason for the delayed work but have not received as answer with the explanation.

Due to the delay in elaboration of technical designs, the Action C1 will be started later as planned in the project proposal – February 2012 when the public tender for the re-establishing of the active raised bog habitats and natural raised bog hydrology by building dams on the drainage ditches will be organised.

Additional information: Annex 6.6. Copies of Technical designs for building of dams and the results of geological and paleovegetation studies in Melnais Lake Mire, Rožu Mire, Aklais Mire and Aizkraukle Mire and Forests Nature Reserves.

ACTION A.3

Name of the action: Organisation of public tender, preparation of agreements and contracts

Time plan: I – II 2010, I - II 2011

Progress: According to the Latvian legislation, University of Latvia has organised 5 public tenders for the following project actions:

- 1) Hydro-geological studies for the elaboration of technical designs for building dams (A2),
- 2) Renting of the project cars (E1);
- 3) Preparation of the project Raised Bog exhibition (D6);
- 4) Printing of informative booklets and information boards (D3),
- 5) Re-establishing of active raised bog habitats and raised bog hydrology (C1).

As a result of public tender, technical designs for building of dams were elaborated by the sub-contractor “Meliorprojekts” State Ltd, Raised Bog Photo exhibition was prepared by Photo Society “Foto klubs Ogre”. Project first project booklet was printed in printing house “Latgales druka” and “Auto 26” Ltd. Was chosen for renting of the project cars.

As in November, 2011 the technical design with all the documentation was completed only for Melnais Lake Mire NR, public tender for building dams on the drainage ditches was organised only for this site. Three sub-contractors had expressed their will to carry out this action. From them one was chosen “E-Buvvadiba” Ltd. with which agreement was prepared and signed. For the other 3 project sites– it will be organised in February/March after the sub-contractor will hand in all the other technical designs.

In September, 2011 the lawyers from the Procurement department of the University of Latvia organised the public tender for the preparation and printing of the 4 project information booklets and boards. According to the results of the public tender, the text of the booklets and boards was prepared by 2 experts (Valda Baronina and Gundega Freimane) ; the design of the booklets was prepared by “Stencil” Ltd. (design Daiga Brinkmane), printed in “A-Druka” Ltd., but the information boards were printed by the sub-contractor “LATSIGN” Ltd.

For all the public tenders the project team prepared the Terms of Reference that contained a set of requirements needed for the actions, also methods and resources. After receiving of the proposals they were evaluated by Public Tender Commission of the University of Latvia. After tenders agreements were prepared and signed with the selected sub-contractors and experts.

Variations/complications/delays: As only the technical design for Melnais Lake Mire included all the documentation, it was possible to organise the public tender only for this site.

Another Public tender for Action C1 (Re-establishing of the active raised bog habitats and natural raised bog hydrology) for building dams on the drainage ditches Rožu Mire, Aklais Mire and Aizkraukle Mire and Forests will be organised in February/March, 2012 when the sub-contractor will hand in the technical designs with all the finalised documentation.

Additional information: No

B. Purchase/lease of land and/or compensation payments for use rights

NON APPLICABLE

C. Concrete conservation actions

ACTION C.1

Name of the action: Re-establishing the active raised bog habitats and natural raised bog hydrology

Time span: I 2011 - III 2013

Progress: After organisation of public tender for building of dams on the drainage ditches in Melnais Lake Mire Nature Reserve, the sub-contractor “E-Buvvadiba” has started the preparation work for building of dams in Melnais Lake Mire Nature Reserve. Representatives from the sub-contractor have visited the project site to be able to plan the work – building of dams on the drainage ditches. All the necessary machinery has been prepared to start the raised bog restoration work in the sites on January 2, 2012. In the site, the exact points for dam building have been marked in the field using GPS. All the necessary documentation has been prepared to obtain the permit for the dam building work.

For the other 3 sites - Rožu Mire, Aizkraukle Mire and forests and Aklais Mire, the restoration work will be carried out after approval of the technical designs prepared under action A2 and obtaining of all the necessary documentation in January, 2012.

After detailed studies during the elaboration of the management plans (Action A1) and Hydro-geological studies for the elaboration of technical designs for building dams (Action A2), the necessary changes in the location of the dams were made that differ in comparison to the areas planned in the Project proposal. These changes were suggested after the site studies were carried out by project experts (hydrologist, geologist, habitat and species experts) and sub-contractor “Meliorprojekts” State Ltd. The total planned restoration area is larger as planned in the project proposal – from 290 ha to 488 ha where the positive effect of raised bog restoration action by rising of the water level will be felt. So, the current restoration area is significantly increasing the target restoration area, but will not increase the action budget.

In the Management plans, the planned restored area is given:

Project sites	Planned restored area in the management plans for the project sites	Planned restored area in the project proposal
Melnais Lake Mire NR	75 ha in the degraded area 36 ha in peat fields – in total 111 ha	73 ha
Rožu Mire NR	235 ha in the degraded area	72 ha
Aizkraukle Mire and Forests NR	82 ha in the degraded area and human influenced area	85 ha
Aklais Mire NR	60 ha in the degraded area, positive impact in the area of 623 ha	60 ha
Total:	488 ha	290 ha

After detailed studies in the project sites, the exact number of dams is finalised in the technical designs. The number of dams is slightly smaller than in the project proposal but the restoration area is significantly larger.

Project sites	Restored area in the management plan	Restored area in the project proposal
Melnais Lake Mire NR	54 dams	70 dams
Rožu Mire Nature Reserve	51 dams	28 dams
Aizkraukle Mire and Forests NR	29 dams	55 dams
Aklais Mire Nature Reserve	16 dams	40 dams
In total:	158 dams	193 dams

For the other 3 sites - Rožu Mire, Aizkraukle Mire and forests and Aklais Mire, the restoration work will be carried out after approval of the technical designs prepared under action A2 and obtaining of all the necessary documentation in January, 2012.

Variations/complications/delays: Detailed field studies carried out by project experts (hydrologist, geologist, habitat and species expert) as well as site inventory by subcontractor “Meliorprojekts” Ltd. show that changes have to be made in the location of the dams. There is larger drainage influenced area in Rožu Mire, but less in Aizkraukle Mire, as some places are already flooded by beavers and very wet habitats have established there already.

Due to slow project reconciliation process by the sub-contractor “Meliorprojekts State Ltd. it was impossible to start the building of dams on drainage ditches as planned in the project proposal for all the 4 project sites. In December 2011, it was possible to start the restoration work only in 1 site – Melnais Lake Mire Nature Reserve. For the other 3 sites building of dams will be started in February/March, 2012 after the organisation of public tender.

It is planned that results of raising site hydrology after building of dams will be observed already in summer 2012 after building of dams until June, 2012. These results will be revealed in the habitat and hydrology monitoring Protocols and Reports. The experience of other LIFE projects in Latvia show that in a month time after building of dams, rising of water level can be observed as well as also vegetation changes are seen at the end of the vegetation season.

Additional information: Annex 6.16 Photos of the activities.

D. Public awareness and dissemination of results

ACTION D.1

Name of the action: Organisation of seminars

Time span: I, IV 2010, II-III 2011, I-II, 2012

Progress: In total, 6 seminars are planned during the project.

On March 30, 2010 the First project seminar was organised in Viesīte Town Municipality for the stakeholders of the project sites, Municipalities, representatives from regional environmental boards and project associated beneficiaries and co-financers.

The aim of the First project seminar was to inform about the start of the project, its objectives and planned activities as well as to establish contacts between the stakeholders involved in the various project activities. Seminar was organised in co-operation with the stakeholder that provided the facilities for the seminars in Viesīte Town.

The First project seminar was attended by representatives from “Rīga Forests” Ltd, Joint-Stock Company “Latvian State Forests”, local Municipalities, Nature Protection Board, regional environmental boards and project associated beneficiaries and co-financers. In total, there were 26 participants.

On December 17th, 2010 the Second Project seminar “The value of raised bog conservation” was organised in Viesīte Town Municipality for schoolchildren as well as for the stakeholders of the project sites, Municipalities, Nature Protection Board, representatives from regional environmental boards and project associated beneficiaries and co-financers and during it the Project Raised Bog Photo Exhibition was opened. Seminar was attended by 102 participants, most of them included schoolchildren.

The aim of the seminar was to tell about the nature values of the raised bogs, project sites. Also importance of Natura 2000 network was explained. The seminar was organised to share experience about the progress of the project, conservation and management activities carried out in the entire project and the lessons learnt to date.

At the beginning of seminar, the project manager Dr. Mara Pakalne told about the raised bog values and actions planned in the Project. The project expert and ornithologist Aivars Petrins told about birds living in the raised bogs. Also a small contest about raised bogs was organised. During the seminar film about raised bogs was shown that was elaborated by the project associate beneficiary “Foundation ELM MEDIA”.

On May 17th, 2011 the third project seminar under the title “Education of teachers on conservation and restoration need of the active raised bog habitats” was organised. Teachers from Olaine and Marupe vicinity were invited as one of the project sites is located in this area, as well as teachers from Rīga. Altogether there were 31 participants in the seminar. It was possible for all teachers to see also the Project Raised Photo Exhibition of the project “Secrets of Mires” that was exhibited in Olaine Museum of History and Art.

The first part of the seminar included theoretical information about Melnais Lake Mire conservation and management actions, species and habitats of EU importance. Project manager Dr. Mara Pakalne informed about nature values in the bog. Ornithologist from the University of Latvia Aivars Petrins told about the bird species occurring in raised bogs, paying special attention to birds living in Melnais Lake Mire: European Eagle-Owl *Bubo bubo*, Whooper Swan *Cygnus cygnus*, ducks and geese. Hydrology of bogs and influence of

ditches was explained by Dr.geol. Aija Delina – the project hydrologist from the University of Latvia.

The second part of the seminar was held as an excursion in Melnais Lake Mire NR where Project manager Dr.biol. Mara Pakalne introduced with different plants of the raised bogs, for example, *Sphagnum* species, cotton-grass *Eriophorum vaginatum* and sundew *Drosera rotundifolia*. Dr.biol. Iluta Dauskane explained dendrochronological peculiarities of raised bogs using pine wood rings. It was also possible to take a sample of wood with Presler auger. Methodological materials were prepared for the teachers and distributed during the seminar.

On September 23rd, 2011 the Fourth Project seminar “Education of schoolchildren on raised bog values” was held in Daudzese Primary School. 36 participants together with nature experts it was possible to get to know the raised bog plants and animal species as well as value of dendrochronological studies. Seminar was attended by children of different age. They were active and answered the asked questions.

After watching the film about raised bogs all the participants went to see Aklais Mire NR to learn the plants growing in the bog. Also a competition for children “What do you know about active raised bog habitats?” was organised. Information leaflets were distributed to the schoolchildren and teachers. Children had a possibility to learn the plant species in the bog and mark them in the leaflet. It was a great experience for them and they actively participated in the learning process.

In this seminar both during the presentations of the experts, as well as in the bog, the schoolchildren were educated about the value of active raised bog habitats (7110*), their role in climate change and as carbon sinks habitats and species of EU importance.

The seminar for schoolchildren was planned so that the young generation can understand the value of the raised bogs and the need of the conservation and restoration.

Other 2 project seminars are planned in 2012 (an International seminar “Sharing experience on raised bog restoration”) and 2013 (Final Seminar).

Variations/complications/delays: Additional seminars have been organised for the teachers of the project sites and during the openings of the Raised Bog Photo Exhibition. More detailed information is given under Action D6.

Additional information:

Annex 6.7 Programs of the Project Seminars, copies of presentations, minutes of seminars and lists of participants

Annex 6.16 Photos of the activities

Annex 6.17 Publicity of the project

ACTION D.2

Name of the action: Creation and updating of the project home page

Time span: I 2010 – III 2013

Progress: Home page, especially for the project, was established (www.purvi.lv) and started to run in April 2010. All the project information both in Latvian and English is published together with photos: information about current actions of the project, Project Steering Group meetings and the Management Plan actions (Steering Group Meetings, field work and management plan meetings), Study tours, participation in seminars.

Also project leaflet, booklets about the project sites, habitat and hydrology Monitoring Reports and information about public awareness is published in the home page, as well as progress of the project actions is described.

The home page includes also the information about the project sites, nature values, species and habitats of EU importance. Photos for the project actions are added.

The home page is regularly updated with the information about project activities, photos of the project actions. It includes LIFE logo and acknowledgement for the support of LIFE. The home page of the project is administrated (information and updating) by Public Awareness Coordinator.

Digital camera was purchased in order to provide up-to-date photographic information about the progress of the project. Camera is also used for reporting needs (Action E1) as well as for the monitoring in the project sites (Action E2).

In March 2011 it was decided to change the way home page looks and operates because of hard managing of existing home page. Due to that it was possible to see number of page views in page since July 2010 and number of individual visitors since March 2011.

Variations/complications/delays: The home page was planned as a part of home page of University of Latvia but was decided that all information about the project will be lost in the huge amount of information given in the home page of University of Latvia. Therefore, the project has its own home page. Home page is linked with Botanical Garden of University of Latvia and Latvian Fund for Nature home pages.

Additional information: Annex 6.8 Home page visitors.

ACTION D.3

Name of the action: Elaboration and publishing of information booklets and boards

Time span: I 2010, I-IV 2011

Progress: The first booklet about the project was prepared and printed in May, 2010 (2000 copies) in Latvian and English and consists of information about the project aims, activities, planned actions, nature values and general information about the project territories.

During the project seminars and other meetings with the stakeholders, the booklet was distributed to the project partners, local inhabitants of the projects sites, representatives from the Regional environmental boards during the nature management plan Steering Group meetings, other national meetings and project's international visits (Germany, Wales, Slovakia and Poland).

The first booklet includes both LIFE and *Natura* 2000 logos, acknowledgement to the LIFE+ financial support, logos of the University of Latvia, associated beneficiaries and co-financiers. Environmentally friendly material was used for the booklet. The booklet was prepared by the Public Awareness Coordinator, designed by a specialist and produced by a printing house "Latgales druka" Ltd.

In November/December 2011 the four booklets and information boards about the project sites - Melnais Lake Mire, Aklais Mire, Aizkraukle Mire and Forests and Rožu Mire Nature Reserves were prepared and printed. Booklets are both in Latvian and in English and are printed on environmentally friendly paper in 2000 copies each. The booklets could be prepared after the lawyers of the University of Latvia organised the public tender in September, 2011.

The information obtained during the elaboration of the management plans (Action A1) is summarised in the booklets. They contain maps of the sites, information about habitats, plant and bird species of EU importance, project activities.

Four information boards for all the project sites Melnais Lake Mire, Mire Rozu, Aklais Mire and Aizkraukle Mire and Forests in size 2A0 each are prepared and printed in December, 2011. The information boards include the wooden part and the information board itself.

The large-size boards include the maps of the project sites, location and general information. From the information boards the visitors can get acquainted with the information about the project sites. The information boards includes the photos of the priority habits of EU importance – active raised bogs (7110*) and bog woodland (921D*) as well as Bird species of Birds Directive.

All the 5 booklets and 4 information boards are published in project home page www.purvi.lv.

Variations/complications/delays: There was a delay in this action due to the long tendering procedure that was carried out by the lawyers of the Procurement department of the University of Latvia because of the work overload. It was planned to print the booklets and information boards until September 2011 but they were ready in November/ December 2011.

The information boards were printed by the subcontractor – LATSIGN Ltd. Information board for Melnais Lake Mire is set up on the project site, the other 3 will be set up in January 2012.

Although the project booklets and information boards were prepared later than planned, it has not affected the results of the action, as well as other project activities.

Additional information: Annex 6.9. Project booklets and the copies of the information boards.

ACTION D.4

Name of the action: Elaboration of Methodology for active raised bog restoration in Latvia

Time span: II 2011- III 2013

Progress: During the elaboration of the management plans for all the 4 project sites, a lot of valuable data about plant species of raised bogs and those of EU importance was collected for the project sites – Aklais Mire, Rozu Mire, Melnais Lake Mire and Aizkraukle Mire and forests. All this information was summarised in papers that will be published in the Methodology.

The papers for the Methodology were prepared by the experts who had worked in the project sites; they include detailed information about the project sites – geology, hydrology, habitats and species of EU importance, as well those protected in Latvia. The papers include text, site maps, tables and photos about the results of geological, habitat, fauna and flora studies.

The Methodology will include also the results and the experience obtained after carrying out the habitat and hydrological monitoring by the project experts – Agnese Priede, Liene Aunina and Aija Delina. The papers will include the analysis of the results before and after carrying out the management actions – rising of water level in the project sites by building of dams on the drainage ditches in 2012.

The results of the habitat and hydrological monitoring will be compared between the drainage influenced and intact areas of the raised bogs. The results of habitat and hydrological monitoring will be supplemented by the maps of the sites and photos from the project sites.

The Methodology will also include the analysis of the raised bog habitat and hydrology experience from other LIFE projects in Latvia.

Variations/complications/delays: No

Additional information: No

ACTION D.5

Name of the action: Production of a documentary film

Time span: I 2010- IV 2012

Progress: To illustrate the project activities and allow a wider audience to learn about the raised bog habitats and importance of their preservation a documentary film is produced. This activity is implemented by one of the project associate beneficiaries – “Foundation ELM MEDIA”.

In June, 2010 “Foundation Elm Media” prepared the first draft of the script of the documentary film. The second draft of the script was finalised in October, 2011. According to it, film will be based on a showing a full-year in raised bog habitats (from winter to autumn) and showing the project lifecycle and activities at different times of the year as well as flora and fauna of the project territories.

Starting from spring 2010 up to present, the film director and cinematographers from the project associate beneficiary “Foundation ELM MEDIA” have filmed the project activities. This included site visits of project management to the project territories, field research activities of experts working on the development of Management plans in the project territories, installation of ground water monitoring wells in Melnais Lake Mire, visits of colleagues from Wales and Germany to project sites, meetings to discuss Management plans of Aizkraukle Mire and Forests, Melnais Lake Mire and Aklais Mire, excursions for teachers and school children in project sites (Melnais Lake Mire, Aklais Mire) and other activities. In addition to that flora and fauna of the project sites at different times of the year was filmed – raised bog habitats and pool systems in Aklais Mire and Rožu Mire, degraded raised bogs in Melnais Lake Mire, forest islands and old linden deciduous forests in Aizkraukle Mire, natural dystrophic lakes and ponds in Aklais Mire, etc.

Approximately 60 hours of filmed material on project territories and activities as well as raised bog habitats have been gathered so far. In spring 2011 aero shooting of Aizkraukle Mire and Forest was organised. The filmed material will allow showing the huge difference between a natural mire with pool systems and degraded mire after peat extraction, as in the case of Aizkraukle Mire and Forests NR such territories exist next to each other. In summer 2011 macro-filming of mire plants took place and also different techniques were used to make the visual material more attractive (use of rails, etc.)

In September, 2011 representatives of “Foundation ELM MEDIA” visited Lower Saxony, Germany to film the degraded and renovated raised bogs there to compare with the raised bog in Latvia. This material will be used in the film to illustrate the serious consequences of raised bog extraction and amount of effort and time that is required to restore bogs and to compare the raised bogs in Latvia and Germany.

During autumn 2011 the project associate beneficiary “Foundation ELM MEDIA” has continued documenting project activities and filming interviews with researchers as well as filming different raised bog habitats.

Variations/complications/delays: No

Additional information: Annex 6.10 Project film scenario (2011)

Annex 6.11 Project demo film (2010) and shots from sites

Annex 6.16 Photos of the activities

ACTION D.6

Name of the action: Establishment of the Raised Bog exhibition

Time span: II 2011 – III 2013

Progress: Raised Bog Exhibition was prepared by the subcontractor “Ogres fotoklubs” who was selected after the organisation of public tender by the University of Latvia. Exhibition was opened in December 17, 2010 in Viesīte Municipality at the project seminar. Since that the Raised Bog Photo exhibition has been shown already in 15 places in Latvia so far.

In total, the Raised Bog exhibition includes 12 transportable boards that consist of 119 photos where rare and characteristic plant species, raised bog habitats are shown and include species and habitats of EU importance.

The Raised Bog Photo Exhibition "Secrets of Mires" includes information about the project sites, habitats and species of EU importance, both intact and degraded, hydrological situation, and habitat restoration need. Photos from the LIFE project sites and study tours to Germany and Wales are also included in the Photo exhibition. There is a stress to the active raised bog habitat that is a priority habitat in EU. Exhibition includes photos of various photographers – both the professionals, as well as expert photos who worked in the project sites during the elaboration of the Management Plans.

The authors of the photos are as follows: Valda Baronina, Irena Berza, Daiga Brakmane, Davis Drazdovskis, Kaspars Freimanis, Vitauts Mihalovskis, Maruta Pakalne, Mara Pakalne, Aivars Petrins, Marita Rauba, Inguna Roze, Andreta Strade, Aivars Slisans, Voldemars Spungis, Uvis Susko and Aldis Vite. Bird voices from bogs were recorded by Edmunds Racinskis.

Raised bog Photo exhibition was shown in the following places:

	Dates	Place
	<u>Year 2010</u>	
1	December 17th	Viesīte Culture House
	<u>Year 2011</u>	
2	13.01.- 07.02.	Ogre Culture Centre
3	08.02.- 08.03.	Aizkraukle Municipality
4	09.- 18.03.	Secondary School of Sala town
5	21.- 25.03.	Ministry of the Environmental and Regional Development of Latvia
6	26.03.- 11.04.	The Cabinet of Ministers of the Republic of Latvia
7	11.- 26.04.	Ministry of Defence of Latvia
8	27.04.- 09.05.	Daugavpils University
9	12.- 20.05.	Olaine Museum of History and Art
10	23.- 31.05.	Saeima (Parliament) of Latvia

11	06.07.- 02.08.	Ventspils Library
12	02.08.- 05.09.	Jelgava Scientific Library
13	06. 23. 29.09.- 24.10.	Botanical Garden of the University of Latvia
14	26.10. - 02.12.	Jekabpils Library
15	02.12- 12.01.	Jaunjelgava Library

There is a great interest from local libraries to install the exhibition. In December 2011 the exhibition will be located in Jaunjelgava Library, it is the place located close to one of the project sites – Aklais Mire Nature Reserve.

In 2012 it will be established in other local libraries in the areas where project sites are located, Library of University of Latvia, EU House Riga (March 1 – 31, 2012), Nature Conservation Agency and other places.

On January 13th, 2011 additional seminar was held during the opening of the Project Raised Bog Photo exhibition “Secrets of Mires” in Ogre Culture Centre. It was organised to raise public awareness about values of raised bog conservation, inform wider public about the project. In the first part of seminar all 60 participants were informed about the exhibition and invited to look at it. On the second part Project Manager Dr. biol. Mara Pakalne told about nature values in bog and how bogs are formed as well as informed about actions. After presentation all participants of the seminar watched film "Story about Bog" made by project associate beneficiary “Foundation ELM MEDIA”.

On March 9th, 2011 the Project team visited Sala Secondary School to tell about Raised bog values for 93 participants and to set up the project Photo exhibition "Secrets of Mires". In the beginning of the seminar, the Director of Sala Secondary School Janina Riska introduced the Project team with children. After that all participants of the seminar watched film "Story about Bog" made by “Foundation ELM MEDIA”.

The seminar included the lecture of the Project manager Dr. biol. Mara Pakalne who told about nature values of the raised bogs (plants, animals, raised bog habitats) mire origin and development. The project site - Rožu Mire NR is located near Sala Village and schoolchildren could get to know more about the site. Seminar was attended by children of different age. They were active and answered the questions. To check how children, a contest about bogs was organised. In the end of the seminar, an exhibition "Secrets of Bogs" was opened at the school. In this seminar the schoolchildren were educated about the raised bog habitats (7110*), species of EU importance. The seminar for schoolchildren was planned so that the young generation can understand the value of the raised bogs and the need of the conservation and restoration.

On July 6th, 2011 the Project Photo exhibition “Secrets of Mires” was opened in Ventspils Public Library. After the opening ceremony, it was possible to watch film "Story about Bog" made by “Foundation ELM MEDIA”. The aim of the seminar was to open exhibition and to educate about raised bog values. It was attended by 35 participants.

Variations/complications/delays: In order to promote the Raised Bog Photo exhibition 3 additional seminars were organised in Ogre Culture Centre, Sala Secondary School and Ventspils Public Library exhibition opening seminars were organized.

Additional information:

Annex 6.7 Programs of the Project Seminars, copies of presentations, minutes of seminars and lists of participants

Annex 6.12 Bird songs from exhibition “Secrets of Mires”

Annex 6.16 Photos of the activities
Annex 6.17 Publicity of the project

ACTION D.7

Name of the action: Elaboration and printing of Layman's Report

Time span: III –IV 2012 – III 2013

Progress: No

Variations/complications/delays: Action is not to be started yet.

Additional information: No

E. Overall project operation and monitoring

The project is being realised in cooperation with the project stakeholders, 2 associate beneficiaries and 2 co-financers (Fig. 3).

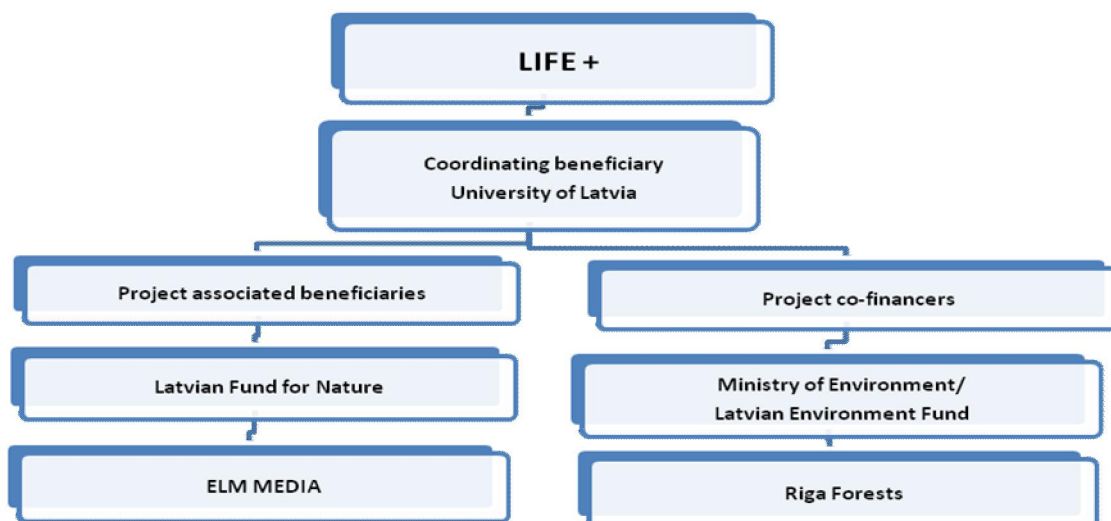


Figure 3. Project structure and coordination

ACTION E.1

Name of the action: Project administration by the University of Latvia

Time span: I 2010 – III 2013

Progress: The project management team at the University of Latvia consists of the project manager, project assistant, information coordinator and field manager.

Project manager (part-time contract) Dr. Mara Pakalne coordinates the overall project performance (Action E1), smoothly and timely execution of project actions, controls and monitors the whole project and teamwork. Project manager has organised 4 study tours, cooperation with the other LIFE+ projects in Latvia and in other EU countries (Action E3), coordinates the monitoring of management actions (action E2).

Project assistant/financial assistant (part-time contract) Aivars Slisans keeps the documentation and the accounts of the project and prepares financial reports for the project management documentation, prepares documentation for public tenders, prepares agreements

(Actions E1, A3), participate in the organisation of seminars (Action D1), Study tours (Action E3), prepares financial reports for the European Commission.

Information (public awareness) coordinator (part-time contract) Daiga Brakmane participates in the organisation of seminars (Action D1), prepares information for the home page in Latvian and English (Action D2), is responsible for sending information letters about seminars and meetings, organises correspondence with project partners, stakeholders, organises meetings of the Project Steering Group, as well as provides feedback from the partners, participates in the organisation of Study tours (Action E3).

Field manager (part-time contract) Gunars Balodis works in the field and participates in the field work concerning the elaboration of technical designs and building of dams on the drainage ditches.

Management plan coordinators (Short-term contract) were subcontracted by the project associated beneficiary - Latvian Fund for Nature. They have prepared Management Plans for the project sites, as well as participated in the field work and collected data on species and habitats that is needed for management plans, as well as have take part in the meetings of Management plan Steering Groups and in the discussions about the management plan actions in the project sites (Action A1).

Field monitors (3) were subcontracted by the University of Latvia (2 habitat experts and a hydrologist) to monitor the changes of raised bog restoration in the project sites. Liene Aunina is responsible for habitat monitoring in Melnais Lake Mire, but Agnese Priede – in the other 3 project sites – Aklais Mire, Rozu Mire and Aizkraukle Mire and Forests. Aija Delina carries out the hydrological monitoring in all the 4 project sites.

Cartographer of the Latvian Fund for Nature had prepared the maps for the Management plans of the project sites (Action A1).

The project coordinating staff is based in Riga at the Botanical Garden of the University of Latvia. For the project needs two 4x4 wheel drive cars were rented after the public tender was organised by the University of Latvia. The cars were leased (including insurance) for the actions related to the site visits during the elaboration of management plans and restoration activities. For the successful management of the project, office equipment (4 laptop computers, computer programmes, a printer, and video projector), and digital photo camera set that includes camera body and 3 lenses, was bought.

The Project Steering group was established that includes representatives from the project stakeholders - Riga Forests, Joint- Stock company “Latvian State Forests”, Ministry of the Environment and Regional Development, Municipalities from the areas where the project sites are situated, Nature Protection Board and Regional Environment Protection boards, project associated beneficiaries. Information about the Steering Group meeting is published on the home page of the Project www.purvi.lv

On August 19th, 2010 in Olaine Museum of History and Art the 1st meeting of the project Steering Group was held. In total, 21 participants attended the meeting, representing stakeholders, project associated beneficiaries, co-financers and project experts. The meeting of the project Steering Group was opened by Vija Busa from the Ministry of Environment and Regional Development, Department of Nature Protection.

At the start of the meeting the project manager Dr.Mara Pakalne informed about the results in LIFE+ project – field studies at the project sites, study tour to the LIFE project areas in Germany (Lower Saxony and Bavaria), participation in the symposium of the International Mire Conservation Group in Slovakia and Poland, as well as planned activities of the project.

Dr. geol. Aija Delina – the project hydrologist and monitoring expert told about the hydrological studies in the project sites and the planned management activities – raising of water level in the drained areas of the project sites.

Latvian Fund for Nature was represented by Valda Baronina who was the coordinator for Melnais Lake Mire and Aizkraukle Mire and Forests Nature Reserve Management Plans. She informed that field studies in all the project sites are completed and management plan coordinators are summarizing information for the MP.

Project Information Coordinator Daiga Brakmane informed about the home page of the project as well about the booklet and presented further public activities for the project: seminars, exhibition, booklets, information boards and book.

Representatives from project associate beneficiary “Foundation ELM MEDIA” Kaspars Goba and Ieva Ubele told about the progress of film production– shooting of project actions, elaboration of film scenario with innovative technical solutions, even using a digital camera with macro filming. Project assistant Aivars Slisans informed about the project financial situation – project income and expenditure was as planned in the project.

On 1st March, 2011, the 2nd Project Steering Group meeting was organised in Olaine Museum of History and Art, close to one of the project sites – Melnais Lake Mire Nature Reserve. The Steering group was informed about the currently realised and planned project activities. In total, 23 participants from various institutions, including project co-financers, associate beneficiaries and stakeholders attended the meeting.

The meeting was chaired by Vija Busa from the Ministry of the Environmental Protection and Regional Development, Nature Protection Department.

At the start of the meeting, the Project Manager Dr. Mara Pakalne informed about the main activities in the project during the reporting period - elaboration of the Management plans for the project sites, habitat and hydrological monitoring. She informed about the Study tour to Wales and Wales blanket bog LIFE project, the representatives from which visited Latvia, as well as about the project Raised Bog Photo Exhibition “Secrets of Mires”.

The coordinators of the Management Plans from Latvian Fund for Nature that represent the project associate beneficiary - G. Freimane, J. Reihmanis and V. Baronina told about the results of Management Plan elaboration, informed about the Management Plan Steering group meetings, the management actions to be carried out to restore the hydrology of the raised bogs.

Project Information coordinator Daiga Brakmane presented the main public awareness activities: home page updates, opening and transfer in Latvia of the Project Photo exhibition “Secrets of Mires” and seminars, general publicity of the project.

The next speaker was Ieva Ubele from the associate beneficiary “Foundation ELM MEDIA”. She informed about the progress of project film production. At the end of the meeting, the project assistant A. Slisans presented the overview about the project budget. Expenditure was as planned in the project application.

On September 6, 2011 the 3rd Project Steering Group meeting and opening of Raised Bog Photo exhibition "Secrets of Mires" took place in Botanical Garden of University of Latvia.

At the start of the meeting the Raised Bog Photo Exhibition was opened at the Botanical Garden of the University of Latvia. After that the project manager Dr. biol. Mara Pakalne informed about the results in LIFE+ project – field studies at the project sites, Study tour to the LIFE+ projects carried out in Eastern Latvia, Study tour to Estonia, as well as about the

further activities of the Project, like publishing of the Project information booklets, the planned project seminars.

The next speaker was the Project monitoring expert Dr.geogr. Agnese Priede; she told about the Raised bog habitat monitoring results in summer 2011. Next speaker was Dr.geogr. Laimdota Kalnina from the University of Latvia who presented the results of geological and paleovegetation studies in the project sites - in Rožu, Melnais Lake, Aklais and Aizkraukle Mire and Forests. The participants of the Steering group were greatly interested in the new results obtained from these studies.

Afterwards, was the presentation of the project information coordinator Daiga Brakmane who told about the Public awareness actions. The next speaker was Ieva Ubele who represented the project associate beneficiary “Foundation ELM MEDIA” and told about the progress of the film. The Steering Group meeting was completed by the presentation of the project assistant Aivars Slisans with an overview about the project finances.

Variations/complications/delays: Latvian Fund for Nature has decided not to hire a mire habitat expert as all the management plan coordinators have an experience in elaborations of management plans for the areas including raised bogs.

Additional information: Annex 6.13 Programs of the Project Steering group meetings, copies of presentations, minutes of seminars and lists of participants

Annex 6.16 Photos of the activities

ACTION E.2

Name of the action: Monitoring the effects of management actions on raised bog habitats, bird species and site hydrology

Time span: I 2010 – III 2013.

Progress: In 2010 habitat and hydrological monitoring was started in all the project sites - Melnais Lake Mire, Aklais Mire, Aizkraukle Mire and Forests and Rožu Mire Nature Reserves and continued in 2011.

The Project monitoring expert in hydrology and geology (Dr. geol. Aija Delina) has evaluated the drained and intact areas the project sites, project habitat monitoring experts (Dr.geogr. Agnese Priede for the 3 project sites – Rožu Mire, Aklais Mire, Aizkraukle Mire and Forests, Dr. biol. Liene Aunina for Melnais Lake Mire) have set up the monitoring plots in the areas where management actions have to be carried out (near the drainage ditches and in the peat fields of the project sites) as well as in intact areas of the raised bogs to compare both intact and degraded habitats.

In 2010, in total 21 plots in the diameter of 4 m was set up in Rožu Mire NR, 20 in Aizkraukle Mire and Forests NR, 30 in Aklais Mire NR and 52 in Melnais Lake Mire Nature Reserve.

In 2011, the 16 new monitoring plots were set up in the project sites, from them 5 plots in Aizkraukle Mire and Forests, 5 plots in Rožu Mire and 6 plots in Melnais Lake Mire to compare the degraded areas with the intact raised bog vegetation.

The size of the monitoring plots has a diameter of 4m or 1m. Habitat changes are monitored using on-site photographs taken in order to compare the state of habitats before and after management. Observation points for habitat and ground water level measurements are marked by GPS. In all the 4 project sites the habitat monitoring is aimed at assessment of the effects

of mire habitat restoration at three project sites. The monitoring plots are located in transect lines perpendicularly to drainage ditches and in sites relatively less affected by drainage, five plots at each transect line. In all cases, the transect lines are parallel to transects of hydrological monitoring. The monitoring plots in the project sites were established:

- on ditches where dam building is planned ;
- in the raised bog area most likely influenced by dam building;
- in remnants of non-flooded cutover peat fields;
- on intact areas of raised bog to compare with the drainage and peat extraction influenced sites.

All habitat monitoring plots were described according to a Standard protocol, including parameters such as micro-relief, vegetation structure, cover of vascular plant, moss and lichen species (estimated in percent) and vitality of trees, shrubs and dwarf shrubs (estimated in four degrees). Each plot was attributed by an ID code. Geographical coordinates of each plot were recorded and a digital data file created. Additionally, digital photographs of all plots were taken and named according to the ID codes.

In 2011, the plots were repeatedly visited and all parameters estimated according to the Standard protocol. Photographs of each plot were repeatedly taken. As the restoration of site hydrology has not been carried yet, in comparison to 2010, in 2011 no significant changes in the plots were observed. The bog vegetation is relatively stable. Therefore, little changes in species richness and species covers was recorded that may be annual variation not related to hydrological or other changes in the habitat. Neither the cover of species, nor the vegetation structure and vitality of dwarf shrubs, shrubs and trees were significantly changed in comparison to 2010. Overall, the heaviest impact of drainage was observed in plots close to the drainage ditches (no or little cover of sphagnum mosses, dominance of mosses of dry coniferous forests, overgrowing with pines, and well-pronounced dominance of dwarf shrubs). The cover of *Sphagnum* moss increases with increasing distance from drainage ditches, while the cover of dwarf shrubs decreases.

Number of monitoring plots in the project sites

Project sites	Number of monitoring plots
Melnais Lake Mire	58
Rožu Mire	26
Aizkraukle Mire and Forests	25
Aklais Mire	35
In total:	144

Habitat monitoring indicators are as follows - groundwater level in the project sites, plant species in the monitoring plots and bird species in the project sites. Sources of verification include - raise of groundwater table after building of dams on the drainage ditches, re-establishment of *Sphagnum* species in the drainage ditches, re-appearance of typical active raised bog species in the degraded project areas, occurrence of raised bog bird species in the open active raised bog areas.

The Monitoring Methodology for Mire Habitats was applied in the project sites.

The hydrological monitoring is carried out in the ground water monitoring wells that are located as transects in the project sites and were set up in November, 2010. In all the 4 project sites, the hydrological monitoring transects cross the degraded areas of raised bogs and pass also intact parts of the bogs. The groundwater level is measured in the monitoring wells twice

per month. The results of both habitat and groundwater monitoring are summarised in the Monitoring Protocols for the year 2010 and 2011 and are published on the Project home page www.purvi.lv

Groundwater monitoring in the project sites

Project sites	Number of groundwater monitoring wells
Melnais Lake Mire	13
Rožu Mire	8
Aizkraukle Mire and Forests	26
Aklais Mire	16
In total:	63

Variations/complications/delays: No

Additional information:

Annex 6.14. Reports for Habitat monitoring in Aklais, Aizkraukle and Rožu Mire for 2010 and 2011, Reports for Habitat monitoring in Melnais Lake Mire Nature Reserve in 2010 and 2011, Reports for site hydrology monitoring for 2010 and 2011.

Annex 6.16. Photos of the activities

ACTION E.3

Name of the action: Cooperation with LIFE+ projects, participation in Study tours, seminars and conferences

Time span: II- IV-2010, II- IV-2011, II – IV 2012.

Progress: In March 2-3, 2010 the project manager Dr.Mara Pakalne and assistant Aivars Slisans participated in the kick-off meeting for LIFE08 projects in Tallinn. The meeting has given valuable information about technical and financial aspects of LIFE + projects.

From June 6-18, 2010 the project team including the project manager M.Pakalne, project assistant A. Slisans, information coordinator D.Brakmane and field manager G. Balodis went on the first study tour was to Germany to see the results of the project LIFE05NAT/D/000053 "Rosenheimer master basin bogs". Ralf Strohwasser, the manager of the project, introduced the project team with the raised bog area where the water level was successfully raised by building dams 70-100 long. Raised bog habitat restoration has started there – bog hummocks and hollows are developing. To show the bog values near the Bad Feilnbach in Sterntaler Filze a board walk was built there.

The project team went also to Lower Saxony, in Wiefelstede, Stapeler Moor where under the guidance of Heinrich Belting and local experts the project team was taken to the peatlands where the bog restoration was started nearly a decade ago. This milled area is surrounded by natural raised bog vegetation which is included in a protected nature area. Suzanne Belting in Großen Torfmoores near Lübbecke, the manager of LIFE project "Regeneration des Großen Torfmoores" guided to the restored areas of the raised bog.

From September 1st - 7th, 2010 the LIFE+ project team including the project manager M.Pakalne, project assistant A. Slisans, information coordinator D.Brakmane and field manager G. Balodis were on study tour in Wales to get to know the experience of EC LIFE

07NAT/UK/000948 project “Anglesey and Llyn Fens - Restoring Alkaline and Calcareous Fens within the Corsydd Mon a Llyn (Anglesey & Llyn Fens) Special Areas of Conservation in Wales” and LIFE 06NAT/UK/000134 “Restoring Active Blanket Bog in the Berwyn and Migneint Special Areas of Conservation in Wales” Mr. Les Colley who works for Countryside Council for Wales guided to the sites of the EC LIFE project “Anglesey and Llyn Fens - Restoring Alkaline and Calcareous Fens within the Corsydd Mon a Llyn (Anglesey & Llyn Fens) Special Areas of Conservation in Wales” and introduced with the restoration work carried out in Anglessey and Llyn fens.

The EC LIFE project manager Mike Morris and his team working for the LIFE project “Restoring Active Blanket Bog in the Berwyn and Migneint Special Areas of Conservation in Wales” showed the project sites around Lake Vyrnwy and blanket bogs where bog restoration has been carried out since 2007. The area near Penan was also visited where the excavator was building dams on the drainage ditches.

From September 7th - 9th, 2010 the Project manager Mara Pakalne and assistant Aivars Slisans participated in Aberystwyth and Corsa Fochno seminar which was dedicated to the Welsh raised bog protection and management. Workshop was organized by the specialists from Countryside Council for Wales. It included both presentation and field visits to the raised bog where with the discussions on wetland management and hydrological observation methodology were continued. During the Study tours the project manager and other project staff members told about the first project results and the planned activities as well as distributed the first project booklet.

From July 5-18, 2010 the project manager Mara Pakalne participated in the Field symposium and a conference of the International Mire Conservation Group in Poland and Slovakia. Presentation about the LIFE project was given by Mara Pakalne under the title “EC LIFE+ project “Restoration of Raised Bog Habitats in the Especially Protected Nature Areas of Latvia”. The project booklet was distributed at the conference.

From September 21st - 22nd, 2010 the Welsh colleagues from the EC LIFE project “Restoring Active Blanket Bog in the Berwyn Migneint and Special Areas of Conservation (SACs) in Wales“ visited EC LIFE project sites in Latvia where raised bog restoration was carried out – the area of LIFE project “Conservation of wetlands in Kemeru National Park” (guided by Janis Kuze, project manager). During the project the restoration of mire habitats and hydrology was carried out both in the peat fields and in the areas influenced the drainage ditches, Cena Mire – the site of EC the LIFE project “Implementation of Mire Habitat Management Plan for Latvia”. The EC LIFE+ project manager Dr. Mara Pakalne introduced with the experience of bog restoration and monitoring in Cena Mire Nature Reserve, Engure Lake Nature Park where EC LIFE project “Implementation of management plan for Lake Engure Nature Park” was carried out. The visit of the representatives from the Welsh LIFE project was a great possibility to discuss the raised bog restoration results in Latvia and compare them with those in the Welsh LIFE sites.

On January 31 and February 3, 2011 the project staff and experts have given presentations about the project results at the 69th Scientific Conference of the University of Latvia:

1. M. Pakalne, A. Slisans. Raised bog habitat studies within the LIFE+ project “Raised Bogs”.
2. U. Susko. Rare and protected lichen, bryophyte species in Aklais Mire Nature Reserve.
3. E. Kuske, L. Kalnina, N. Stivrins, A. Dinkite, M. Reka, R. Bigacs. Paleovegetation studies in Rožu Mire.

In March 23, 2011 the project manager Dr. Mara Pakalne participated in the LIFE + Information Session that was held in Latvia at the Ministry of Environmental and Regional Development Mara Pakalne and had a presentation about the experience of submitting the LIFE project proposal (LIFE+ projects aims and expected results, management structure, lessons learned from filling of application forms).

In May 10, 2011 the LIFE+ project team including project manager M.Pakalne, project assistant A. Slisans and field manager G. Balodis visited LIFE+ projects in Eastern Latvia: “Conservation of rare reptiles and amphibians in Latvia” (LIFE09 NAT/LV/000239) and “Restoration of Corncrake habitats in Dviete Floodplain Natura 2000 site” (LIFE09 NAT/LV/000237). First of all the project team visited Daugavpils University where the Project Raised Bog Photo Exhibition “Secrets of Mires” was exhibited. There was a possibility to meet the Rector of Daugavpils University Arvids Barsevskis and also representatives from the new LIFE+ project “Eremita Meadows” (LIFE09 NAT/LV/000240).

Next meeting was with the manager of the EC LIFE+ project “Conservation of rare reptiles and amphibians in Latvia” Mihails Pupins who shared his experience about the results of the activities carried out in the project at Daugavpils ZOO and also in the field where the reptiles and amphibians are grown. In Eastern Latvia another LIFE+ project is carried out “Restoration of Corncrake habitats in Dviete River floodplain Natura 2000” (LIFE09 NAT/LV/000237). The local guides told the project team that the objectives of the project: to improve the conservation status of Corncrake *Crex crex* in Latvia, to restore breeding habitats for Corncrake in a degraded and abandoned section of Dviete River floodplain, to demonstrate and promote use of complex restoration methods of Corncrake habitats in degraded floodplain grasslands and to increase the participation and awareness of land-owners and local municipality on management of Dviete River floodplain Natura 2000 site for the species of EU importance, in particular, the Corncrake.

In August 25-29, 2011 the LIFE+ project team including project manager M.Pakalne, project assistant A. Slisans, information coordinator D.Brakmane and field manager G. Balodis visited Estonia to raise knowledge about raised bog restoration in neighbouring bogs. In Estonia, the project team met Marika Kose, earlier LIFE manager and the representatives from Estonian Ministry of Environment. The project team visited Tolkuse Mire that includes both natural and degraded raised bog vegetation. Raised bog restoration and monitoring actions were carried out there. Estonians have tried also to plant *Sphagnum* species and cranberries in depredated area of the bog. Beavers are also helping to restore raised bog habitats by building of dams.

The project team also visited Nigula Nature Reserve together with Agu Levits from Nature Protection Agency of Estonia. There were a lot of discussions about dam building methods and types. In Nigula dams were built by hand not by the excavator. Agu Levits mentioned that Latvian experience was used in this site. After discussions everyone agreed that beaver dams sometimes can be even better than those made by humans. After field trip raised bog conservation in both the countries was discussed.

Further Vidumae Nature Reserve was visited in Estonia where was a meeting with Tenu Talvi – there was a discussion about nature conservation problems both in Latvia and Estonia. In the site we visited especially protected habitats of EU importance with *Schoenus ferrugineus*, *Cladium mariscus* and *Juncus subnodulosus*.

On September 15, 2011 the project manager Dr. Mara Pakalne participated in the International “Peat Producers Forum 2011” and gave a presentation under the title “Raised Bog Management experience in Latvia”.

Variations/complications/delays: No

Additional information: Annex 6.15 Summaries of cooperation visits.

Annex 6.16 Photos of the project activities

Annex 6.17 Publicity of the project

ACTION E.4

Name of the action: Independent audit of the project

Time span: II-III 2013

Progress: Independent audit for financial statements of the project will be performed during preparation of the Final report. The auditor will not only verify the accounts with the respect of national legislation and accounting rules but will also certify that all costs incurred do respect the LIFE+ Common Provisions.

Variations/complications/delays: No

Additional information: No

ACTION E.5

Name of the action: Elaboration of After-LIFE Conservation Plan

Time span: II-III 2013

Progress: Action not to be started yet

Variations/complications/delays: No

Additional information: No

4.2 Envisaged progress until next report

Tasks/ Activities		2010				2011				2012				2013					
		1T	2T	3T	4T	1T	2T	3T	4T	1T	2T	3T	4T	1T	2T	3T	4T		
Overall project schedule	Proposed	01.02.10.							O	X					O	31.08.13			
	Actual	●				●													
Action A1	Proposed	■	■	■	■	■	■												
	Actual																		
Action A2	Proposed	■	■	■	■	■													
	Actual																		
Action A3	Proposed	■	■	■		■	■							■					
	Actual																		
Action C1	Proposed				■	■	■	■	■	■	■	■	■	■	■	■	■		
	Actual																		
Action D1	Proposed	■	■		■	■			■	■		■	■		■	■			
	Actual																		
Action D2	Proposed	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■		
	Actual																		
Action D3	Proposed	■	■			■	■	■	■	■									
	Actual																		
Action D4	Proposed		■	■		■	■	■	■	■	■	■	■	■	■	■	■		
	Actual																		
Action D5	Proposed	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■		
	Actual																		
Action D6	Proposed		■	■	■	■	■	■	■	■	■	■	■	■	■	■	■		
	Actual																		
Action D7	Proposed											■	■	■	■	■	■		
	Actual																		
Action E1	Proposed	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■		
	Actual																		
Action E2	Proposed	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■		
	Actual																		
Action E3	Proposed		■	■	■	■	■	■			■	■	■						
	Actual																		
Action E4	Proposed														■	■			
	Actual																		
Action E5	Proposed													■	■	■			
	Actual																		

Action A3 (Organisation of public tender, preparation of agreements and contracts. In February, 2012 the public tender for building of dams on the drainage ditches will be organised by the Coordinating beneficiary – University of Latvia.

Action C1 (Re-establishing of active raised bog habitats and natural raised bog hydrology). Depending on the weather conditions, building of dams on the drainage ditches in all the project sites – Melnais Lake Mire, Rožu Mire, Aklais Mire and Aizkraukle Mire and Forests will be completed until June, 2012.

Action D1 (Organisation of seminars) The International workshop will be organised in July/August 2012

Action D2 (Creation and updating of the project home page). Project home page will be regularly updated with the recent information about the project actions; photos of the activities will be added.

Action D5 (Production of a documentary film). Work on the project film will be continued, the results will be presented on the next Project Steering group meeting.

Action E1 (Project administration by the University of Latvia). Project manager and the team will continue to realise the planned project actions. The next Project Steering Group meeting will be held on March 1, 2012 in the EU House, Aspazijas Boulevard 28, Riga where also the project Raised Bog Photo exhibition will be opened.

Action E2 (Monitoring the effects of management actions on raised bog habitats, bird and site hydrology. In the vegetation period of 2012, the habitat monitoring will be continued. After rising of the water level in the project sites, by building of dams on the drainage ditches, special attention will be paid to the first results after this management action and revealed in the monitoring protocols. The field monitoring data for the vegetation season will be summarised in the Monitoring Protocols until November, 2012.

Groundwater monitoring will be continued every month and the results will be summarised in the Monitoring Reports for site hydrology in November 2012.

Action E3 (Cooperation with LIFE+ projects, participation in study tours, seminars and conferences). It is planned to participate and give a presentation in the 21st workshop of the European Vegetation Survey in Vienna (Austria) from May 24-27, 2012 (and in the 5th meeting of the biology of *Sphagnum* in Latvia and Estonia from August 10-19, 2012.

4.4 Impact

The studies carried out during the management plans have given new knowledge about the rare and protected plant species and habitats of the 4 project sites, thus giving a positive effect for the further conservation and management of the species of EU importance, especially, bird species. The results of the studies carried out during the elaboration of the management plans are given the 4 project booklets and also are shown on the information boards for the project sites. Many people are now able to get to know about the nature values of the project sites.

The published papers about the project areas, nature values found in the project sites, information on Latvian regional and national TV and Latvian Radio has given a positive effect about the plant and species found there. There has been a response from various regions of Latvia and interest about the project and its actions.

The Project Photo Exhibition “Mire secrets” has been exhibited in 15 places where the interested could get to know about all the 4 project sites – Rožu Mire, Aklais Mire, Melnais Lake Mire and Aizkraukle Mire, species and habitats found there. There has been a response from many people that without the Photo exhibition they would not have known that there can be found so many interesting plant and animal species in the raised bogs. In Jekabpils Library, where the Photo exhibition was set up, the local schools have organised also seminars, the teachers have used the exhibition for education purposes and the children have liked it very much. In the future, these schoolchildren will know about the species of the raised bogs, and why it is necessary to conserve and restore the raised bog habitats.

4.5 Outside LIFE

On January 13th, 2011 additional seminar was held during the opening of the Project Raised Bog Photo exhibition "Secrets of Mires" in Ogre Culture Centre. It was organised to raise public awareness about values of raised bog conservation, inform wider public about the project. In the first part of seminar all participants were informed about the exhibition and invited to look at it. On the second part Project Manager Dr. biol. Mara Pakalne told about nature values in bog and how bogs are formed as well as informed about actions. After presentation all participants of the seminar watched film "Story about Bog" made by "Foundation ELM MEDIA".

On March 9th, 2011 the Project team visited Sala Secondary School to tell about Raised bog values and to set up the project Photo exhibition "Secrets of Mires". In the beginning of the seminar, the Director of Sala Secondary School Janina Riska introduced the Project team with children. After that all participants of the seminar watched film "Story about Bog" made by "Foundation ELM MEDIA". In the seminar the Project manager Dr. biol. Mara Pakalne told about nature values of the raised bogs, mire origin and development. The project site - Rožu Mire is located near Sala Village and schoolchildren could get to know more about the site. Seminar was attended by children of different age. They were active and answered the questions. To check how children, a contest about bogs was organised. In the end of the seminar an exhibition "Secrets of Mires" was opened.

In this seminar the schoolchildren were educated about the raised bog habitats (7110*), species of EU importance. The seminar for schoolchildren was planned so that the young generation can understand the value of the raised bogs and the need of the conservation and restoration.

On July 6th, 2011 the Project Photo exhibition "Secrets of Mires" was opened in Ventspils Public Library. After opening ceremony it was possible to watch film "Story about Bog" made by "Foundation ELM MEDIA". The aim of the seminar was to open exhibition and to educate about raised bog values.

On September 22nd, 2011 in Daudzese Village seminar for teachers took place. Seminar was organised as the local school and the Jaunjelgava Municipality expressed the wish to the project team to educate the local teachers about the raised bog values, habitats, plant and animal species.

Teachers from local schools and Riga attended the seminar to get to know more about raised bogs, their conservation and management. The first part of the seminar included theoretical information about Aklais Mire. Project Manager Dr. biol. Mara Pakalne informed about nature values in Latvian bogs. Nature experts Uvis Susko and Valda Baronina from Latvian Fund for Nature explained nature values in two nature Reserves and Natura 2000 sites Aklais Mire and Aizkraukle Mire and Forests. Dr. biol. Iluta Dauskane from University of Latvia told about dendrochronological studies in raised bogs and Dr. geol. Aija Delina about hydro-geological studies in mires. The second part of the seminar included excursion to Aklais Mire Nature Reserve. It was possible to take a walk in the raised bog and see typical raised bog plants, take samples from trees with Presler auger and peat.

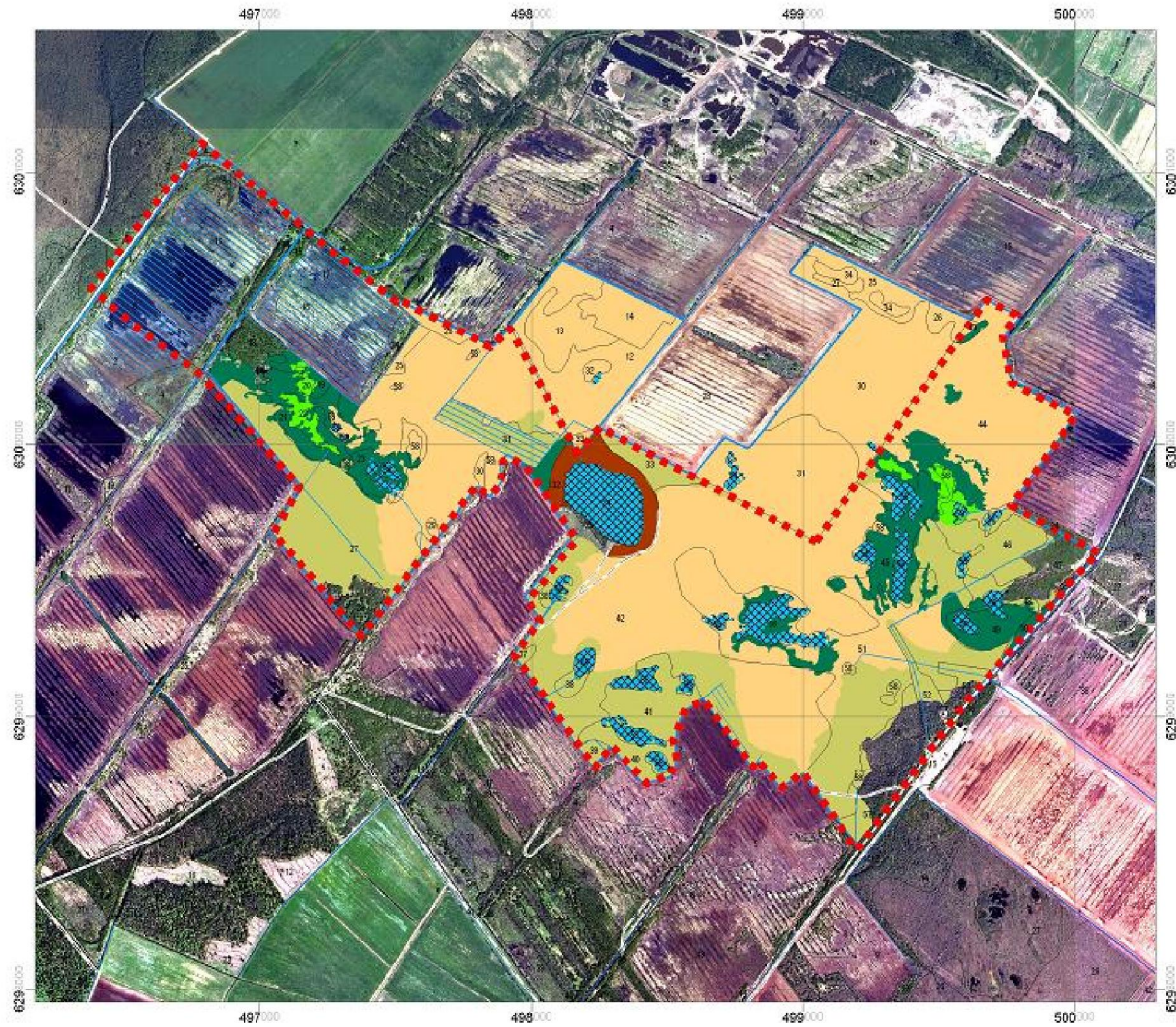
The knowledge from the seminar can be used in teaching the children about raised bog species and habitats. Methodological materials were prepared for the teachers and distributed during the seminar.

5. Annexes

5.1 Maps of the project sites (A1)

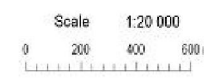
Map of the location of the project sites



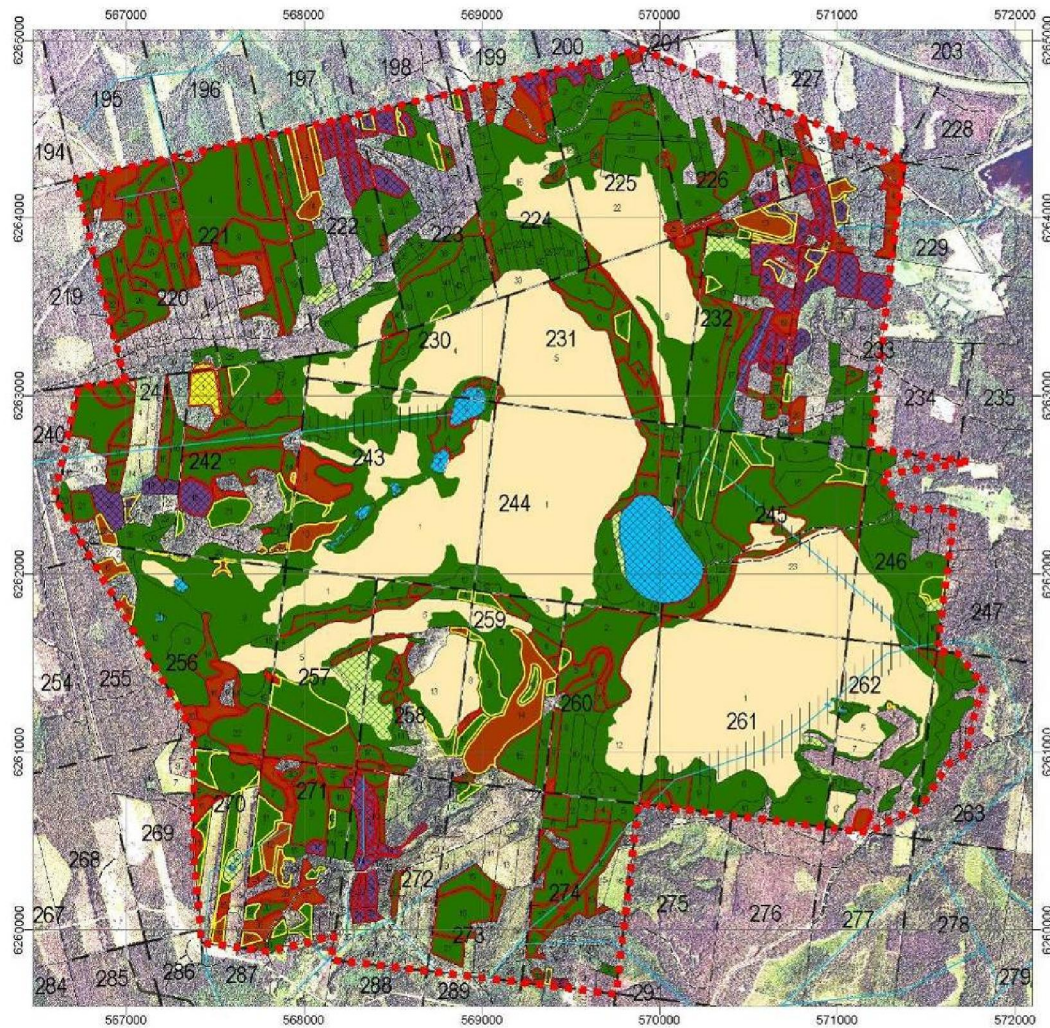


Habitats of EU importance and especially protected habitats in Melnais Lake Mire

-  Potential Key forest habitats
-  Especially protected habitats of Latvia
-  3160 Dystrophic lakes
-  7110*Active raised bogs
-  7120 Degraded raised bogs still capable of natural regeneration
-  7140 Transition mires and quacking bogs
-  9010* Western taiga
-  91D0* Bog woodland
-  34 Forest compartment numbers
-  323 Forest block numbers
-  Border of the especially protected nature area
-  Ditches
-  Roads

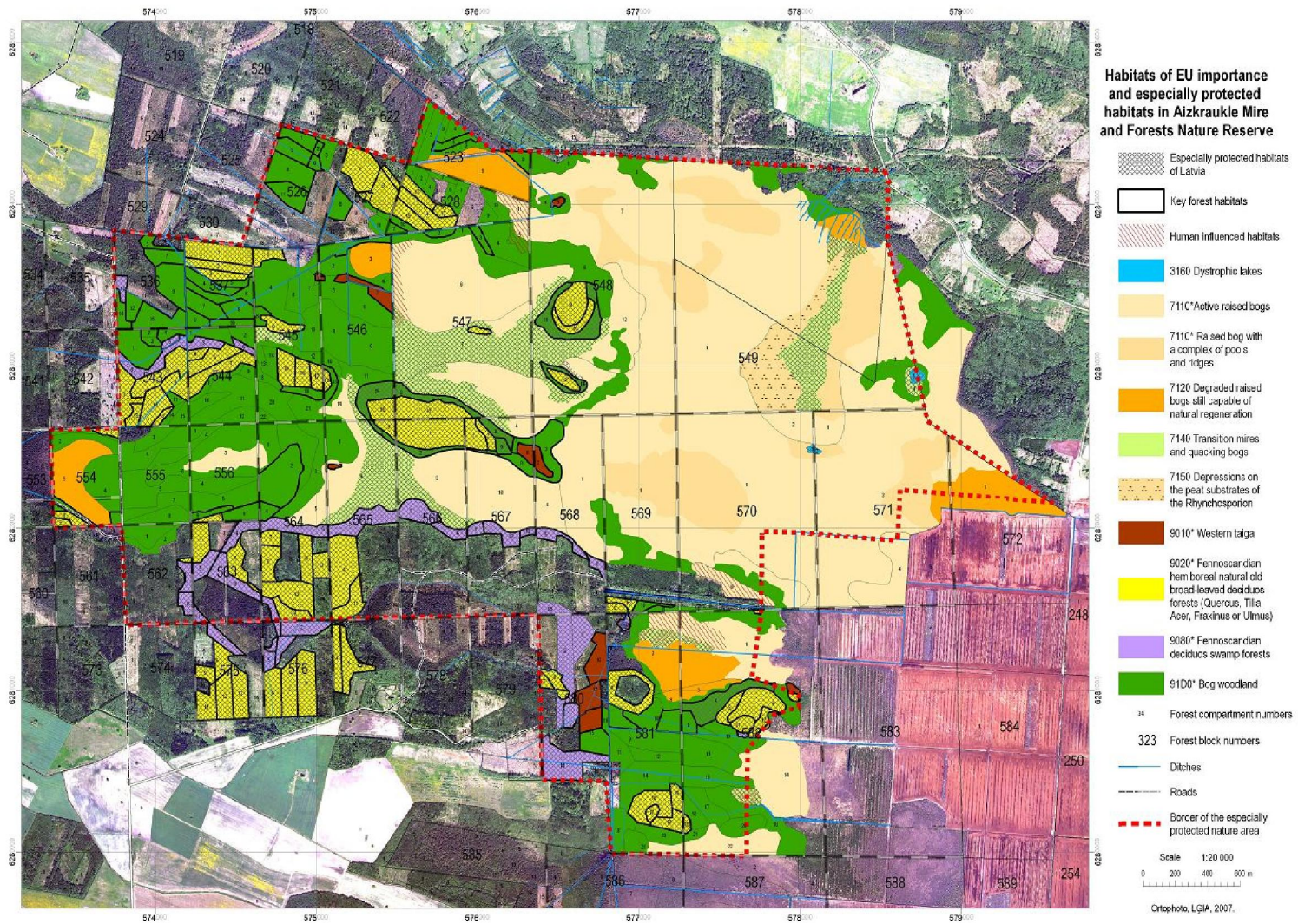


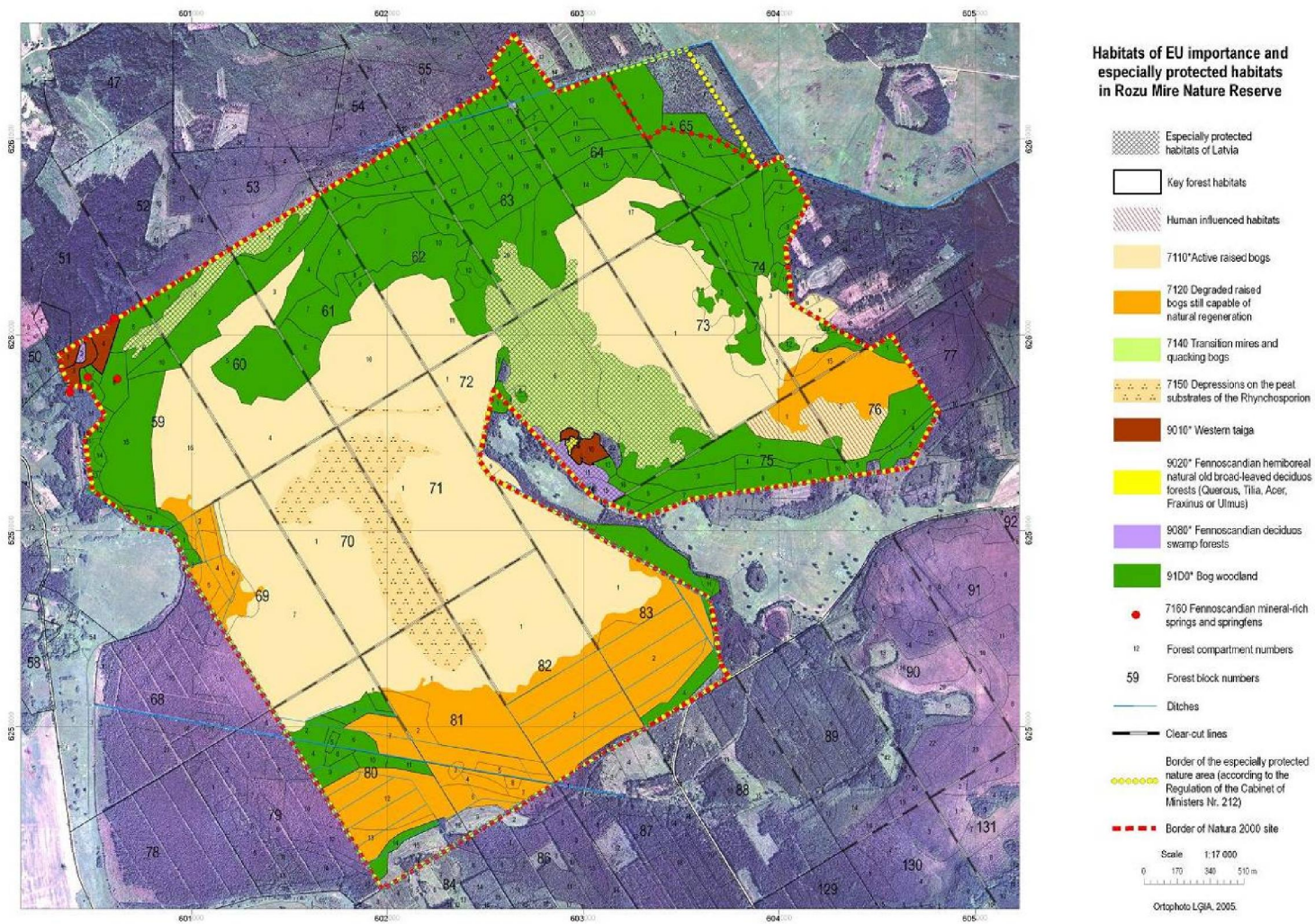
Ortophoto LGIA, 2007.



Habitats of EU importance and especially protected habitats in Aklais Mire Nature Reserve

- 323 Forest compartment numbers
 - 323 Forest block numbers
 - Ditches
 - Roads
 - Border of the especially protected nature area
-
- Key forest habitats
 - Perspective key forest habitats
 - Especially protected habitats of Latvia
-
- 3160 Dystrophic lakes
 - 7110* Active raised bogs
 - 7140 Transition mires and quacking bogs
 - 9010* Western taiga
 - 9020* Fennoscandian hemiboreal natural old broad-leaved deciduous forests
 - 9080* Fennoscandian deciduous swamp forests
 - 91D0* Bog woodland
-
- Drainage influenced raised bog habitats
-
- Scale 1:29,000
 0 300 600 900 m
 Ortophoto, 2007, LGIA





5.2 Especially protected species of Latvia and of EU importance in the Project sites (A1)

Especially protected species of Latvia and of EU importance in Melnais Lake Nature Reserve

Species group	Especially protected species in Latvia		Annexes of Habitats Directive			Bird's Directive
	Regulations Nr. 396 of Cabinet of Ministers	Regulations Nr. 45 of Cabinet of Ministers	II	IV	V	I
Vascular plants	1				2	
Birds	15	5				17
Invertebrates	2		2			
Amphibians	1			2		
Mammals	3		2	2	1	
Total	21	5	4	4	3	17

Especially protected habitats of Latvia and of EU importance in Melnais Lake Nature Reserve

Nr.	Habitat name	Habitats of Habitats Directive Annex 1	Area (ha)
1.	Dystrophic lakes	3160	18,4
2.	Intact raised bogs	7110*	125,1
3.	Degraded raised bogs still capable of natural regeneration	7120	82,7
4.	Transition mires and quacking bogs	7140	3,7
5.	Boreal Forest	9010*	5,1
6.	Bog woodland	91D0*	31,3
	Total		266,3

Rare and especially protected lichen, bryophyte and vascular plant species in Aizkraukle Mire Nature Reserve

Species name	Especially protected plant species of Latvia	Species for which micro-reserves can be established	Species – specialists of key forest habitats (1) and indicator species	Species of Habitats Directive II, IV and V –
<i>Fomitopsis rosea</i>	A	x	1	-
<i>Rhodotus palmatus</i>	A	x	-	-
<i>Lobaria pulmonaria</i>	A	-	1	-
<i>Pertusaria pertusa</i>	A	-	2	-
<i>Thelotrema lepadinum</i>	A	x	1	-
<i>Anastrophyllum hellerianum</i>	A	x	1	-
<i>Barbilophozia attenuata</i>	A	-	1	-
<i>Bazzania trilobata</i>	A	x	1	-
<i>Dicranum viride</i>	A	-	1	II, V
<i>Geocalyx graveolens</i>	A	x	1	-
<i>Jamesoniella autumnalis</i>	-	-	2	-
<i>Jungermannia leiantha</i>	A	x	1	-
<i>Lejeunea cavifolia</i>	A	x	1	-
<i>Leucobryum glaucum</i>	-	-	2	V
<i>Metzgeria furcata</i>	-	-	1	-
<i>Neckera complanata</i>	-	-	2	-
<i>Neckera pennata</i>	-	-	2	-
<i>Odontoschisma denudatum</i>	A	x	1	-
<i>Plagiothecium latebricola</i>	A	x	1	-
<i>Scapania apiculata</i>	-	-	1	-
<i>Scapania irrigua</i>	-	-	1	-
<i>Schistostega pennata</i>	A	-	2	-
<i>Allium ursinum</i>	A	x	1	-
<i>Androsace filiformis</i>	-	-	-	-
<i>Botrychium virginianum</i>	A	x	-	-
<i>Carex disperma</i>	A	x	1	-
<i>Carex paupercula</i>	A	x	-	-
<i>Corallorhiza trifida</i>	A	x	2	-
<i>Dactylorhiza baltica</i>	A	-	-	-
<i>Dactylorhiza fuchsii</i>	A	-	-	-
<i>Dactylorhiza incarnata</i>	A	-	-	-
<i>Dactylorhiza maculata</i>	A	-	-	-
<i>Dactylorhiza russowii</i>	A	x	-	-
<i>Dentaria bulbifera</i>	A	x	1	-
<i>Epipogium aphyllum</i>	A	x	1	-
<i>Euonymus verrucosa</i>	A	-	-	-
<i>Festuca altissima</i>	A	x	1	-
<i>Gladiolus imbricatus</i>	A	x	-	-
<i>Glyceria lithuanica</i>	A	x	1	-
<i>Hammarbya paludosa</i>	A	-	-	-
<i>Huperzia selago</i>	B	-	-	HD V
<i>Lycopodium annotinum</i>	B	-	-	HD V
<i>Malaxis monophyllos</i>	A	-	-	-
<i>Platanthera bifolia</i>	A	-	-	-
<i>Platanthera chlorantha</i>	A	-	-	-
<i>Poa remota</i>	A	x	1	-
<i>Salix myrtilloides</i>	A	-	-	-

Number of especially protected species of Latvia and EU importance in Aizkraukle Mire and Forests Nature Reserve

Species group	Especially protected species of Latvia		Annexes of Habitats Directive			Annexes of Birds Directive
	Regulations of the Cabinet of Ministers Nr. 396	Regulations of the Cabinet of Ministers Nr 45	II	IV	V	I
Vascular plants	23	12			2	
Bryophytes	10	7	1		1	
Lichens	1	1				
Fungi	2	2				
Bird species	17	8				21
Invertebrates	14	2	2	2	1	
Amphibians				2		
Mammals	8		3	4	1	
Total	75	32	6	8	6	21

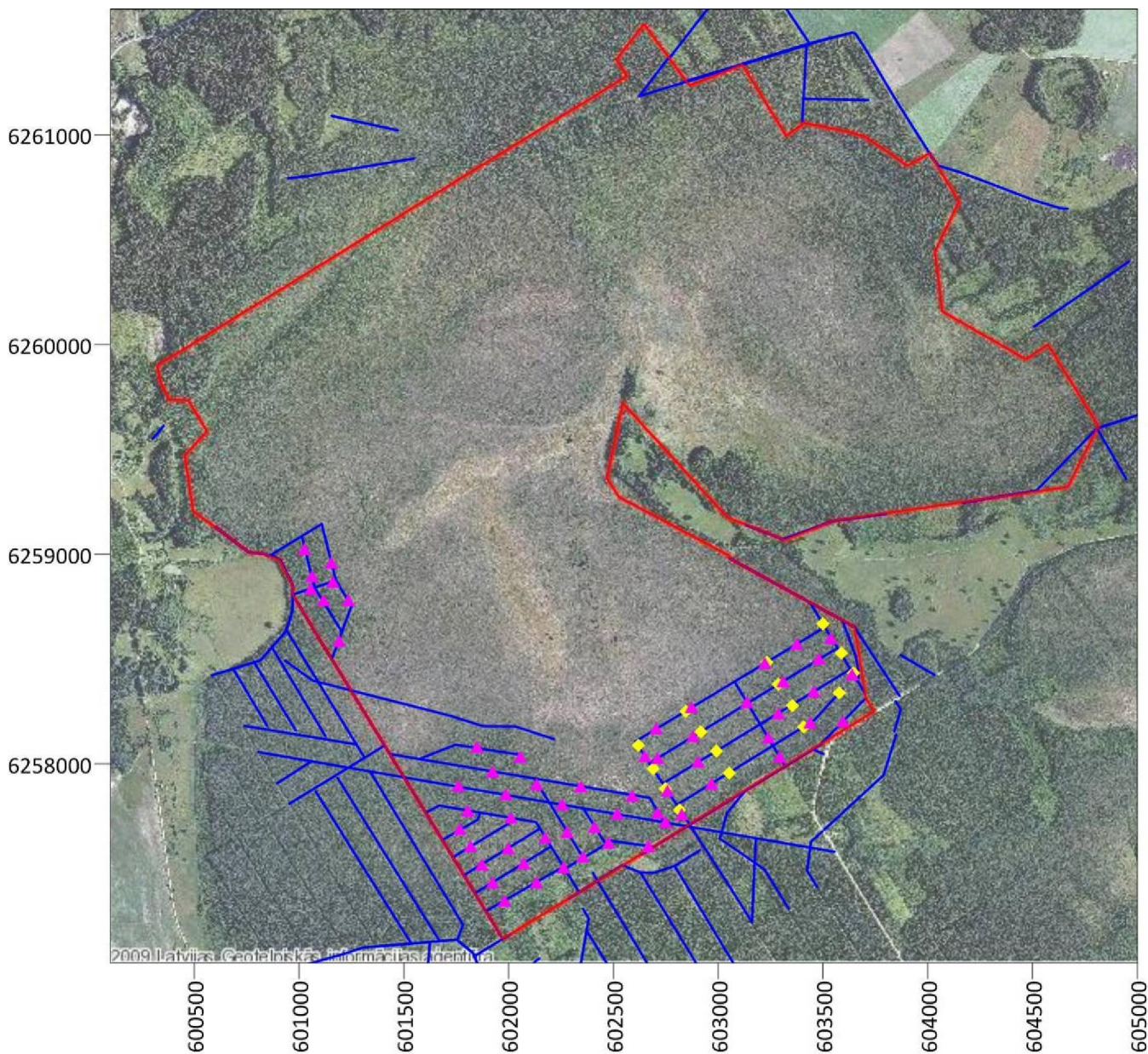
Especially protected mammal species of Latvia and EU importance in Aklais Mire Nature Reserve




No	Species name	Annexes of Habitats Directive	Especially protected species of Latvia
1	<i>Neomys fodiens</i>		
2	<i>Eptesicus nilssonii</i>		+
3	<i>Castor fiber</i>	HD II;IV	
4	<i>Lepus timidus</i>		+
5	<i>Lynx lynx</i>	HD IV	+
6	<i>Canis lupus</i>	HD II,IV;V	+
7	<i>Lutra lutra</i>	HD II;IV	+
8	<i>Martes martes</i>	HD V	+
9	<i>Mustela putorius</i>		+
10	<i>Mustela erminea</i>		
11	<i>Pipistrellus nathusii</i>		+
12	<i>Pipistrellus pipistrellus</i>		+
13	<i>Plecotus auritus</i>		+
14	<i>Mustela putorius</i>		

Rare and especially protected lichen, bryophyte and vascular plant species in Aizkraukle Mire Nature Reserve

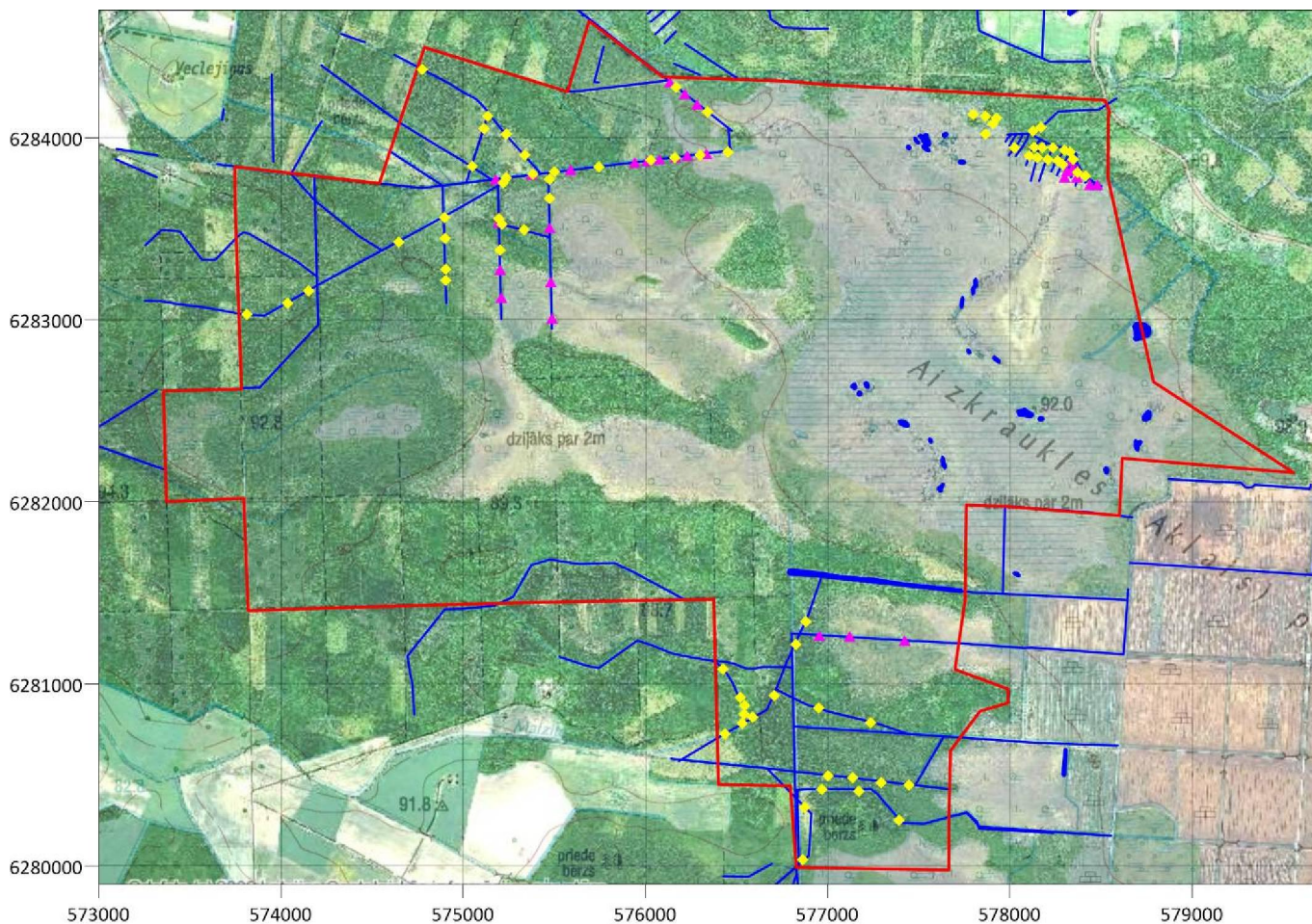
Species name	Especially protected plant species of Latvia	Species for which micro-reserves can be established	Species – specialists of key forest habitats (1) and indicator species of key forest habitats	Species of Habitats Directive II, IV and V – Annexes of the Directive
<i>Fomitopsis rosea</i>	A	x	1	-
<i>Rhodotus palmatus</i>	A	x	-	-
<i>Lobaria pulmonaria</i>	A	-	1	-
<i>Pertusaria pertusa</i>	A	-	2	-
<i>Thelotrema lepadinum</i>	A	x	1	-
<i>Anastrophyllum hellerianum</i>	A	x	1	-
<i>Barbilophozia attenuata</i>	A	-	1	-
<i>Bazzania trilobata</i>	A	x	1	-
<i>Dicranum viride</i>	A	-	1	II, V
<i>Geocalyx graveolens</i>	A	x	1	-
<i>Jamesoniella autumnalis</i>	-	-	2	-
<i>Jungermannia leiantha</i>	A	x	1	-
<i>Lejeunea cavifolia</i>	A	x	1	-
<i>Leucobryum glaucum</i>	-	-	2	V
<i>Metzgeria furcata</i>	-	-	1	-
<i>Neckera complanata</i>	-	-	2	-
<i>Neckera pennata</i>	-	-	2	-
<i>Odontoschisma denudatum</i>	A	x	1	-
<i>Plagiothecium latebricola</i>	A	x	1	-
<i>Scapania apiculata</i>	-	-	1	-
<i>Scapania irrigua</i>	-	-	1	-
<i>Schistostega pennata</i>	A	-	2	-
<i>Allium ursinum</i>	A	x	1	-
<i>Androsace filiformis</i>	-	-	-	-
<i>Botrychium virginianum</i>	A	x	-	-
<i>Carex disperma</i>	A	x	1	-
<i>Carex paupercula</i>	A	x	-	-
<i>Corallorhiza trifida</i>	A	x	2	-
<i>Dactylorhiza baltica</i>	A	-	-	-
<i>Dactylorhiza fuchsii</i>	A	-	-	-
<i>Dactylorhiza incarnata</i>	A	-	-	-
<i>Dactylorhiza maculata</i>	A	-	-	-
<i>Dactylorhiza russowii</i>	A	x	-	-
<i>Dentaria bulbifera</i>	A	x	1	-
<i>Epipogium aphyllum</i>	A	x	1	-
<i>Euonymus verrucosa</i>	A	-	-	-
<i>Festuca altissima</i>	A	x	1	-
<i>Gladiolus imbricatus</i>	A	x	-	-
<i>Glyceria lithuanica</i>	A	x	1	-
<i>Hammarbya paludosa</i>	A	-	-	-
<i>Huperzia selago</i>	B	-	-	HD V
<i>Lycopodium annotinum</i>	B	-	-	HD V
<i>Malaxis monophyllos</i>	A	-	-	-
<i>Platanthera bifolia</i>	A	-	-	-
<i>Platanthera chlorantha</i>	A	-	-	-
<i>Poa remota</i>	A	x	1	-
<i>Salix myrtilloides</i>	A	-	-	-

5.3 Management actions in the project sites (A1) Dam building area in Rožu Mire Nature Reserve



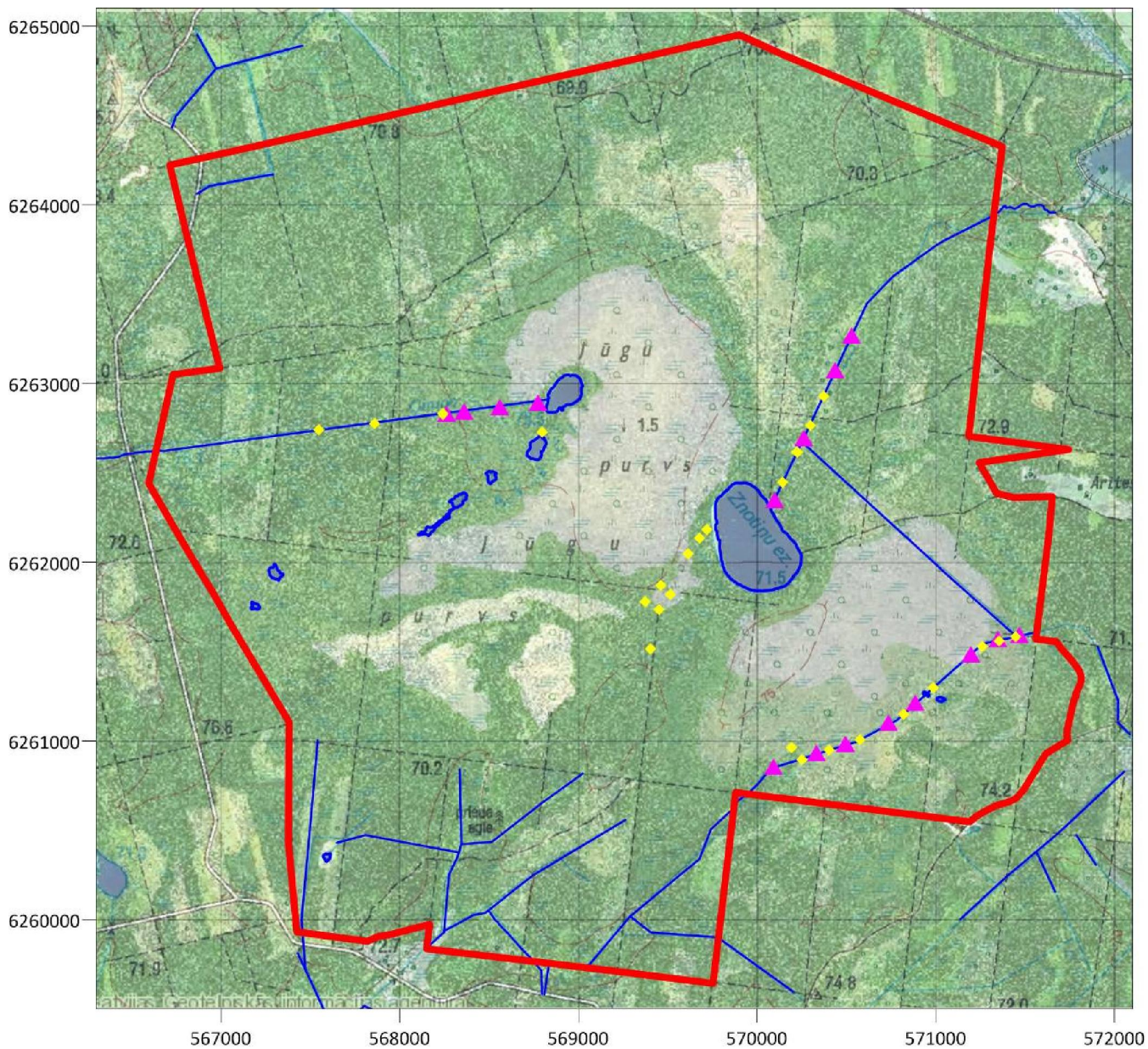
-  grāvji / ditches
-  sākotnēji plānotās dambju vietas / initially planned dam locations
-  faktiski projektētās dambju vietas / designed and approved dam locations




Dam building area in Aizkraukle Mire and Forests Nature Reserve



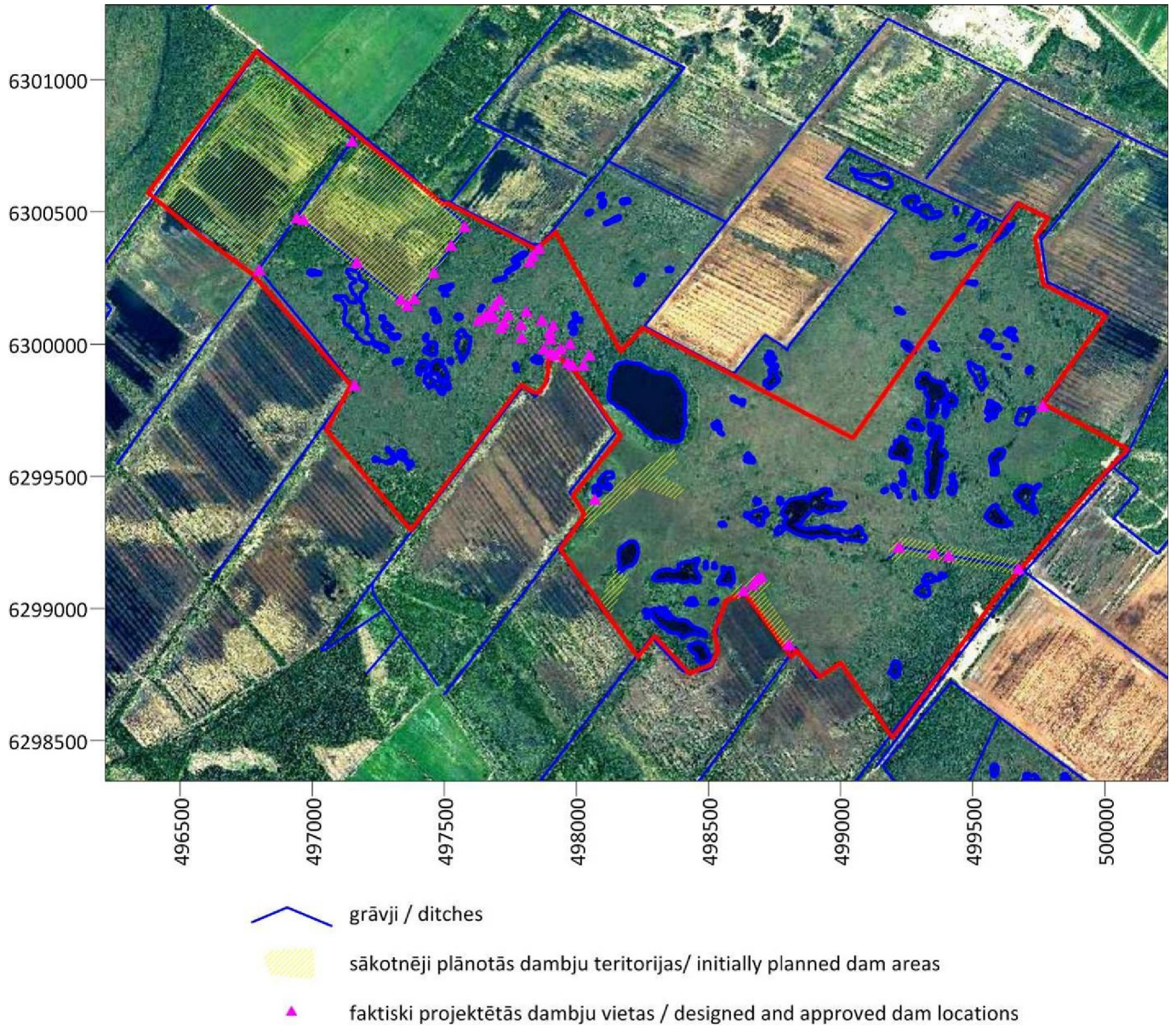
- grāvji / ditches
- sākotnēji plānotās dambju vietas / initially planned dam locations
- faktiski projektētās dambju vietas / designed and approved dam locations

Dam building area in Aklais Mire Nature Reserve



-  grāvji / ditches
-  sākotnēji plānotās dambju vietas / initially planned dam locations
-  faktiski projektētās dambju vietas / designed and approved dam locations

Dam building area in Melnais Lake Mire Nature Reserve



5.4 Programms of the Management Plan Steering Group meetings (A1)



LIFE 08NAT/LV/000449 “Restoration of Raised Bog Habitats in the Especially Protected Nature Areas in Latvia”

Programme
Information meeting about the start of elaboration of Management Plan
for Melnais Lake Nature Reserve

June 3, 2010

Olaine Museum of History and Art
Zemgale Street 33, Olaine



- 10.00 – 10.05 **Opening of the meeting.** Valda Baronina, coordinator of the management plan, Latvian Fund for Nature.
- 10.05 – 10.30 **Overview about the actions of the LIFE project „Restoration of Raised Bog Habitats in the Especially Protected Nature Areas in Latvia”.** Mara Pakalne, project manager, University of Latvia
- 10.30 – 10.45 **The order of the elaboration of management plans** Agnese Priede, Nature Protection Board
- 10.45 – 11.15 **Elaboration of the management plan for Melnais Lake Nature Reserve.** Valda Baronina, coordinator of the management plan, Latvian Fund for Nature.
- 11.15 – 11.45 **Actual questions and problems concerning the nature reserve. Discussion.**

Contact information: V. Baronina phone: 67830993;
E-mail: valda.baronina@ldf.lv; home page: www.ldf.lv



LIFE 08NAT/LV/000449 “Restoration of Raised Bog Habitats in the Especially Protected Nature Areas in Latvia”

Programme

Information meeting about the start of elaboration of management plan for Aizkraukle Mire and Forests Nature Reserve

May 26, 2010

**Aizkraukle District Municipality
Kalna Street 20, Aizkraukle**



- 11.00 – 11.05 **Opening of the meeting.** Valda Baronina, coordinator of the management plan, Latvian Fund for Nature.
- 11.05 – 11.30 **Overview about the actions of the LIFE project „Restoration of Raised Bog Habitats in the Especially Protected Nature Areas in Latvia”.** Mara Pakalne, project manager, University of Latvia
- 11.30 – 11.45 **The order of the elaboration of management plans** Agnese Priede, Nature Protection Board
- 11.45 – 12.15 **Elaboration of Management Plan for Aizkraukle Mire and Forests”** Valda Baronina, coordinator of the management plan, Latvian Fund for Nature.
- 12.15 – 12.45 **Actual questions and problems concerning the nature reserve. Discussion.**

Contact information: V. Baronina phone: 67830993;
e-mail: valda.baronina@ldf.lv; home page: www.ldf.lv



LIFE 08NAT/LV/000449 “Restoration of Raised Bog Habitats in the Especially Protected Nature Areas in Latvia”.

Programme
Information meeting about the start of elaboration of management plan in Rožu Mire Nature Reserve

June 21, 2010. 11.00 o'clock
Skolas Street, 2, Sala Municipality



- 11.00 – 11.05 **Opening of the meeting.** Gundega Freimane, coordinator of the management plan, Latvian Fund for Nature.
- 11.05 – 11.30 **Overview about the actions of the LIFE project „Restoration of Raised Bog Habitats in the Especially Protected Nature Areas in Latvia”.** Mara Pakalne, project manager, University of Latvia
- 11.30 – 11.45 **The order of the elaboration of management plans.** Vija Kreile, Nature Protection Board
- 11.45 – 12.15 **Elaboration of management plan for Rožu Mire Nature Reserve.** Gundega Freimane, coordinator of the management plan, Latvian Fund for Nature.
- 12.15 – 12.45 **Actual questions and problems, discussion**
- Contact information: Gundega Freimane, coordinator of the management plan, Latvian Fund for Nature.

Phone: 67830993; mob. 26525560

E-mail: gundega.freimane@gmail.com www.ldf.lv



LIFE 08NAT/LV/000449 “Restoration of Raised Bog Habitats in the Especially Protected Nature Areas in Latvia”.

Programme
Information meeting about the start of elaboration of management plan in
Aklais Mire Nature Reserve

June 21, 2010. 15.00 o'clock
Daudzese Municipality



11.00 – 11.05 **Opening of the meeting.** Janis Reihmanis, coordinator of the management plan, Latvian Fund for Nature.

11.05 – 11.30 **Overview about the actions of the LIFE project „Restoration of Raised Bog Habitats in the Especially Protected Nature Areas in Latvia”.** Mara Pakalne, project manager, University of Latvia

11.30 – 11.45 **The order of the elaboration of management plans.** Vija Kreile, Nature Protection Board

11.45 – 12.15 **Elaboration of management plan for Aklais Mire Nature Reserve.** Janis Reihmanis, coordinator of the management plan, Latvian Fund for Nature.

12.15 – 12.45 **Actual questions and problems, discussion**

Contact information: Janis Reihmanis, coordinator of the management plan, Latvian Fund for Nature.

Phone : 29451116

E-mail: Janis.reihmanis@ldf.lv



LIFE 08NAT/LV/000449 “Restoration of Raised Bog Habitats in the Especially Protected Nature Areas in Latvia”

**Programme
The first Management Plan Steering Group for Rožu Mire Nature Reserve**

**September 17, 2010. 11.00 o'clock
Sala Municipality, Skolas Street 2**

Management plan is elaborated by Latvian Fund for Nature



11.00 Opening of the meeting. Alda Pupila, Nature Protection boards, Teici Nature Reserve Administration

11. 10. Information about the progress of the elaboration of the management plan for Rožu Mire Nature reserve. Gundega Freimane, coordinator of the management plan, Latvian Fund for Nature

Information about the site
Nature values in the site – summary from expert field work
Short-term and long-term aims of the protection of the nature reserve
The main management actions
Other questions

11. 50 Discussion

12. 15. Visit to Rožu Mire Nature Reserve, the area where dam building is planned.

Contact information: Gundega Freimane, Coordinator of the management plan, Latvian Fund for Nature.

Phone: 67830993; mob. 26525560

E-mail: gundega.freimane@gmail.com; www.ldf.lv



**LIFE 08NAT/LV/000449 Restoration of Raised Bog Habitats in the Especially Protected Nature Areas in Latvia”
Programme
The first Management plan Steering Group for Melnais Lake Reserve
Management Plan**

**October 4, 2010. 10.30 o'clock
Olaine Museum of History and Art, Olaine**

Management plan is elaborated by Latvian Fund for Nature



10.30. Opening of the meeting.

10. 40. Information about the progress of the elaboration of the Management Plan for Melnais Lake Management Plan. Valda Baronina, coordinator of the management plan, Latvian Fund for Nature

General information about the site
Nature values in the site – summary from expert field work
Short-term and long-term aims of the protection of the nature reserve
The main management actions
Other questions

Contact information: V. Baronina t. 67830993; valda.baronina@ldf.lv; www.ldf.lv



LIFE 08NAT/LV/000449 “Restoration of Raised Bog Habitats in the Especially Protected Nature Areas in Latvia”

Programme
The first Management plan Steering Group for Aizkraukle Mire and Forests Management Plan

October 14, 2010. 10.30 o'clock
Aizkraukle Municipality
Kalna Street 20, Aizkraukle

Management plan is elaborated by Latvian Fund for Nature



10.30. Opening of the meeting. Janis Krumins. Nature Protection board. Gauja National Park administration.

10. 40. Information about the progress of the elaboration of the Management Plan for Aizkraukle Mire and Forests Management Plan. *Valda Baronina, coordinator of the management plan, Latvian Fund for Nature*

General information about the site
Nature values in the site – summary from expert field work
Short-term and long-term aims of the protection of the nature reserve
The main management actions
Other questions

Contact information: Valda Baronina Coordinator of the Management Plan, Latvian Fund for Nature, phone: 67830993; valda.baronina@ldf.lv; www.ldf.lv



LIFE 08NAT/LV/000449 Restoration of Raised Bog Habitats in the Especially Protected Nature Areas in Latvia”

**Programme
The first Management plan Steering Group for Aklais Mire Nature Reserve
management plan**

**October 14, 2010. 15.00 o'clock
Daudzeva School**

Management plan is elaborated by Latvian Fund for Nature



14.00 Opening of the meeting. Alda Pupila, Nature Protection boards, Teici Nature Reserve Administration

14. 10. Information about the progress of the elaboration of the Management Plan for Aklais Mire Nature reserve. *Janis Reihmanis*, coordinator of the management plan, Latvian Fund for Nature

Information about the site
Nature values in the site – summary from expert field work
Short-term and long-term aims of the protection of the nature reserve
The main management actions

15.00 Discussion

Contact information: Janis Reihmanis, Coordinator of the management plan, Latvian Fund for Nature.

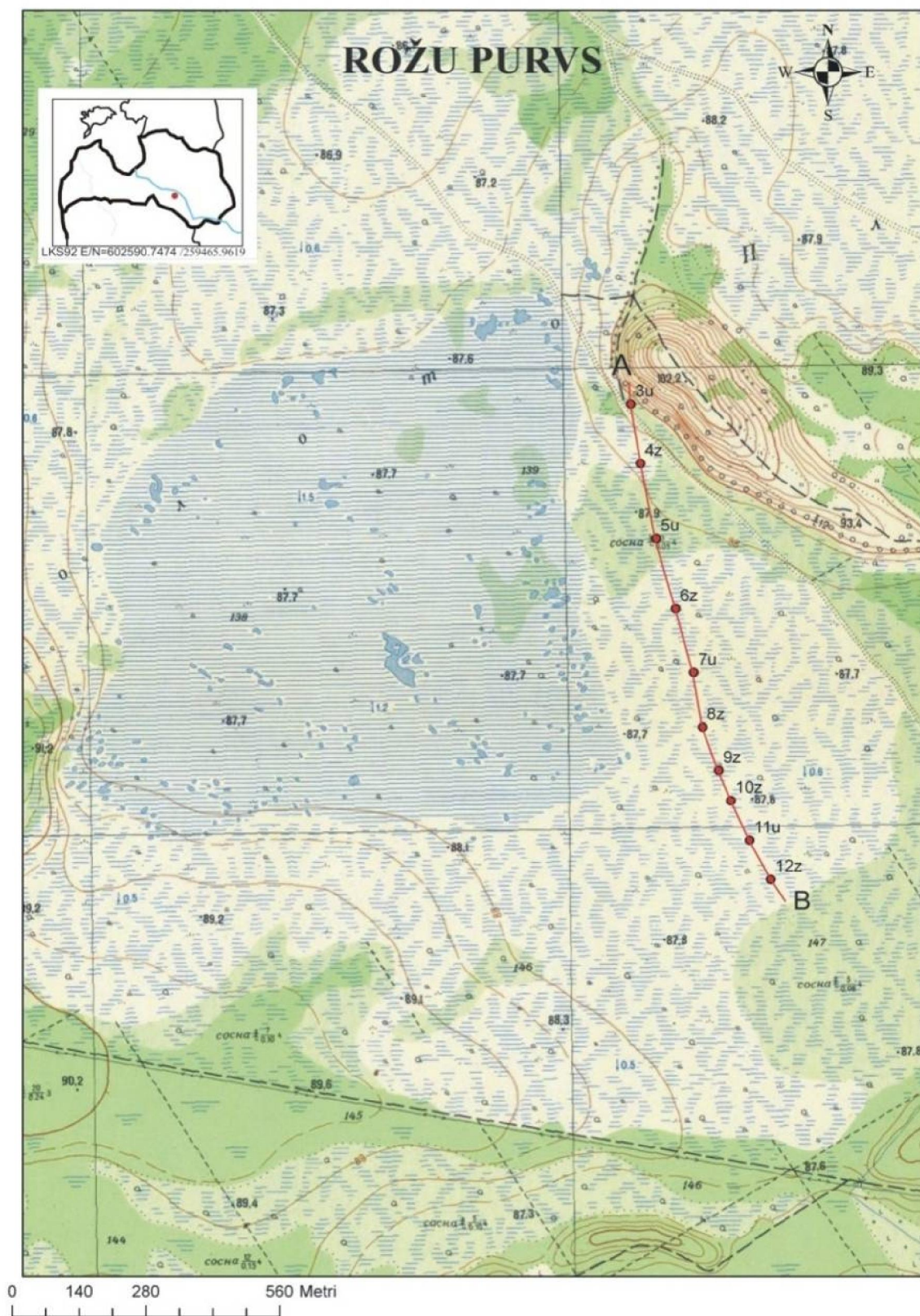
5.5 Copies of the Management Plans for the 4 project sites (A1)

See the attached box with the Management Plans.

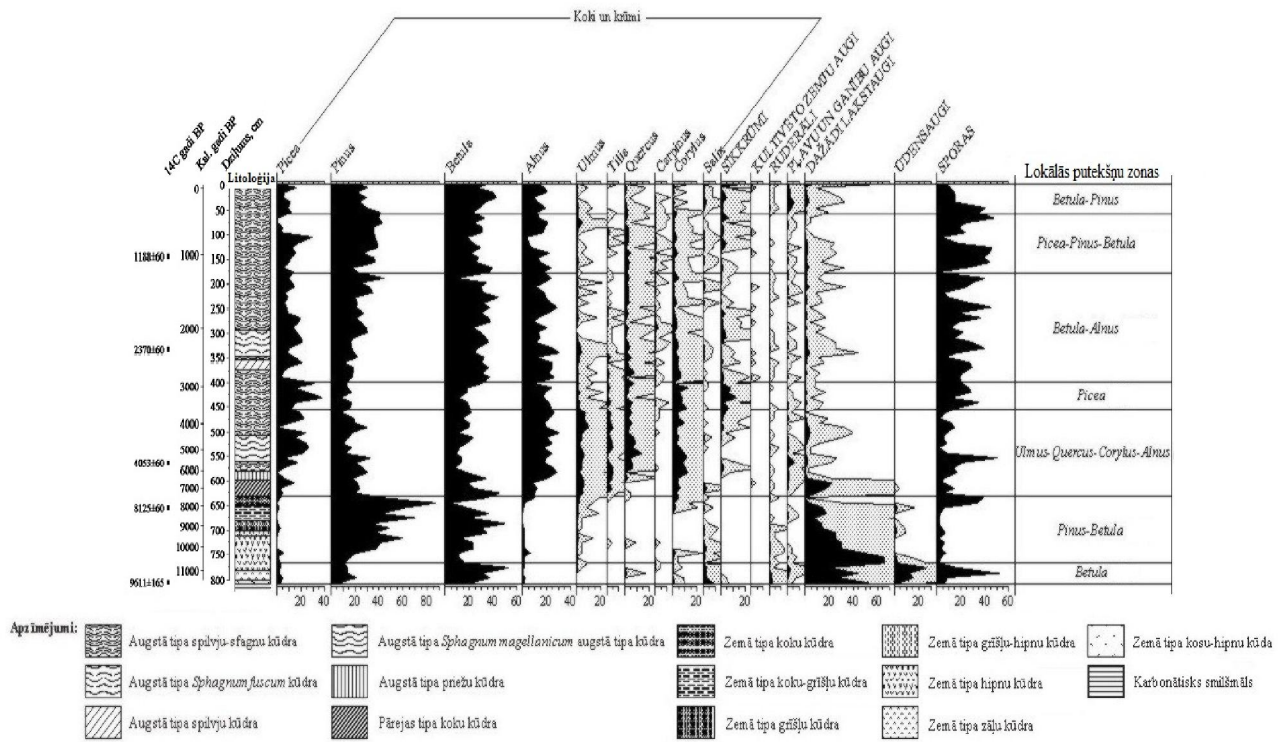
5.6 Copies of Technical designs and the results of geological and paleovegetation studies in the project sites (A2)

See the attached box with Technical designs.

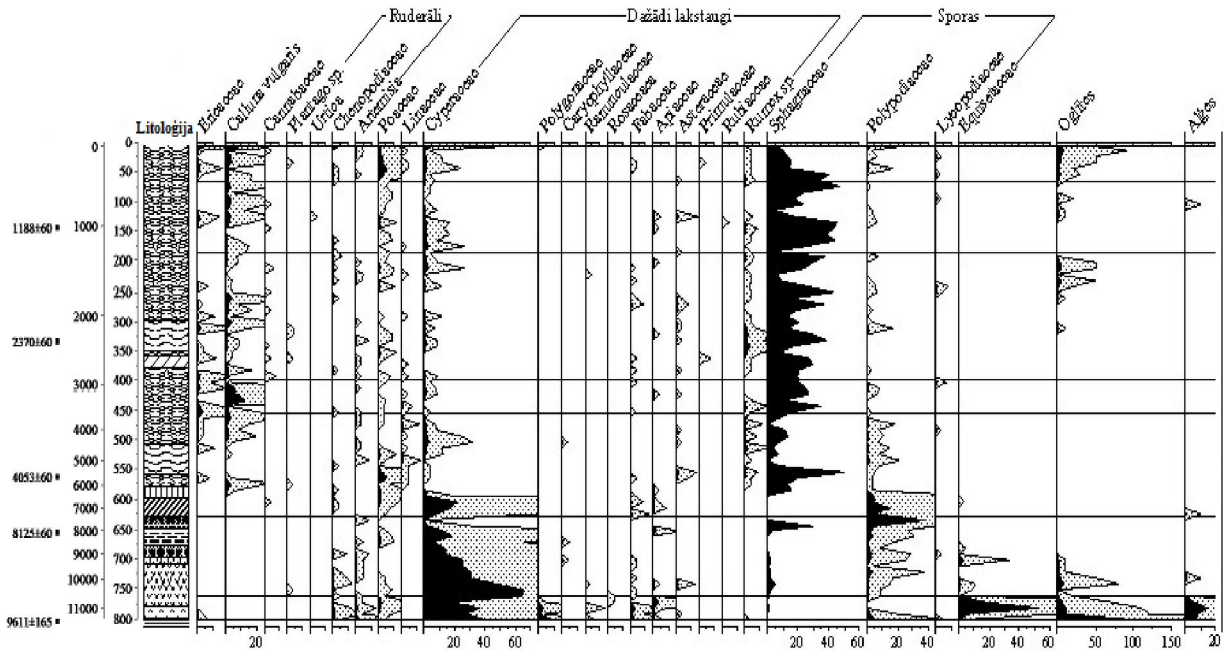
Results of geological and paleovegetation studies in the project sites



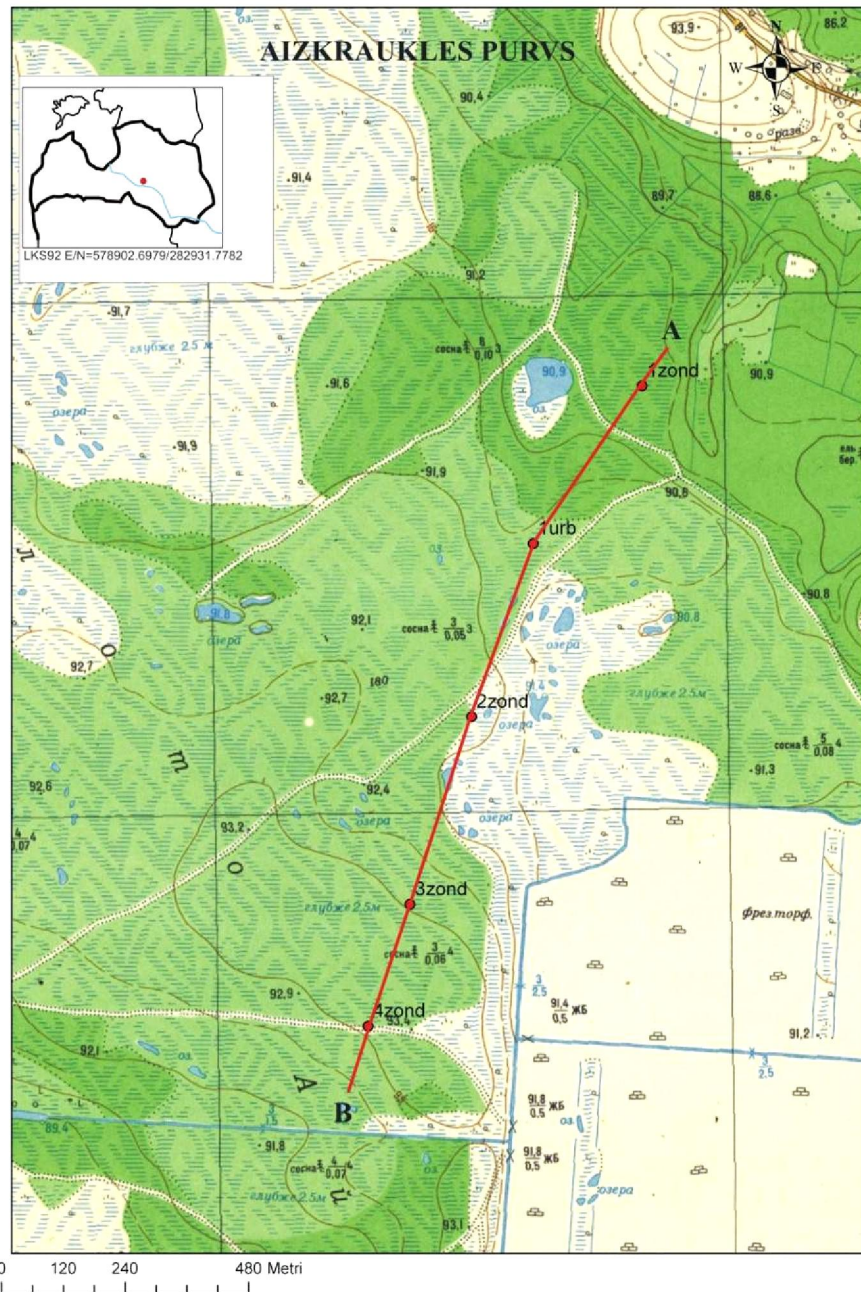
Transect for geological studies in Rožu Mire Nature Reserve



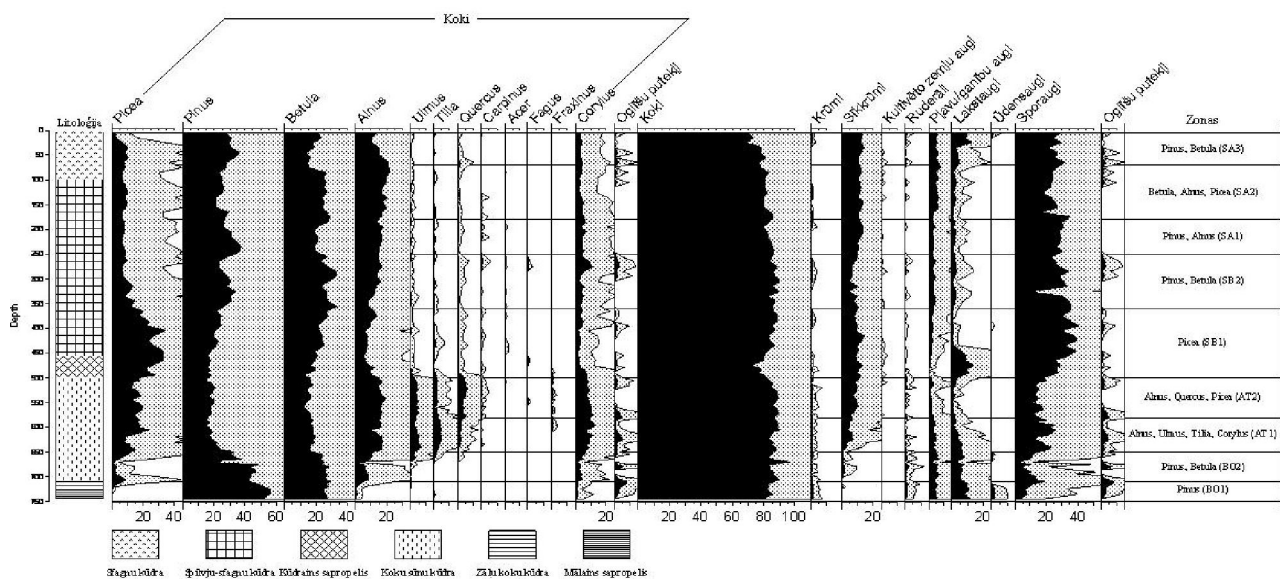
Spore-pollen diagram of trees and shrubs in the peat deposit in Rožu Mire



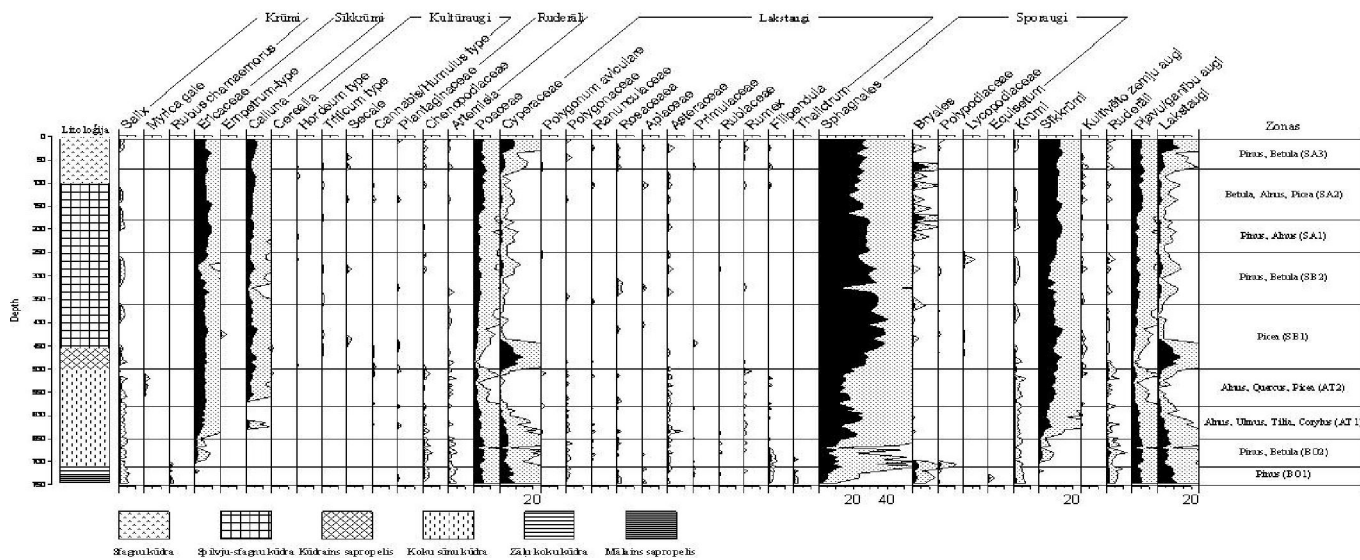
Spore-pollen diagram of vascular plants and sporophytes in the peat deposit in Rožu Mire



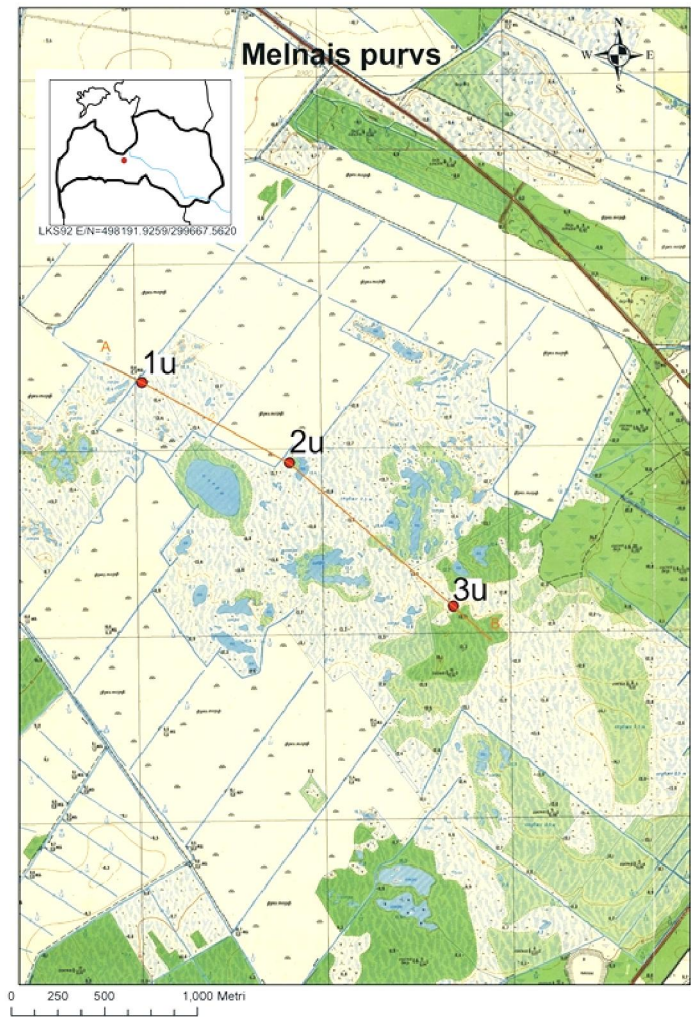
Transect for geological studies in Aizkraukle Mire and Forests Nature Reserve



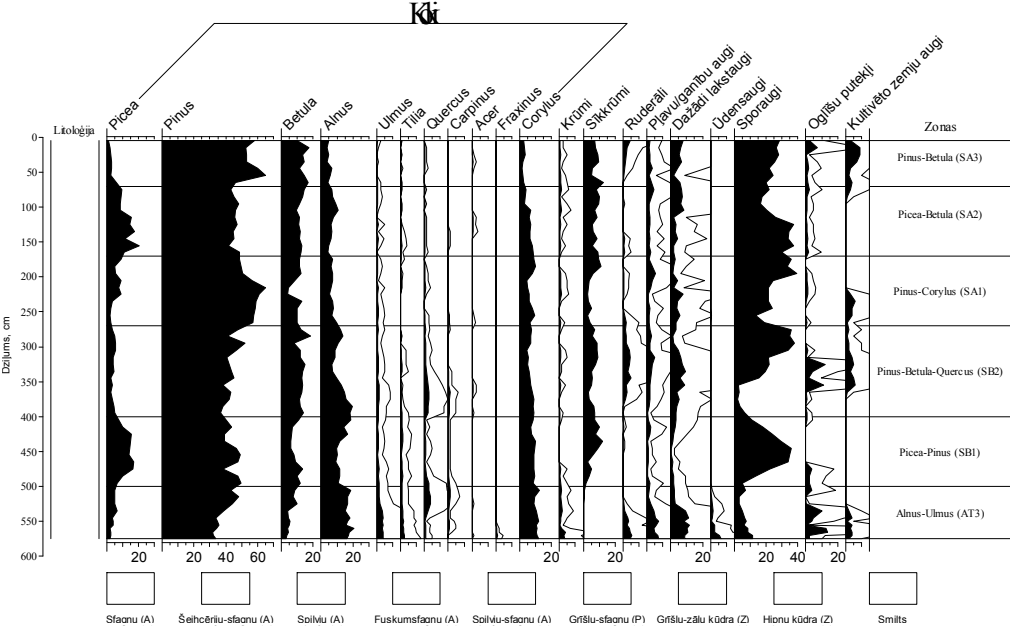
Spore-pollen diagram of trees and shrubs in the peat deposit in Aizkraukle Mire and Forests



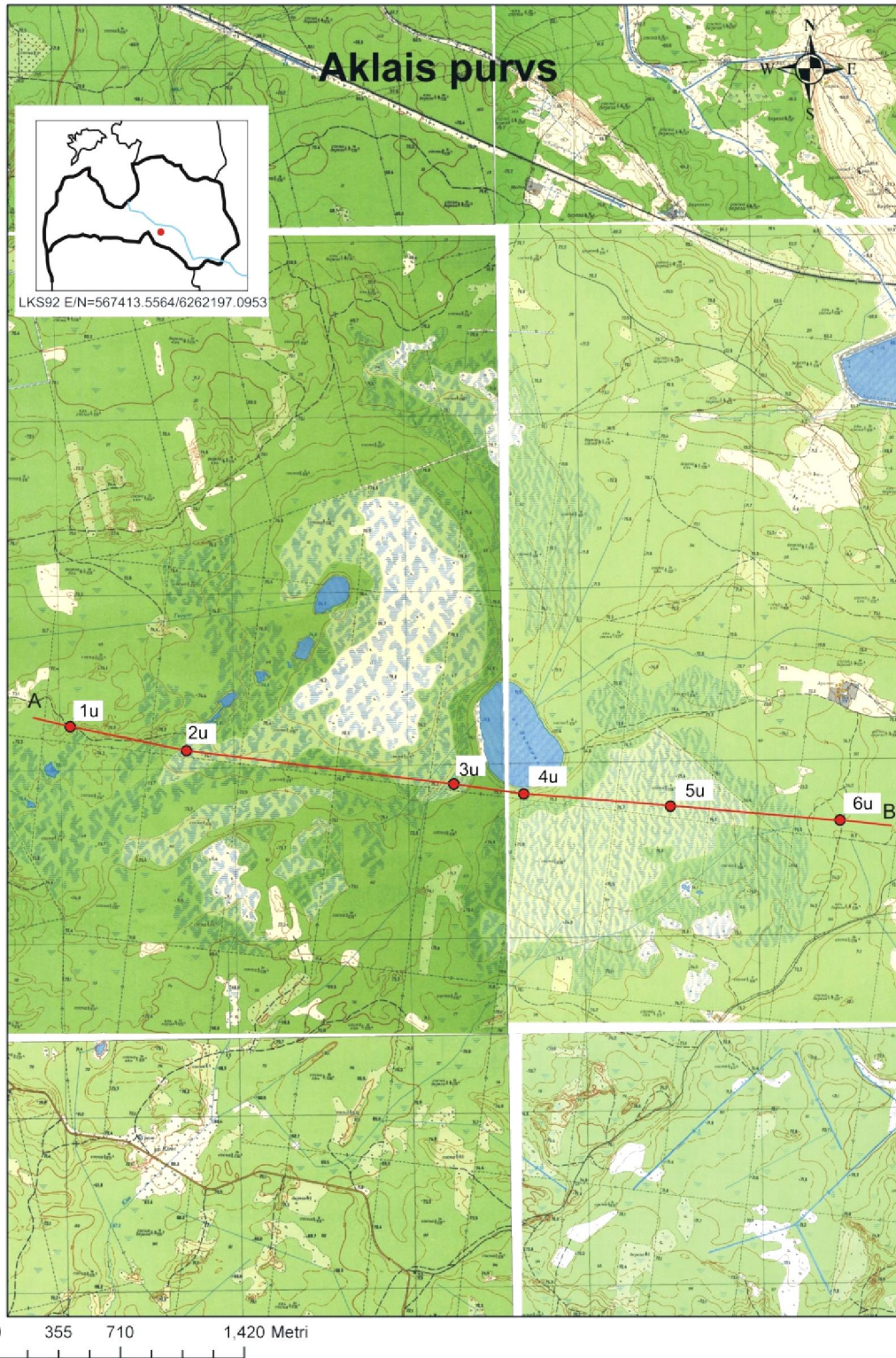
Spore-pollen diagram of vascular plants and sporophytes in the peat deposit in Rožu Mire



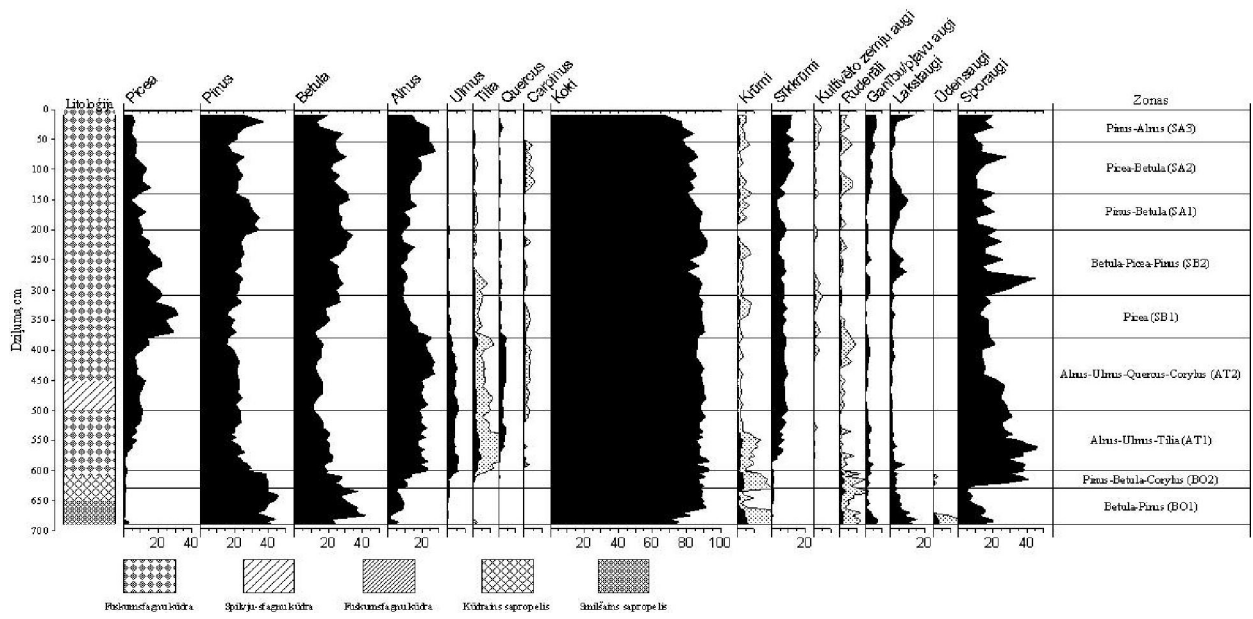
Transect for geological studies in Melnais Lake Mire Nature Reserve



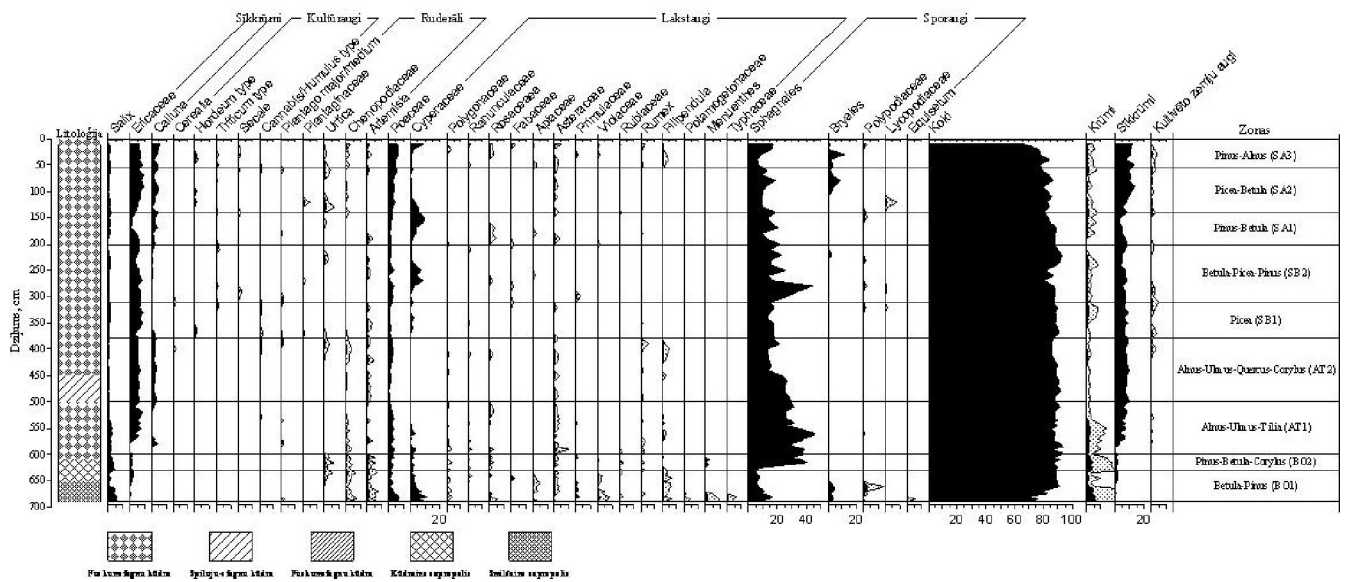
Spore-pollen diagram of vascular plants and sporophytes in the peat deposit in Melnais Lake Mire Nature Reserve



Transect for geological studies in Aklais Mire Nature Reserve



Spore-pollen diagram of trees and shrubs in the peat deposit in Aklais Mire Nature Reserve



Spore-pollen diagram of vascular plants and sporophytes in the peat deposit in Aklais Mire Nature Reserve

5.7 Programs of the Project Seminars, copies of presentations, minutes of seminars and Lists of participants (D1)

Program of the First Project Seminar and minutes of seminar



LIFE 08NAT/LV/000449

“Restoration of Raised Bog Habitats in the Especially Protected Nature Areas in Latvia”

Opening Seminar

**Viesīte Municipality, Smilšu Street 2, Viesīte
March 29th, 2010**

10.30 **Arrival**

11.00-11.15 **Introduction to the project “Restoration of Raised Bog Habitats in the Especially Protected Nature Areas in Latvia”** Mara Pakalne, Project Manager, University of Latvia

11.15-12.00 **Documentary Film “Life in the Mire”** produced by “Foundation ELM MEDIA”

12.00-12.30 **Information about the LIFE project “Restoration of Raised Bog Habitats in the Especially Protected Nature Areas in Latvia”** Mara Pakalne, Project Manager, University of Latvia

12.30-12.50 **Discussion**, information from the stakeholders and project partners

12.50 **Closing** of the seminar

Contact information:

University of Latvia, Botanical Garden, Kandavas Street 2, Riga, Latvia, LV-1983.

Project manager: Mara Pakalne, e-mail: mara.pakalne@lu.lv, phone mob.: 29511001.

Information coordinator: Daiga Brakmane, e-mail: daiga.brakmane@lu.lv, phone: 26454504.

Project assistant: Aivars Slisans, e-mail: aivars.slisans@lu.lv, phone: 26765031.

Field manager: Gunars Balodis, e-mail: gunars.balodis@lu.lv.

Minutes of the First Project seminar

On March 29th, 2010 the First Project Seminar was held in Viesīte Municipality. The aim of the was to introduce the project stakeholders, associate beneficiaries, co-financers, inhabitants of the project areas with the new LIFE project aiming in conservation and management of the habitat of EU importance – active raised bog as well as with the LIFE+ programme. Experience from other LIFE projects that have been carried out in Latvia was discussed. Also a film made by Foundation “ELM MEDIA” was shown that has prepared already 4 movies about LIFE projects in Latvia.

The First Project Seminar was attended by the representatives from the project stakeholders - Forests, Joint-Stock Company “Latvian State Forests”, Municipalities, Ministry of the Environment of Latvia, Nature Protection Board, regional environmental boards and project associated beneficiaries and co-financers. Total 26 persons participated in the First Project Seminar.

At the beginning of seminar the project manager Dr. Mara Pakalne introduced the participants of the seminar with the LIFE+ Programme and the LIFE project “Restoration of Raised Bog Habitats in the Especially Protected Nature Areas of Latvia” financed by EC LIFE+ Programme. After the first presentation, a film „Life in the Mire” was shown made by project associate beneficiary “Foundation ELM MEDIA”.

The second presentation of the project manager Mara Pakalne was devoted to the planned activities of the LIFE Project. Afterwards the project public awareness coordinator Daiga Brakmane told about the project activities devoted to public awareness and dissemination of results. Then everyone was invited to watch a film „The Story of Bogs” made by “Foundation ELM MEDIA”.

The seminar ended with the discussion part. Vija Busa from the Ministry of Environment, Juris Jatnieks, the director Teici Nature Reserve Administration (Nature Protection Board) and Inese Vitola from Viesīte Municipality wished the project luck and encouraged to prepare more projects like this.

The First project seminar was a good possibility for the project stakeholders and co-financers to meet with each other and the experts from the project associate beneficiary – Latvian Fund for Nature who prepares management plans for all the 4 project sites and establish good contacts needed for the successful further cooperation.

Program of the Value of Raised Bog Conservation Seminar, copies of presentations, minutes of seminar and list of participants



LIFE 08NAT/LV/000449

“Restoration of Raised Bog Habitats in the Especially Protected Nature Areas in Latvia”

The Value of Raised Bog Conservation Seminar

**Viesīte Municipality, Smilšu Street 2, Viesīte
December 17th, 2010**

Programme

12:00 **Arrival.**

12:30 **Introduction.**

12:45 **Information about EC LIFE Project "Restoration of Raised Bog Habitats in the Especially Protected Nature Areas of Latvia".** Project Manager Dr.biolo. Mara Pakalne.

13:00 **Short film about the Project.** Foundation ELM MEDIA.

13:05 **Film "Story of the Mire" from "Exploring the Nature: Five Stories"** presented by Foundation ELM MEDIA.

13:30 **Birds in the Bog.** Ornithologist Aivars Petrins, University of Latvia.

14:30 **Quiz** about Raised Bogs.

15:00 **Opening of the Exhibition "Secrets of Mires".**

Coffee break.

Contact information:

University of Latvia, Botanical Garden, Kandavas Street 2, Riga, Latvia, LV-1983.

Project manager: Mara Pakalne, e-mail: mara.pakalne@lu.lv, phone mob.: 29511001.

Information coordinator: Daiga Brakmane, e-mail: daiga.brakmane@lu.lv, phone: 26454504.

Project assistant: Aivars Slisans, e-mail: aivars.slisans@lu.lv, phone: 26765031.

Field manager: Gunars Balodis, e-mail: gunars.balodis@lu.lv.

Minutes of the Value of Raised Bog Conservation Seminar

On December 17th, 2010 the Value of Raised Bog Conservation Seminar was held in Viesīte Municipality.

The aim of the seminar was to show values of raised bogs: birds, animals, plants and habitats of EU importance.

Seminar was attended by the representatives from Nature Protection Agency, local municipality, Ministry of Environment and local secondary school.

After the opening of the seminar, Project Manager Mara Pakalne told about the actions which are carried out, as well as about planned activities in the EC LIFE Project "Restoration of Raised Bog Habitats in the Especially Protected Nature Areas of Latvia": preparing of Nature Management Plans, building the dams as well as public involvement activities.

Foundation ELM Media had prepared a short film about the Project showing planned actions and what has been done so far: about exploring the NR, discussions during NMP meetings. After that film "Story of the Mire" from "Exploring the Nature: Five Stories" was showed to tell about raised bog values in more attractive way.

After films ornithologist Aivars Petrins from University of Latvia told about different birds living in raised bogs. Also the best time of year to watch birds was discussed: in spring. Many questions about raised bog birds were asked to Aivars Petrins.

To check schoolchildren knowledge about raised bogs and attention during the presentations a quiz about raised bogs was done.

After all presentations the Exhibition "Secrets of Mires" was opened for the first time to public.

The aim of the seminar was to tell about the nature values of the raised bogs, projected sites. Also importance of Natura 2000 network was explained. The seminar was organised to share experience about the progress of the project, conservation and management activities carried out in the entire project and the lessons learnt to date.

Program of the Project Seminar in Ogre, copies of presentations, minutes of seminar and list of participants



LIFE 08NAT/LV/000449

Restoration of Raised Bog Habitats in the Especially Protected Nature Areas in Latvia

Opening of Secrets of Mires Exhibition Seminar

**Ogre Culture Centre, 15 Brivibas Street, Ogre
January 13th, 2011**

Programme

Arrival from 18:30

19:00 Opening.

19:05 Film "Story of the Mire" from "Exploring the Nature: Five Stories", Film Studio ELM MEDIA.

19:30 Short information about EC LIFE Project "Restoration of Raised Bog Habitats in the Especially Protected Nature Areas of Latvia". Project Manager Dr.biol. Mara Pakalne.

19:40 Opening of the Exhibition "Secrets of Mires".

Contact information:

University of Latvia, Botanical Garden, Kandavas Street 2, Riga, Latvia, LV-1983.

Project manager: Mara Pakalne, e-mail: mara.pakalne@lu.lv, phone mob.: 29511001.

Information coordinator: Daiga Brakmane, e-mail: daiga.brakmane@lu.lv, phone: 26454504.

Project assistant: Aivars Slisans, e-mail: aivars.slisans@lu.lv, phone: 26765031.

Field manager: Gunars Balodis, e-mail: gunars.balodis@lu.lv.

Minutes of the Opening of Secrets of Mires Exhibition Seminar in Ogre

On January 13th, 2011 the Opening of Secrets of Mires Exhibition Seminar was held in Ogre Culture Centre.

The seminar was attended by Ogre Photo Club Members, Ogre Culture Centre representatives as well as raised bog experts.

In the first part of seminar all participants were informed about exhibition and invited to look at it. After opening of the exhibition, the Project Manager Dr. biol. Mara Pakalne told about nature values in bog and how bogs are formed as well as informed about planned and done actions in the Project. After presentation all participants of the seminar watched film "Story about Bog" made by ELM MEDIA. In the end project team together with Ogre Photo Club gave a small present to all authors of photos exposed in exhibition.

The aim of the seminar was to open an exhibition as well as introduced to interested persons with bog values, necessity of bog conservation as well as raised bog values. This seminar was a place to meet for all authors of photos.

Program of the Project Seminar in Sala, copies of presentations, minutes of seminar and list of participants



LIFE 08NAT/LV/000449

“Restoration of Raised Bog Habitats in the Especially Protected Nature Areas in Latvia”

Seminar about Raised Bog Values for Schoolchildren

**Sala Secondary School, Sala
March 9th, 2011**

Program

12:00 **Opening** of the Seminar.

12:05 Movie "Story about Mires".

12:25 **Raised Bog Values**. Dr.biol. Mara Pakalne.

13:00 **Contest about Mires**. Daiga Brakmane.

13:20 **Opening** of the Raised Bog Photo Exhibition.

13:30 Closing of the Seminar.

Contact information:

University of Latvia, Botanical Garden, Kandavas Street 2, Riga, Latvia, LV-1983.

Project manager: Mara Pakalne, e-mail: mara.pakalne@lu.lv, phone mob.: 29511001.

Information coordinator: Daiga Brakmane, e-mail: daiga.brakmane@lu.lv, phone: 26454504.

Project assistant: Aivars Slisans, e-mail: aivars.slisans@lu.lv, phone: 26765031.

Field manager: Gunars Balodis, e-mail: gunars.balodis@lu.lv.

Minutes of Seminar about Raised Bog Values for Schoolchildren in Sala School

March 9th, 2011 the Project team visited Sala Secondary School to tell about Raised bog values and to open exhibition "Secrets of Bog". The seminar was attended by Sala Secondary School children and teachers.

In the beginning of the seminar Principal of Sala Secondary School Janina Riska introduced the Project team to children.

After that film "Story of the Mire" from "Exploring the Nature: Five Stories" was showed to tell about raised bog values in more attractive way.

On the second part of the seminar, Project Manager Dr.biol. Mara Pakalne told about nature values in bog and how bogs are formed using nearby Rožu Mire as an example.

To check schoolchildren knowledge about raised bogs and attention during the presentations a quiz about raised bogs was done.

In the end of the seminar the Project Photo Exhibition "Secrets of Mires" was opened.

Program of the Third Project Teachers' Seminar in Olaine, copies of presentations, CD, minutes of seminar and list of participants



LIFE 08NAT/LV/000449

“Restoration of Raised Bog Habitats in the Especially Protected Nature Areas in Latvia”

Seminar about Raised Bog values for teachers

**Olaine Museum of Art and History, 33 Zemgale Street, Olaine
May 17th, 2011**

Programme

From 13.30 **Arrival.**

14.00-14.20 **Melnais Lake Mire.** Project Manager Dr.biol. Mara Pakalne.

14.20-14.40 **Hydrogeological studies in Melnais Lake Mire.** Dr.geol. Aija Delina, University of Latvia.

14.40-15.00 **Bird species in the Melnais Lake Mire.** Ornitologist Aivars Petrins, University of Latvia.

15.00-15.20 **Film "Story of the Mire" from "Exploring the Nature: Five Stories",** Documentary Film and photo association ELM MEDIA.

15.30-18.00 **Excursion** to Melnais Lake Mire Nature Reserve.

Contact information:

University of Latvia, Botanical Garden, Kandavas Street 2, Riga, Latvia, LV-1983.

Projec manager: Mara Pakalne, e-mail: mara.pakalne@lu.lv, phone mob.: 29511001.

Information coordinator: Daiga Brakmane, e-mail: daiga.brakmane@lu.lv, phone: 26454504.

Project assistant: Aivars Slisans, e-mail: aivars.slisans@lu.lv , phone: 26765031.

Field manager: Gunars Balodis, e-mail: gunars.balodis@lu.lv .

Minutes of Seminar about Raised Bog Values for Teachers in Olaine

On May 17th, 2011 there was a special seminar for teachers about raised bogs held in Olaine. Teachers from Riga, Olaine and Marupe participated - altogether 31 participant.

The first part of the seminar was theoretical information about Melnais Lake Mire and raised bog values. Project Manager Dr.biol. Mara Pakalne informed about nature values in the bogs and general information about LIFE project was introduced.

Ornithologist from the University of Latvia Aivars Petrins told about birds living in raised bogs paying special attention on birds living in Melnais Lake Mire: European Eagle-Owl *Bubo bubo*, Whooper Swan *Cygnus cygnus*, ducks and geese.

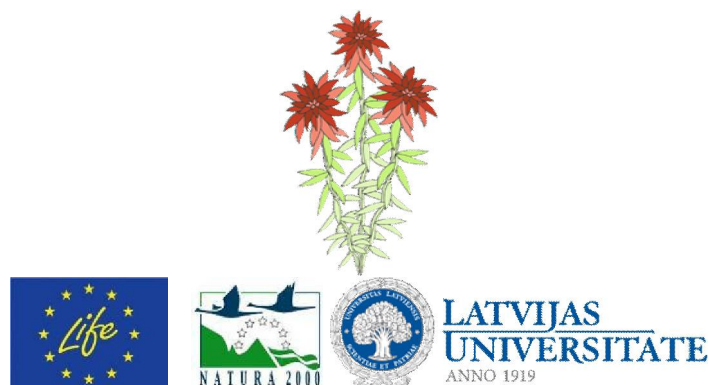
Hidrology of bogs and influence of ditches was explained by Dr.geol. Aija Delina. She also informed about water level studies in Melnais Lake Mire and other bogs in Latvia.

The second part of the seminar was held as an excursion in Melnais Lake Mire. M.Pakalne showed different plants in raised bog, for example, *Andromeda polifolia*, *Sphagnum* sp., *Eriophorum vaginatum* and *Drosera rotundifolia*. Dr.biol Iluta Dauskane explained dendrochronology with some examples using pine wood rings. It was also possible to take a sample of wood with Presler auger.

The knowledge from the seminar can be used in telling children about bogs and taking them to raised bogs. Methodological materials were prepared for the teachers and distributed during the seminar.

It was possible for all teachers to see also exhibition "Secrets of Mires" in Olaine Museum of History and Art.

Program of the Project Seminar in Ventspils, minutes of seminar and list of participants



LIFE 08NAT/LV/000449

“Restoration of Raised Bog Habitats in the Especially Protected Nature Areas in Latvia”

Opening of the Raised Bog Photo Exhibition “Secrets of Mires”

**Ventspils Library, 2 Akmenu Street, Ventspils
July 6th, 2011**

Programme

13:30. **Arrival**

14:00 Opening of the **Photo Exhibition "Secrets of Mires"**.

14:30 Documentary Film **"Story of the Mire" from "Exploring the Nature: Five Stories"**, by the LIFE project associate beneficiary “Foundation ELM MEDIA”.

15:00 Field excursion to Vasenieki Mire

It is possible to travel to Vasenieki Mire after the opening of the exhibition together with Project Team.

Contact information:

University of Latvia, Botanical Garden, Kandavas Street 2, Riga, Latvia, LV-1983.

Project manager: Mara Pakalne, e-mail: mara.pakalne@lu.lv, phone mob.: 29511001.

Information coordinator: Daiga Brakmane, e-mail: daiga.brakmane@lu.lv, phone: 26454504.

Project assistant: Aivars Slisans, e-mail: aivars.slisans@lu.lv, phone: 26765031.

Field manager: Gunars Balodis, e-mail: gunars.balodis@lu.lv.

Minutes of Seminar in Ventspils Library

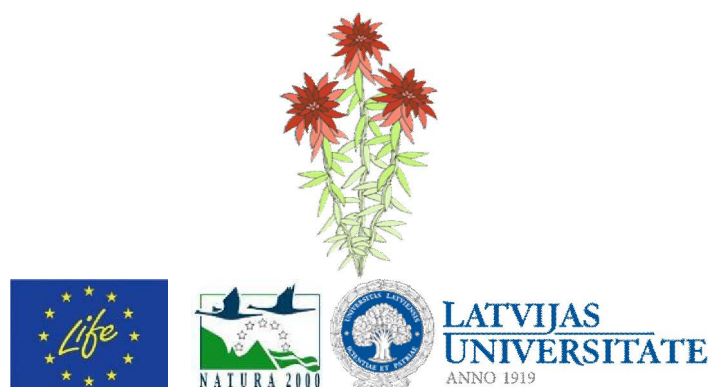
On July 6th, 2011 the Raised bog Photo Exhibition “Secrets of Mires” was opened in Ventspils Public Library. It was attended by local municipality, representatives from Latvian Library Centre, schools, as well as different interesents from Ventspils and journalists.

After opening ceremony everyone were invited to watch film "Story about the Mire" made by Documentary Film and photo association ELM MEDIA.

The aim of the seminar was to open exhibition and to educate about raised bog values.

After the opening of the Raised Bog Photo Exhibition, the participants of the seminar to visit Raised Bog Nature trail in Vasenieki Mire where the LIFE project manager Dr. Mara Pakalne told to the Latvian TV and the seminar participants about the LIFE project, raised bog values, why the bogs are the priority habitats in EU and why they should be protected and managed.

**Program of the Project Teachers' Seminar in Daudzese, copies of presentations,
CD, minutes of seminar and list of participants**



LIFE 08NAT/LV/000449

“Restoration of Raised Bog Habitats in the Especially Protected Nature Areas in Latvia”

Seminar about Raised Bog Values for Teachers

**Daudzese Elementary School, Daudzese
September 22nd, 2011**

Programme

From 13.30 **Arrival.**

14.00-14.25 **Conservation of raised bog habitats in Latvia.** Project manager Dr.biol. Mara Pakalne.

14.25-14.50 **Rare and protected plants and habitats in Nature Reserve Aizkraukle Mire and Forests.** Valda Baronina, Latvian Fund for Nature.

14.50-15.15 **Rare and protected plants and habitats in Aklais Mire Nature Reserve.**
Uvis Susko, Latvian Fund for Nature.

15.15-15.35 **Dendrochronological studies in the raised bogs.** Dr.biol. Iluta Dauskane, University of Latvia.

15.35-15.55 **Hydrogeological studies in Aklais and Aizkraukle Mires and Forests.**
Dr.geol. Aija Delina, University of Latvia.

15.55-16.15 **Documentary Film "Story of the Mire" from "Exploring the Nature: Five Stories",** “Foundation ELM MEDIA”

16.20-19.00 **Field excursion** to Aklais Mire Nature Reserve.

Contact information:

University of Latvia, Botanical Garden, Kandavas Street 2, Riga, Latvia, LV-1983.

Project manager: Mara Pakalne, e-mail: mara.pakalne@lu.lv, phone: 29511001.

Information coordinator: Daiga Brakmane, e-mail: daiga.brakmane@lu.lv, phone: 26454504.

Project assistant: Aivars Slisans, e-mail: aivars.slisans@lu.lv , phone: 26765031.

Field manager: Gunars Balodis, e-mail: gunars.balodis@lu.lv .

Minutes of the Seminar about Raised Bog Values for Teachers in Daudzese School

On September 22nd, 2011 in Daudzese Village seminar for teachers took place. Teachers from nearby schools and Riga attended to get to know raised bogs better. Seminar was opened by Daudzese Primary School Director Valdis Puida.

The first part of the seminar included theoretical information about bogs in general and nearby Aklais Mire and Aizkraukle Mire and Forests. The Project manager Dr.biol. Mara Pakalne informed about nature values in Latvian bogs paying attention on different problems concerning raised bog hydrology, need for raised bog restoration, raised bog habitats of EU importance in the project sites, especially protected plant species.

Nature experts Uvis Susko and Valda Baronina from Latvian Fund for Nature explained nature values paying attention on different plants and habitats of EU importance found in two nature Reserves and Natura 2000 sites Aklais Mire and Aizkraukle Mire and Forests.

Dr.biol. Iluta Dauskane told about dendrochronology in general and also about peculiarities of raised bog pine trees.

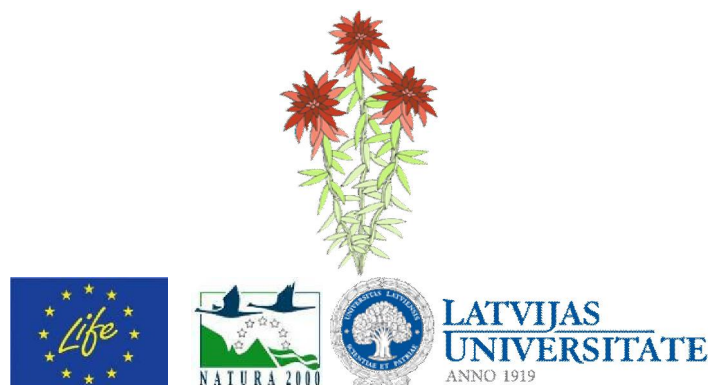
Dr.geol. Aija Delina told about hydro-geological studies in mires from University of Latvia. Hydrology of bogs and influence of ditches was explained. She also informed about water level studies in Aklais Mire, Aizkraukle Mire and Forests and other bogs in Latvia.

After the theoretical part everyone went on excursion to Aklais Mire Nature Reserve. It was possible to take a walk in the intact raised bog with bog pools and get to know typical raised bog plants, take samples from trees with Presler auger and peat till the dark. In the distributed educational material, the schoolchildren had a possibility to mark in the field notes the plant species they have found in the bog.

The knowledge from the seminar can be used in telling children about bogs and taking them to raised bogs.

Methodological materials were prepared for the teachers and distributed during the seminar.

Program of the Project Children's Seminar in Daudzese School, copies of presentations, minutes of seminar and List of participants



LIFE 08NAT/LV/000449

Restoration of Raised Bog Habitats in the Especially Protected Nature Areas in Latvia

Seminar about Raised Bog Values for Schoolchildren

**Daudzese Elementary School, Daudzese
September 23rd, 2011**

Programme

12.00-12.25 **Plants in Aklais and Aizkraukle Mires.** Project Manager Dr.biol. Mara Pakalne

12.25-12:45 **Dendrochronology.** Dr.biol. Iluta Dauskane, University of Latvia

12.45-13.05 **Documentary Film "Story of the Mire"**from "Exploring the Nature: Five Stories", Foundation ELM MEDIA.

13.25-15.00 **Field excursion** to Aklais Mire Nature Reserve.

Contact information:

University of Latvia, Botanical Garden, Kandavas Street 2, Riga, Latvia, LV-1983.

Project manager: Mara Pakalne, e-mail: mara.pakalne@lu.lv, phone mob.: 29511001.

Information coordinator: Daiga Brakmane, e-mail: daiga.brakmane@lu.lv, phone: 26454504.

Project assistant: Aivars Slisans, e-mail: aivars.slisans@lu.lv , phone: 26765031.

Field manager: Gunars Balodis, e-mail: gunars.balodis@lu.lv .

Minutes of the Seminar about Raised Bog Values for Schoolchildren in Daudzese

On September 23rd, 2011 there was seminar for Daudzese Elementary School and Koknese Secondary School children. Together with nature experts it was possible to get to know raised bog plants and animals as well as value of dendrochronology. Seminar was attended by children of different ages. Seminar was opened by Daudzese Primary School Director Valdis Puida.

The first part of the seminar was theoretical information about bog values in general and nearby Aklais Mire and Aizkraukle Mire and Forests. Project Manager Dr.biol. Mara Pakalne informed about nature values in Latvian bogs paying attention on different plants growing in the bogs.

After that film "Story of the Mire" from "Exploring the Nature: Five Stories" was showed to tell about raised bog values in more attractive way.

Children were active and answered the questions. After watching the film about raised bogs all went to see Aklais Mire to learn plants growing in the bog.

In this seminar the schoolchildren were educated about the value of active raised bog habitats (7110*), their role in climate change and as carbon sinks habitats and species of EU importance. The seminar for schoolchildren was planned so that the young generation can understand the value of the raised bogs and the need of the conservation and restoration.

5.8 Visitors of the project home page (D2)



5.9 Copies of the project booklets (D3) and their distribution

Project leaflet (printed 2000 copies)

Receivers and Activities	Number
Project partners and co-finansers: Latvian Fund for Nature ELM Media Latvian Environmental Protection Fund Ltd. "Rīgas meži"	50 50 50 50
Project seminars: Seminar about raised bog values (December 17th, 2010) Seminar for schoolchildren (March 9th, 2011) Seminar for teachers (May 17th, 2011) Seminar for teachers (September 22nd, 2011) Seminar for schoolchildren (September 23rd, 2011)	30 30 20 20 30
Project photo exhibition in 2011: From 01.12. Jaunjelgava Library; 26.10.-01.12. Jekabpils Library; 06.,23.09.,29.09.-24.10. Botanical Garden of University of Latvia; 02.08.-05.09. Jelgava Scientific Library; 06.07.-02.08. Ventspils Library; 23.-31.05. Saeima of Latvia; 12.-20.05. Olaine Museum of History and Art; 27.04.-09.05. Daugavpils University; 11.-26.04. Ministry of Defence of Latvia; 26.03.-11.04. The Cabinet of Ministers of the Republic of Latvia; 21.-25.03. Ministry of the Environment and Regional Development of Latvia; 09.-18.03. Secondary School of Sala; 08.02.-08.03. Aizkraukle; 13.01.-07.02. Ogre Culture Centre.	5 booklets are attached to exhibition boards permanently! 30 30 30 30 30 30 30 30 30 30 30 30 30 30

Receivers and Activities	Number
Project experience exchange: In 2010 project team visited Germany (June) and Wales (September)	15 10
Field Symposium of the International Mire Conservation Group in Slovakia and Poland.	20
In 2011 project Raised Bogs was presented in 69th Scientific Conference of University of Latvia.	10
On March 23rd Project Manager Dr.Biol. Māra Pakalne presented the Project in Informative Seminar about LIFE projects.	30
Project Staff also participated in seminar in Rome.	20
Project team visited other LIFE projects in Eastern Latvia in May.	8
In June 13 raised bog specialists from Germany visited Latvian raised bogs.	13
In August project team visited Estonian raised bogs.	10
In December project team visited LIFE project "Riga against flood"	5
Nature Management Plan Meetings for Nature Reserves: Aizkraukle Mire and Forests	60
Rožu Mire	50
Aklais Mire	50
Melnais Lake Mire	40
Total (distributed so far):	1100
Plans: International seminar about mires (2012)	50
Final seminar (2013)	50
Booklets distributed during photo exhibition activities	600
Booklets distributed during co-operation and experience exchange	200
Total (planned):	900
<u>Total: 1100 (distributed so far) + 900 (planned):</u>	<u>2000</u>

5.10 Project film scenario (D5)

Projekta „Augstā purva biotopu atjaunošana īpaši aizsargājamās dabas teritorijās Latvijā

LIFE 08NAT/LV/000449

EC LIFE project “Restoration of Raised Bog Habitats in the Especially Protected Natures Areas of Latvia”

dokumentālās filmas scenārijs

VERSIJA 2.0



Oktobris 2011

IEVADS

Viena no Eiropas Komisijas LIFE-Daba projekta „Augstā purvu biotopu atjaunošana īpaši aizsargājamajās dabas teritorijās” aktivitātem ir dokumentālās filmas veidošana, kuras mērķis ir parādīt plašākam skatītāju lokam gan projekta teritoriju dabas bagātības, gan aizsargājamo biotopu atjaunošanas aktivitātes, kas tiks īstenotas projekta laikā. Esošais scenārija variants ir izstrādāts balstoties uz pieredzi, kuru filmas autori ir guvuši veidojot filmas par citu Eiropas Komisijas LIFE-Daba projektu īstenošana („Dabas aizsardzības plāna izstrāde Engures ezera dabas parkam” un „Purvu biotopu aizsardzības plāna īstenošana Latvijā”), kā arī projekta laikā filmejot augsto purvu biotopus un projekta aktivitātes.

STRUKTŪRA UN VIZUĀLAIS STILS

Scenārija iepriekšējā versija paredzeja veidot vienu izverstu filmu par vienu no projekta teritorijām, iekļaujot arī apkārtesošās teritorijas un to ietekmi uz projekta teritoriju un otrādi. Papildus tam bija paredzēts veidot īsfilmas-sīžetus par katru no pārejām projekta teritorijām, kurās galvenais uzsvars tiktu likts uz teritoriju floras un faunas atainojumu un tajā īstenotajām projekta aktivitātem.

Taču filmejot dažādas projekta teritorijas un aktivitātes tajās filmas autori nonāca pie secinājuma, ka vienas teritorijas izcelšana nebūtu pareizākā stratēģija. Līdz ar to filmas vadmotīvs būs augstie purvi dažādos gadalaikos (no ziemas līdz rudenim), parādot projekta teritorijas dažādos gadalaikos un atbilstošās projekta darbinieku aktivitātes.

PURVA NOSLEPUMI – montāžas plāna 1.versija

Tema	Narratīvs	Vizuālais materiāls
Ievads	DIKTORS: Ziema – klusuma un miera laiks. Mežus, laukus un purvus klāj bieza sniega kārtā. Taču ziema ir labs laiks pārdomām un jauniem plāniem. Tieši šajā laikā visbiežāk top jaunu projektu pieteikumi.	Sākumā skaisti ziemas kadri, fonā mūzika Māra strādā birojā pie datora
Projekta aizsākumi	MĀRA PAKALNE: Ideja par jaunu projektu augsto purvu aizsardzībai un apsaimniekošanai Latvijā mums radās....	Intervija ar Māru, stāsta par projekta vesturi
Izpratnes par purvu vērtību maiņa	DIKTORS: Padomju laikā valdīja uzskats, ka galvenais ir purvu nosusināt, lai varetu iegūt kūdru. Šādā veidā tika iznīcināti tūkstošiem hektāru augsto purvu. Pēc neatkarības atjaunošanas 90.gadu sākumā Latvijā sāka novērtēt augsto purvu kā dabas vērtību un sākās purvu izpēte	Padomju laika degradētie purvi
Purvu petniecība Latvijā	MĀRA PAKALNE: Purvu petniecība Latvijā sākās ...	Intervija ar Māru, stāsta par purvu petniecību, iepriekšējiem projektiem
Projekts, partneri, finansētāji	DIKTORS: Turpinot purvu petniecībā un apsaimniekošanā aizsākto darbu, Latvijas Universitāte sadarbībā ar Latvijas Dabas fondu un nodibinājumu Elm Media 2010.gada februārī uzsāka Eiropas Komisijas LIFE+ programmas projekta “Augstā purvu biotopu atjaunošana īpaši aizsargājamajās dabas teritorijās Latvijā”. Projektu līdzfinansē Latvijas vides aizsardzības fonds un SIA ”Rīgas meži”. Projektā ietilpst 4 dabas liegumi – Aizkraukles purvi un meži, Aklais jeb Jūgu purvs Daudzevas pagastā, Rožu purvs Salas pagastā un Melnā ezera purvs pie Rīgas.	Projekta teritorijas, darbinieki Latvijas karte ar projekta teritorijām
Pavasaris purvā	DIKTORS: Pavasaris. Pēc garā ziemas sastinguma daba mostas. Tieši pavasaris un vasaras sākums ir viens no skaistākajiem gadalaikiem purvā.	Purvs agrā pavasarī
Aizkraukles purva biotopi	DIKTORS: Maijā Aizkraukles purva salās uzzied lakši un viss mežs smaržo pēc ķiplokiem. Purva salas ir unikālas – te atrodamas liepu gāršu un ošu audzes. Vecās mežaudzes ir mājvieta daudzām bezmugurkaulnieku sugām un retām putnu sugām. Ap purva salām izveidojusies pārejas purvs ar tam raksturīgajiem augiem.	Aizkraukles purva biotopi – salas, pārejas purvs, augstais purvs ar akačiem

	Aizkraukles purva ziemeļaustrumu daļā atrodams augstais purvs ar tam raksturīgajiem akačiem un lāmām. Sevišķi skaists tas ir baltmeldru ziedēšanas laikā.	
Dabiskais un degradētais purvs	DIKTORS: Augstā purva akačus un purva salas vislabāk var izbaudīt no putna lidojuma. Taču no šī skatu punkta arī vislabāk redzama dramatiskā atšķirība starp dabisku augsto purvu un degradētu purvu. Tieši blakus Aizkraukles purva dabas liegumam atrodas kūdras ieguves lauki.	Aizkraukles purva areo
Kūdras ieguve	DIKTORS: Šeit saimnieko SIA "Kūdras enerģija". Aizkraukles purvā iegūto kūdras eksportē uz dažādām Eiropas valstīm.	Kūdras rakšana, pārstrāde
Purvs kā dabas vērtība un tautsaimniecības resurss	DIKTORS: Ko augstajam purvam nozīme meliorācijas grāvji? Kā to ietekme kūdras ieguve turpat blakus? Tie ir tikai daži no jautājumiem, par ko diskutēja Aizkraukles purva dabas aizsardzības plāna apspriešanas sēdes dalībnieki. Gunārs Cankalis, SIA "Kūdras enerģija" vadītājs ir iesaistījies projekta uzraudzības grupas darbā. Viņš uzskata, ka galvenais ir ieverot līdzsvaru starp dabas aizsardzības un ekonomiskajām interesēm.	Aizkraukles DAP apspriešana
Kūdras raceja skats	Gunārs Cankalis: <i>Par līdzsvara saglabāšanu</i>	Intervija ar Gunāru Cankali
	DIKTORS: Tomēr Latvijā izpratne par augstā purva nozīmi nav pārāk attīstīta. Padomju laikā aizsāktās purvu nosusināšanas tradīcijas ir ļoti iesakņojušās daudzu cilvēku apziņā.	
Informācija par purvu stāvokli Latvijā	Māra Pakalne: Proporcija starp dabiskajiem un degradētajiem purviem Latvijā...	Intervija ar Māru
Citu valstu negatīvā pieredze	DIKTORS: Tieši šī iemesla dēļ Latvijai ir vērts palūkoties uz citu Eiropas valstu pieredzi. Daudzās valstīs purvu vairs nav. Piemēram, Vācijā Lejassaksijas pavalstī no agrākajiem ... dabisku augsto purvu hektāriem palikuši vien kūdras lauki.	Vācijas noraktie purvi
Latvija kā dabisko purvu piemērs	Heinrihs Beltings: Lejassaksijā dabisku purvu vairs nav. Mes tagad meģinām tos atjaunot, taču ne es, ne mani koleģi vairs nezinām, kā īsti izskatās dabisks purvs. Mes braucam uz Latviju to skatīties.	Intervija ar Henrihu viņa birojā, vāciešu ekskursija Aizkraukles purvā
Skats no malas uz Latvijas purviem	DIKTORS: Lai iepazītos ar Latvijas augstajiem purviem 2011. gada vasarā projekta teritorijās un citos Latvijas purvos viesojās koleģi no Vācijas. Viņu sajūsma par mūsu purviem ļauj daudz labāk izprast to bagātību, kāda mums ir.	Vāciešu ekskursija Aklajā purvā pie akačiem

Purvu nozīme ekosistemā	Heinrihs Beltings: Purva lielākā nozīme ir tā, ka tas absorbe slāpekļa dioksīdu....	Intervija ar Heinrihu Aklajā purvā
	DIKTORS: Heinrihs Beltings purvu un palieņu aizsardzības un atjaunošanas jomā strādā jau vairāk kā 20 gadus. Viņš ir pieredzejis gan to, cik viegli ir izpostīt dabas teritorijas, gan to, cik grūti tās atjaunot.	
Purvu atjaunošana Vācijā	Heinrihs Beltings: Te atjaunošanas darbi notiek jau daudzus gadus, ir ieguldīts daudz līdzekļu, bet šis ne tuvu neizskatās kā dabisks purvs. Es un mani apzināmie, ka mes savas dzīves laikā nepiedzīvosim brīdi, kad šis purvs atkal izskatīsies kā dabisks augstais purvs.	Intervija ar Heinrihu atjaunotajā purvā
Purvu izpēte	DIKTORS: Laimīgā kārtā Latvijā vel joprojām ir atrodami dabiski augstie purvi ar savdabīgiem un interesantiem biotopiem un aizsargājamām augu sugām. Projekta teritoriju dabas aizsardzības plānu izstrādes gaitā projekta eksperti veica detalizētu purvu izpēti, kartejojot un dokumentējot iegūtos datus. Lai izpētītu projekta teritorijas, petnieki ir karsuši vasaras svelme un piedzīvojuši lietusgāzes. Taču pūles vainagojušās panākumiem, piemēram, Aizkraukles purvā atrastas apmēram 14 īpaši aizsargājamas augstāko augu sugas un 13 retas un aizsargājamas sūnu sugas, bet Aklajā purvā botāniķis Uvis Suško atradis tādu retumus kā purva sūneni un mellenāju kārklu.	Aklais un Rožu purvs vasarā Uvis strādā Aklajā purvā
Aklais purvs	Uvis Suško: <i>Par Aklā purva dabas vērtībām</i>	Intervija ar Uvi, Aklā purva biotopi
Aklais purvs	DIKTORS: Dabas liegums Aklā jeb Jūgu purva aizsardzībai ir dibināts 1999. gadā un aptver dažādus biotopus - augsto purvu ar parasto kasandru, distrofos ezerus, purvainos mežus, zāļu un pārejas purvus un vairākus dabisko mežu biotopus. Pateicoties zemajam iedzīvotāju blīvumam apkārtnē teritorijās un teritorijas atšķirtībai no lieliem apdzīvotajiem centriem, Aklajā purvā saglabājušās daudzas neskartas un cilvēka maz ietekmetas purva teritorijas. Lieguma teritorijā sastopamas daudzas ES Putnu direktīvas sugas - melnkakla gārgale, sejas zoss, zivju erglis, jūras erglis, mednis un mežirbe, kā arī vairākas aizsargājamo augu sugas - fuksa dzegužpirksfīte un spilvainais ancītis.	Aklais purvs vasarā
Rožu purvs	DIKTORS: Rožu purvā dabas aizsardzības plāna izstrādi vadīja Gundega Freimane. Dabas liegums „Rožu purvs” dibināts 1987. gadā, tā ir nozīmīga teritorija augsto purvu un purvainu mežu aizsardzībai, kurā konstatēti arī ES Biotopu direktīvas biotopi - ieplakas purvos un melnalkšņu staignāji. Rožu purvā sastopamas arī retas bezmugurkaulnieku sugas - spilgto purvuspāre un skrajmežu vīngliemezi.	Rožu purvs vasarā

Hidroloģiskā stāvokļa izpete	<p>DIKTORS:</p> <p>Projekta teritorijās veikta arī to hidroloģiskā stāvokļa izpete. Tās mērķis – iegūt datus par purvu nosusināšanas ietekmi, kā arī informāciju plānotajiem atjaunošanas un apsaimniekošanas pasākumiem.</p>	Aija liek monitorija akas, veic mērījumus
Hidroloģiskie noverojumi	<p>Aija Deliņa:</p> <p><i>Par hidroloģiskajiem noverojumiem</i></p>	Intervija ar Aiju
Dambju būve	<p>DIKTORS:</p> <p>Viens no projektā paredzētajiem apsaimniekošanas darbiem ir dambju būve uz meliorācijas grāvjiem, lai saglabātu mitrumu purva kupolā.</p> <p>Iepriekšējo purvu aizsardzības un apsaimniekošanas projektu pieredze rāda, ka aizdambejot meliorācijas grāvjus vel nenorakstos purvus dabisku vidi ir iespējams atjaunot salīdzinoši īsā laikā. Pedejo desmit gadu laikā dambju izbūve notikusi vairākos Latvijas purvos – Cenas tīrelī, Teiču un Vasenieku purvā – tur pamazām atjaunojas dabisks purvs.</p>	Melnā ezera purvs rudenī, meliorācijas grāvji, dambju veidošana, iepriekšējie projekti
Putniem nozīmīga vieta	<p>DIKTORS:</p> <p>Purvi ir ļoti nozīmīga vieta gan aizsargājamām putnu sugām, kas spēj dzīvot tikai purvā, gan migrejošiem putniem. Melnā ezera purvā konstatētas 13 aizsargājamas putnu sugas kā purva tilbīte, ūpis, ormanītis, gūgatnis, ziemeļu gulbis un lielo dumpi. Bet migrešanas laikā purvā atpūšas sejas un baltpieres zosis un citi migrejošie putni.</p>	Melnā ezera purvs rudenī, dzerves, zosis, citi putni
Purvs rudenī	<p>DIKTORS:</p> <p>Rudenī purvs kļūst ļoti krāsains un vilina ogotājus un seņotājus.</p>	Purvs rudenī, dzervenēs, senes
Noslegums	<p>DIKTORS:</p> <p>Tuvojoties ziemeļiem, purvus pamet pedejie migrejošie putni, akači pamazām aizvelkas ar ledu un drīz jau purvu klāj balta sniega sega. Ir sācies miera laiks. Līdz nākamajam pavasarim!</p>	Gulbīši uz ledus, apsarmojušas priedītes, saulriets ziemā

5.11 Project demo film (2010) and shots from sites (D5)

CD

5.12 Bird songs from exhibition “Secrets of Mires”

CD

5.13 Programs of the Project Steering group meetings, copies of presentations, minutes of seminars and lists of participants (E1)

Programme of the First Project Steering Group meeting and minutes



LIFE 08NAT/LV/000449

**Restoration of Raised Bog Habitats in the Especially Protected Nature Areas in Latvia
First Project Steering Group meeting
August 19th, 2010
Olaine Museum of Art and History, 33 Zemgale Street, Olaine**

Programme

10.30 **Arrival**

11.00 - 11.20 Mara Pakalne. University of Latvia, project manager. **Overview about the results of the LIFE project „Restoration of Raised Bog Habitats in the Especially Protected Nature Areas of Latvia”.**

11.20 - 11.40 Aija Delina. University of Latvia, Faculty of Geography and Earth Sciences, hydrologist. **Hydrological studies in the project sites and relation to the management actions**

11.40 - 12.00 Valda Baronina. Latvian Fund for Nature, coordinator of the management plans. **The current results of the management plans.**

12.00 - 12.20 Daiga Brakmane. University of Latvia, Project information coordinator. **Project public relation activities.**

12.20 - 12.40 Kaspars Goba, Ieva Ubele. “Foundation ELM MEDIA”. **Information about the progress of film shooting.**

12.40 - 12.45 Aivars Slisans. University of Latvia, project assistant. **Overview about the project finances.**

12.45 **Discussion**

Project coordinator: University of Latvia

Co-financers: Ministry of Environment of Latvia/ Latvian Nature Protection Fund, “Riga Forests” Ltd.

Project associate beneficiaries: Latvian Fund for Nature and “Foundation ELM MEDIA”.

Contact information:

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Project assistant: Aivars Slisans, e-mail: aivars.slisans@lu.lv, phone: 26765031.

Field manager: Gunars Balodis, e-mail: gunars.balodis@lu.lv.

Minutes of the First Steering Group Meeting

On August 19th, 2010 in Olaine Museum of History and Art the first meeting of the project Steering Group of the EC LIFE project 08 LIFE NAT/LV/000449 "Restoration of Raised Bog Habitats in the Especially Protected Nature Areas of Latvia" was held.

In total 21 participant attended the meeting, representing stakeholders, project associated beneficiaries, co-financers and project experts. The meeting of the project Steering Group was opened by the chair of the Project Steering Group Vija Busa from the Ministry of Environment of Latvia, Department of Nature Protection.

At the start of the meeting the project manager Dr. Mara Pakalne informed with the results of the EC LIFE project "Restoration of Raised Bog Habitats in the Especially Protected Nature Areas of Latvia" – field studies in the project sites, study tour to the LIFE project areas in Germany (Lower Saxony and Bavaria) and participation in the Symposium of the International Mire Conservation Group in Slovakia and Poland, as well as planned activities of the project.

Aija Delina – a project hydrologist told about the hydrological studies in the project sites and the planned management activities – raising of water level in the drained areas of the project sites.

Latvian Fund for Nature was represented by Valda Baronina who is the Coordinator of Melnais Lake Mire and Aizkraukle Mire and Forests Nature Management Plans. She informed that field studies in all the project sites are completed and management plan coordinators are summarizing information from the field experts for the management plans.

Project Information Coordinator Daiga Brakmane informed about the project public awareness actions, like, seminars, home page of the project as well about the booklet and presented further public activities for the project: seminars, Raised Bog exhibition, booklets about the project sites, information boards and Methodology for Raised Bog Conservation and Management.

Representatives from Documentary Film and photo association ELM MEDIA – producer Kaspars Goba and assistant Ieva Ubele presented the ideas for project film – shooting of the film is going on, film scenario is elaborated, innovative technical solutions even using a digital camera macro filming are planned.

Project Assistant Aivars Slisans informed about the project financial situation – project incomes and expenditures are as planned in the project.

At the closing of the meeting V.Busa was interested to know about the future meetings of the Steering Group. Project manager M.Pakalne informed that the Steering Group Meetings are planned every 6 months during the project and it is also possible to attend other project activities, such as seminars and Management Plan Steering Group Meetings.

Programme of the Second Project Steering Group meeting, copies of presentations, minutes and list of participants



Restoration of Raised Bog Habitats in the Especially Protected Nature Areas in Latvia Second Project Steering Group meeting

March 1st, 2011

Olaine Museum of Art and History, 33 Zemgale Street, Olaine

Programme

10.30 Arrival

11.00 – 11.20. Dr. biol. Mara Pakalne, University of Latvia, project manager. **Overview about the results of the LIFE project „Restoration of Raised Bog Habitats in the Especially Protected Nature Areas of Latvia”.**

11.20 – 11.35 Gundega Freimane, Latvian Fund for Nature, Nature Management Plan development manager. **Current results on elaboration of Management Plan for Rožu Mire.**

11.35 – 11.45 Janis Reihmanis, Latvian Fund for Nature, Nature Management Plan development manager. **Current results on elaboration Management Plan for Aklais Mire.**

11.45 – 12.10 Valda Baronina, Latvian Fund for Nature, Nature Management Plan development manager. **Current results on elaboration Management Plan for Aizkraukle Mire and Forests and Melnais Lake Mire.**

12.10 – 12.30 Daiga Brakmane, University of Latvia, Botanical Garden, the project information coordinator. **Public information activities of the project.**

12.30–12.50 Kaspars Goba and Ieva Ubele, ELM MEDIA. **Information about the progress of the project film.**

12.50–13.00 Aivars Slisans, University of Latvia, Botanical Garden, the project assistant. **Overview about project finances.**

13:00 Discussion

Project coordinator: University of Latvia

Co-financers: Latvian Nature Protection Fund, Riga Forests Ltd.

Project partners: Latvian Fund for Nature and ELM MEDIA.

Contact information:

University of Latvia, Botanical Garden, Kandavas Street 2, Riga, Latvia, LV-1983.

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Minutes of the Second Project Steering Group Meeting

On 1st March LIFE Project "**Restoration of Raised Bog Habitats in the Especially Protected Nature Areas in Latvia**" informed the project Steering Group about the activities carried out in the project and the next project activities. In total, 23 participants from various institutions, including project co-financers, associate beneficiaries and stakeholders attended the meeting.

The meeting was chaired by Vija Busa from the Ministry of the Environmental Protection and Regional Development.

At the start of the meeting the Project Manager Dr. Mara Pakalne informed about main activities in the project during the reporting period - elaboration of the Management plans for the project sites and habitat and hydrological monitoring. She informed about the Study tour to Wales and Wales blanket bog LIFE project, the representatives from which visited Latvia, as well as about the project Raised Bog Photo Exhibition "Secrets of Mires".

The coordinators of the Management Plans from Latvian Fund for Nature that is the project associate beneficiary - G. Freimane, J. Reihmanis and V. Baronina presented the results of Management Plans elaboration, told about the Management Plan Steering group meetings, the management actions which will be carried out to restore the hydrology of the raised bogs.

Project Information coordinator D. Brakmane presented the main public awareness activities: home page updates, opening and transfer in Latvia of the Project Photo exhibition "Secrets of Mires" and seminars, general publicity of the project.

The next speaker was I. Ubele from the associate beneficiary "Foundation ELM MEDIA". She informed about the progress of project film production.

At the end of the meeting, the project assistant A. Slisans presented the overview about the project budget. Expenditure is going as planned in the project application.

Programme of the Third Project Steering Group meeting, copies of presentations, minutes and List of participants



LIFE 08NAT/LV/000449

Restoration of Raised Bog Habitats in the Especially Protected Nature Areas in Latvia

Third Project Steering Group meeting

September 6th, 2011

University of Latvia, Botanical Garden, Kandavas Street 2, Riga

13.30 **Arrival.**

14.00 Opening of Raised Bog Photo exhibition “Secrets of Mires”.

14.30 Dr. biol. Mara Pakalne, University of Latvia, Project manager. **Overview about the results of the LIFE project „Restoration of Raised Bog Habitats in the Especially Protected Nature Areas of Latvia”.**

14.50 Dr. geogr. Agnese Priede, Nature Conservation Agency. **Raised bog monitoring in the Project sites.**

15:10 Dr. geogr. Laimdota Kalnina, University of Latvia. Paleovegetation studies in Rožu, Melnais Lake, Aklais and Aizkraukle Mire and Forests.

15.35 Daiga Brakmane, University of Latvia, the project information coordinator. **Public information activities of the project.**

15.50 Kaspars Goba and Ieva Ubele, “Foundation ELM MEDIA”. **Information on the project film progress.** 16.05 Aivars Slisans, University of Latvia, project assistant. **Overview about project finances.**

16.15 **Discussion.**

Project coordinator: University of Latvia

Co-financers: Latvian Nature Protection Fund, Riga Forests Ltd.

Project associate beneficiaries: Latvian Fund for Nature and Foundation ELM MEDIA.

Contact information:

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Field manager: Gunars Balodis, e-mail: gunars.balodis@lu.lv.

Minutes of the Third Steering Group Meeting

On September 6, 2011 at the beginning of the Project Steering Group meeting an exhibition “Secrets of Mires” was opened at the Botanical Garden of the University of Latvia. Information how it was made and authors was given by the Project Manager Mara Pakalne.

The Third Project Steering Group meeting was attended by 18 participants from various institutions, including project co-financers, associate beneficiaries and stakeholders, Nature Protection Board, Madona Regional Environmental board, as well as other interesents.

During the first presentation the Project manager Dr. biol. M. Pakalne informed about LIFE+ project “Restoration of Raised Bog Habitats in the Especially Protected Nature Areas of Latvia” progress. She told about performed actions during last six months and the results. Management Plans are finalised for all the project sites, the technical designs for dam building and are still in approvement process. Habitat and hydrological monitoring is going on in the project sites. Raised bog experts have visited project sites during the last six months. Also there have been two study tours: the Project team has visited LIFE projects in Eastern Latvia and in Estonia. Project team took part in EC LIFE seminar in Ministry of the Environment and Regional Development of Latvia as well as in the 20th Workshop of the European Vegetation Survey.

Next speaker of the Steering group meeting was L. Kalnina who told about paleovegetation surve in the project sites. Then the Project habitat monitoring expert A. Priede informed about the on-going monitoring in the project sites.

After that the Project information coordinator D. Brakmane informed about the public awareness activities: projects’ seminars, preperation of booklets and home page as well as about the planned actions: seminars for teachers and schoolchildren in Daudzese Primary school.

I. Ubele from the Project associate beneficiary „Foundation ELM Media” told about the progress of project film: about filming in different weather conditions and interwievs with Latvian and German Raised bog specialists in Latvia and Germany.

The last presentation was given by Project assistant A. Slisans who informed about finances of the project - all is going as planned in application.

5.14 Habitat and Hydrological Monitoring (E2)

Summary of habitat monitoring results in Rožu, Aizkraukle, Aklais Mire in 2011

Agnese Priede (project monitoring expert)

The aim of the study is to evaluate the effectiveness of dams built to decrease the water level fluctuations in the drained bog. We assume that after the rising the water level in the bog there will be die back of *Calluna vulgaris* and *Pinus sylvestris* and *Sphagnum* cover will increase.

Methods

Annual study of bog vegetation in permanent plots was chosen as appropriate method to detect changes in bog vegetation. Sample plots were established in 2010, before the dam building.

Selection of sample plots

- 1) on ditches where dam building was proposed ;
- 2) in the raised bog area that is most likely influenced by dam building;
- 3) in remnants of non-flooded cutover peat fields;
- 4) in intact areas of raised bog.

Sample plots were established along with the water level monitoring points and were arranged perpendicularly to ditches where applicable. Each sample plot is a 4m² circle plot and they are allocated in a five sample plots' row using 6m distance between the circle centres. Sample plots on ditches were 2x2m. Photo of each sample plot was taken. Centres of sample plots on the left side (on ditches) were marked with the ribbon attached to the tree.

The monitoring is aimed at assessment of the effects of mire habitat restoration at three project sites: Rožu Mire, Aizkraukles Mire and Aklais Mire.

In 2010, in order to assess the changes in degraded mire habitats caused by restoration actions 71 monitoring plots were established: 21 in Rou Mire, 20 in Aizkraukles Mire, and 30 in Aklais Mire. The monitoring plots were located in transect lines perpendicularly to drainage ditches and in sites relatively less affected by drainage, five plots at each transect line. In all cases, the transect lines are parallel to transects of hydrological monitoring.

All plots were described according to a standard protocol, including parameters such as microrelief, vegetation structure, cover of vascular plant, moss and lichen species (estimated in percent) and vitality of trees, shrubs and dwarf shrubs (estimated in four degrees). Each plot was attributed by an ID code.

Geographical coordinates of each plot were recorded and a digital data file created. Additionally, digital photographs of all plots were taken and named according to the ID codes.

In 2011, the plots were repeatedly visited and all parameters estimated according to the standard protocol. Photographs of each plot were repeatedly taken. In 2011, 10 new plots (in Rožu and Aizkraukles Mires – five plots in each) were established in relatively untouched raised bog habitats as reference sites. Totally, data from 81 plots were recorded and summarized into the monitoring report.

In comparison to 2010, in 2011 no significant changes in the plots were observed. The bog vegetation is relatively stable. Therefore, little changes in species richness and species covers were recorded, which might be annual variation not related to hydrological or other changes in the habitat. Neither the cover of species, nor the vegetation structure and vitality of dwarf shrubs, shrubs and trees were significantly changed in comparison to 2010. In autumn 2011, the restoration actions were still not carried out. Therefore no significant changes could be expected. Overall, the heaviest impact of drainage was observed in plots close to the drainage ditches (no or little cover of sphagnum mosses, dominance of mosses of dry coniferous forests, overgrowing with pines, and well-pronounced dominance of dwarf shrubs). The cover of Sphagnum increases with increasing distance from drainage ditches, while the cover of dwarf shrubs decreases.

Summary of habitat monitoring results in Melnais Lake Mire in 2011

Liene Aunina

All plant species were counted in sample plots and species cover in percentage as well as bare peat, litter cover and open water were evaluated.

Sample plot design

Seven sample plots on ditches, 15 sample plots in a drainage influenced raised bog and 17 sample plots on non-flooded cutover peat field were established in Melnais Lake Mire in 2010. In 2011 six more sample plots were established in north-eastern part of the mire and four – in non-flooded cutover fields. Melnais Lake Mire management efficiency will be monitored in 49 sample plots in total.

A. North-eastern part

Bog vegetation in four sample plots in a ditch and 16 sample plots in bog expanse were studied. Six of them (M2-1 – M2-6) were established in 2011 along the line of water level monitoring pipe transect (Table 1). The area around M2-6 sample plot meets 7110* criteria, the rest - 7120.

There were no changes neither in species number per sample plot, nor species cover in this part of bog expanse, except slight increase of *Rubus chamaemorus* cover in sample plots M12 and M21.

The newly established sample plots M2-1 – M2-6 represent *Calluna vulgaris* dominated bog vegetation, except M2-6 where *Calluna* cover was only 15%. Vegetation follows the same pattern as distinguished in 2010 – by increasing distance from ditch *Sphagnum* cover increases, but *Calluna vulgaris* cover decreases.

In one sample plot in the ditch (MG3) new species – *Utricularia minor* was recorded, in MG1 – *Andromeda polifolia* and *Rubus chamaemorus*. Small dam of peat in the ditch has been formed either by peat slide or created by humans passing over the ditch. Most likely, it has caused slight water level rise in the ditch.

Table 1

Water level monitoring pipes and corresponding vegetation sample plots in Melnais Lake Mire

North-eastern part		Non-flooded cutover peat fields	
Pipe number	Sample plot number	Pipe number	Sample plot number
M2-1	M2-1	M1-1	M1a
M2-2	M2-2	M1-2	M4
M2-3	M2-3	M1-3	M6a
M2-4	M2-4	M1-4	M6b
M2-5	M2-5	M1-5	M10
M2-6	M2-6	M1-6	M11a

B. Central part of the mire

Three sample plots in a ditch and five sample plots in a drainage influenced bog were studied.

The area around the sample plots meets 7120 criteria (Salmiņa 2010 b). There were no changes neither in species number per sample plot, nor species cover in this part of bog expanse and in the ditch.

C. Non-flooded cutover peat fields

In total 21 sample plots on non-flooded cutover peat field were described in Melnais Lake Mire in 2011. Four of them (M6a, M6b, M11a, M1a) were newly established in 2011 next to water level pipes in order to study water level and vegetation correlation. In total six sample plots (M11a, M1a, M4, M6a, M6b, M10) (Table 1) are located next to water level monitoring pipes. Sample plots M11a and M1a represents each end of the water level monitoring pipe transect. M11a represents forest vegetation with *Pinus sylvestris* and *Betula pubescens* in tree layer formed after abandonment of peat cutting area, but M1a – potential forest vegetation with *Pinus sylvestris* and *Betula pubescens* in shrub layer. Both sample plots are characterised by high litter cover (95% in M11a, 55% in M1a). The study area does not meet criteria of Annex I mire habitats of Habitats Directive.

Vegetation changes were recorded only in three sample plots: in M10 for *Eriophorum angustifolium* cover (25% – 35%), in M7 for *Calluna vulgaris* cover (87%–94%), and in M4 for litter cover (10%–30%).

Monitoring of age structure of trees and dwarf shrubs in the cut-over peatland of Melnais Lake Mire Nature Reserve

Iluta Dauskane

Introduction

Many factors affect a plant's life span what is a key in the life history of plant. Such anatomical feature as an annual ring, i.e. tree-ring, is a trait that helps us identify plant's age. The age of plant or even the potential maximum age is one of the least accessible parameter in the life history of plants (Dietz, Schweingruber 2002). The variation of the tree rings are one of the most important indicators for reconstructing past history of climate variability, as well as anthropogenic and ecological processes. The first age determination of shrubs, dwarf shrubs, herbs and monocotyledonous plants including gramineous or liliaceous species, had been carried out in the middle of the 19th century (Schweingruber, Poschlod 2005). Up to this time, not many tree-ring investigations of dwarf shrubs have yet been carried out. It is a fairly new resource for tree-ring

analysis and it can provide the opportunity to expand tree-ring studies beyond the altitudinal and northern tree line (Bär et al. 2007) as well as in habitat with extreme environmental factors. Peat extraction techniques involve the removal of the acrotelm, altering the hydrological processes of the peatland (Price et al. 2003). Changes in hydrology after harvesting create unsuitable conditions for the regeneration of *Sphagnum* what is the primary peat building vegetation. Ericaceous shrubs such as *Calluna vulgaris* and *Empetrum nigrum* are the dominant vascular plants found at cutover peatlands (Jauhiainen et al. 2002). The high abundance of dwarf shrubs at cutover peatlands will influence the surface water balance and more importantly soil water availability and, inevitably determine the success of *Sphagnum* reestablishment at the site (Farrick 2008). Recently, lot of studies was made and published about plat cover recolonisation in drained and milled bogs, but little knowledge is available about a tree and dwarf shrub colonisation time (age structure) after peat field exploitation.

The aim of the study was to determine the age structure of trees and dwarf shrubs in one of peat fields in nature reserve “Melnais Lake Mire”.

The **objectives** were: 1) to survey the study area, 2) to determine suitable data collecting method, 3) to collect samples of tree and dwarf shrubs, 4) to determine age structure of trees and dwarf shrub.

Material and methods

The five 520 m long transects were established in on of the peat field in nature reserve “Melnā ezera purvs”. It is known that the oldest part of trees and shrubs is at the stem base and because every second tree with the largest diameter was cored there. Tree-ring samples were taken using an increment borer. In the laboratory collected samples were glued in wood boards and polished with sand paper. For the dwarf shrub, it was choused to take three shoot samples with the lager diameter from one individual therefore to conserved the vegetation. A piece of 2-4 cm length was extracted from the whole shoot. From each stem disc, micro-section of 15-20 µm thickness were cut using a sledge microtome (Figure 1).

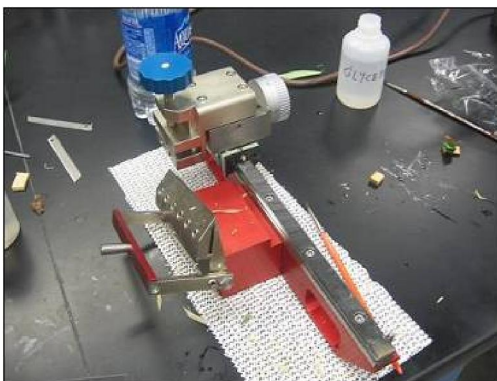


Figure 1. Sledge microtome „G.S.L.1” (foto: I. Dauskane).



Figure 2. Microsection of *Empetrum nigrum* (11 years old).

After staining with 1% solutions of safranin and astrablue, tree-rings were counted and measured. For the data analysis was taken the oldest shoot. Annual rings of trees and dwarf shrubs were counted and ring widths were measured using a tree-ring measuring table LINTAB 5, equipped with a microscope Leica MS5 and software TSAP-Win Scientific.

Results and conclusions

In total were sampled and analysed 30 tree and 63 dwarf shrub samples (Figure 2, Table 1).

Table 1. Characteristics of the sampled trees and dwarf shrubs

Species	Sample number	Age		
		Min	Max	Average
<i>Betula pubescens</i>	19	7	19	14
<i>Pinus sylvestris</i>	11	8	16	12
<i>Andromeda polifolia</i>	1	2		
<i>Calluna vulgaris</i>	19	3	19	9
<i>Empetrum nigrum</i>	24	5	19	10
<i>Ledum palustre</i>	4	4	6	5
<i>Oxycoccus palustris</i>	5	3	6	4
<i>Vaccinium myrtillus</i>	4	4	9	7
<i>Vaccinium uliginosum</i>	6	5	7	6

Trees, *Calluna vulgaris*, *Vaccinium myrtillus*, *Vaccinium vitis-idea* occurrence started and were dominant from more drained part of peat field, close to main ditches where is the deeper water level. However *Empetrum nigrum* was occur farther from main ditches, some of the samples even in a middle of pet field where the water level is a higher. *Pinus sylvestris* and *Betula pubescens* were colonized this site maximum 19 years ago (at the 1992). The maximum age for *Calluna vulgaris* and *Empetrum nigrum* is the same as for trees but it is possible that these dwarf shrubs established even earlier. It is possible explain with the fact that for age determination shoots were collected but the most important part of plant is the root collar (the transition zone between root and germination stem). It is the oldest part of plant (Schweingruber, Poschlod 2005).

Some patches with *Oxycoccus palustris*, *Ledum palustre*, *Vaccinium uliginosum* and *Andromeda polifolia* was found closer to the part of peat field where water level is higher and *Eriophorum vaginatum* is a dominant species. These dwarf shrub species start colonization approximately six years ago. It is possible explain with some hydrological changes what is more suitable for bog species. Unfortunately it is not clear when stopped the peat extraction at this site and therefore no possible to know how fast these species colonize.

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5.15 Summaries of the Study tours (E2)

Study tour to the LIFE project sites in Germany

From June 6-18, 2010 the team of the EC LIFE project "Restoration of Raised Bog Habitats in the Especially Protected Nature Areas of Latvia" visited the peatlands in Germany (Lower Saxony and Bavaria) where the restoration of raised bogs was carried out in the frame of the EC financed LIFE projects. Several decades ago raised bogs were more widespread in Germany. Due to the increase of industrial peat extraction, most of the bogs were damaged or destroyed.

In the Institute Botany and Landscape Ecology Institute (Institut für Botanik und Landschaftsökologie) Greifswald University (Ernst-Moritz-Arndt-Universität Greifswald), in the laboratory of Botanical Garden different *Sphagnum* species and several other mire plants, like *Drosera rotundifolia* are grown to observe the possible cultivation in the field. Small pieces of *Sphagnum* are planted on the floating mattresses.

Specific conditions are maintained in the laboratory: artificial lighting is activated when necessary, species are moistened by rain water, and suitable temperature is maintained. *Sphagnum* species are grown also outside the laboratory - in the pilot areas that were previously cut for peat but presently are flooded peat fields.

Growth conditions in the field there are very different – *Sphagnum* species are affected by nitrate pollution, environmental conditions are not as constant as in the laboratory. The studies in the laboratory and in the field are carried out by Anja Prager and Franziska Gahlert supervised by Prof. Hans Joosten from the Greifswald University. The researchers have found out that the *Sphagnum* green mass can be used in gardening as effectively as peat and think that in the future it will be possible to grow *Sphagnum* moss on floating mattresses in the harvested peatlands. These studies are financed by peat cutting industry.

In Lower Saxony, in Wiefelstede, Stapeler Moor the project team under the guidance of Heinrich Belting and local experts were taken to the peat fields where the bog restoration was started nearly a decade ago. The German colleagues have raised water level in milled fields by flooding one part after another.

To see the how the bog restoration is going on, a nature trail and bird watching tower was built. This milled area is surrounded by natural raised bog vegetation which is included in a protected nature area. This territory can serve as seed "bank" from which the plants can occupy the harvested bogs. The project team also visited Leegmoor in Aurich and Moorlebenspfad Esterwegen near Osterbrook.

The next day Friedhelm Niemeyer guided the project team through Diepholzer Moorschnucke bog near Rehden. In order to maintain an open peatland area and to prevent from *Molinia* grass, grazing by sheep was introduced.

Suzanne Belting in Großen Torfmoores near Lübbecke has led the bog restoration during LIFE project "Regeneration des Großen Torfmoores". She guided to the restored areas of the raised bog along the boardwalk to tell about the bog restoration carried out in the LIFE project.

To get to know the Bavarian peatlands the project team went along with the LIFE project "Rosenheimer Stammbeckenmoore" led by Ralf Strohwasser and tractor operator who have built the dams in the project site to restore the bog hydrology and habitats. To show the bog values near the Bad Feilnbach in Sterntaler Filze a board walk was built there. With the help of young volunteers from all over Europe, a footbridge, entertainment area for children was built, as well as the trail and the bird watching site was adapted for people with special needs. Together with Ralf Strohwasser the project team visited also Kollerfilze near to Nicklheim.

Daniel Kufner works on the project "Biotopverbund" aimed at reconciling the two sanctuaries near Eggstätt with "eco-tunnel" so plants and animals from one site to other can move. One of the sites was visited by the project team. Burghamer Filz Nature Reserve is a glacial lake system with various mire habitats near the lakes and the lower areas. Peat extraction has never been carried out there. Although it is a nature reserve, there is a dense road network that is used for recreation. The glacial lakes are used for swimming.

From the Latvian LIFE project in the study tour participated: the project manager Mara Pakalne, field manager Gunars Balodis, project assistant Aivars Slisans and public awareness coordinator Daiga Brakmane.

During the Study tour to Germany there were many meetings with the managers of LIFE and representatives of LIFE projects as well people from local authorities who introduced with their experience and methods of raised bog restoration:

The project team got to know how the damaged by peat cutting raised bogs can be restored with the help of LIFE Programme.

There were interesting examples in building nature trails, bird hides and bird watching towers for disabled persons.

The project staff got to know how about the various methods of peat extraction in the peat has been cut bogs have been were extracted by hand – showing the history and tools.

Field Symposium of the International Mire Conservation Group in Slovakia and Poland

From July 5-17, 2010 in Slovakia and Poland the field Symposium and the conference of the International Mire Conservation Group (www.imcg.com) was held where the project manager Mara Pakalne participated. There were over 40 participants from 18 countries, including European countries - Ireland, France, Switzerland, Germany, Poland, The Netherlands, Estonia, Latvia, Ireland, France, Switzerland, Germany, Poland, The Netherlands, Estonia and Latvia as well as Canada, South Africa, New Zealand and Malaysia.

The field symposium included visits to more than 20 mires in Slovakia and Poland that comprise spring mires, transitional mires and bogs, as well as wet meadows. Field discussions were devoted to mire conservation and management problems. The sites include rare and protected plant and animal species. Special attention was paid to fens and spring mires - the habitat that is protected both in European countries and in Latvia.

The Mociar Nature Reserve is located in Slovakia. It comprises peculiar spring mires and is located at the foothills of Tatra Mountains. The area of the Nature reserve is only 6.75 ha but many rare mire species and habitats are recorded, like *Schoenus ferrugineus*, *Blysmus compressus*, *Carex davalliana*, *C. hostiana*, *Dactylorhiza incarnata*, *Gymnadenia densiflora*, *Tofieldia calyculata*, *Trichophorum pumilum*, *Cladium mariscus*, *Triglochin maritima*, *Primula farinosa*, *Pinguicula vulgaris*, *Drepanocladus cossonii*, *Bryum pseudotriquetrum* and *Campylium stellatum*.

Tufa formation was observed near springs. Although the site includes especially protected mire habitats in Europe, in this site the hydrological regime has been changed due to human activities as well as the site has been polluted.

In Slovakia especially protected mire habitats and wet grasslands occur in the Belianski meadows, where *Pedicularis sceptrum-carolinum* and *Swertia perennis* occur. The Pos Nature Reserve is located at the foothills of Tatra Mountains and includes fen and transitional mire vegetation with *Eriophorum angustifolium*, *Comarum palustre*, *Carex limosa*, *Menyanthes trifoliata* and *Sphagnum* species, like *Sphagnum subsecundum*, *S. centrale* and *S. platyphyllum*.

In Poland a great number of mires have been influenced by human activities, but still mires in a natural status occur in the Rospuda River valley. Fens and transition mires with rare plant species, *Liparis loeselii*, *Saxifraga hirculus*, *Hamatocaulis vernicosus* (species of EU importance) are known there. The mires in Rospuda River valley were endangered by the government decision to build a highway that would cross the valley. In this case, the whole mire ecosystem would be destroyed. Thanks to the active response of the community and the interference of the European Commission that insisted on the need of the Environment Impact Assessment for the site, building of the highway was stopped. It allowed maintain this unique mire ecosystem with fen and transition mire habitats.

Study tour to the LIFE project sites in Wales

From September 1st to 7th, 2010 the LIFE project team “Restoration of Raised Bog Habitats in the Especially Protected Nature Areas of Latvia” were on study tour in Wales to get to know the experience of EC LIFE project “Anglesey and Llyn Fens - Restoring Alkaline and Calcareous Fens within the Corsydd Mon a Llyn (Anglesey & llyn Fens) Special Areas of Conservation in Wales” and “Restoring Active Blanket Bog in the Berwyn and Migneint Special Areas of Conservation in Wales”.

Dr. Joan Daniels from “Natural England” introduced the project team with Fenn's, Whixall & Bettisfield Mosses and management actions carried out there. This is one of the three largest bogs in the British Isles. The bog has been partially damaged by peat extraction or has overgrown with Sitca spruce. Peat extraction was stopped about 20 years ago and at present the dams are built on the ditches to raise the water level in the bog. Sitca Spruce was planted in the mire and therefore has to be removed. Also a nature trail was set up in the site.

Mr. Les Colley who works for Countryside Council for Wales guided the LIFE project team to the sites of the EC LIFE project “Anglesey and Llyn Fens - Restoring Alkaline and Calcareous Fens within the Corsydd Mon a Llyn (Anglesey & llyn Fens) Special Areas of Conservation in Wales” and introduced with the restoration work carried out in Anglessey and Llyn fens. The management in the site is carried out with ponies that graze on *Molinia* grass, the grass is also mown or burned. To restore the hydrological regime in the site, dams and sluices were built, impact from other territories was reduced by buying the land surrounding the fens.

The EC LIFE project manager Mike Morris and his team working for the LIFE project “Restoring Active Blanket Bog in the Berwyn and Migneint Special Areas of Conservation in Wales” showed the project sites around Lake Vyrnwy and blanket bogs where bog restoration has been carried out since 2007. The area near Penan was also visited where excavator was currently building dams on the drainage ditches. Sitca Spruce plantation was there before. In total, the Welsh blanket bog LIFE project has built about 10'000 dams. Blanket bogs are being grazed by sheep, cows and ponies, as well as the area is mown to provide traditional mire management. To show blanket bogs to students and other interested parties the project team has guided the excursions to the blanket bogs to several hundred persons by car.

In the study tour trip all the project team participated: Project manager Mara Pakalne, project assistant Aivars Slisans, field manager Gunars Balodis and Public awareness coordinator Daiga Brakmane.

From September 7th to 9th, 2010 the Project manager Mara Pakalne and assistant Aivars Slišāns participated in Aberystwyth and Corsa Fochno seminar which was dedicated to the Welsh raised bog protection and management. Workshop was organized by the specialists from Countryside Council for Wales. It included both presentation and field visits to the raised bog where with the discussions on wetland management and hydrological observation methodology were continued.

Study tour to LIFE projects in Eastern Latvia

In May 2011, the LIFE project team visited LIFE projects in East Latvia: “Conservation of rare reptiles and amphibians in Latvia” (LIFE09 NAT/LV/000239) and “Restoration of Corncrake habitats in Dviete floodplain Natura 2000 site” (LIFE09 NAT/LV/000237).

First we visited Daugavpils University where was the Project Raised Bog Photo Exhibition “Secrets of Mires”. We met there the Daugavpils University Arvids Barsevskis and also representatives from the new LIFE project “Eremita Meadows” (LIFE09 NAT/LV/000240).

The manager of the LIFE project “Conservation of rare reptiles and amphibians in Latvia” is Mihails Pupins told about his experience and activities in the project that take place both at Daugavpils ZOO and also in the field where the reptiles and amphibians are grown. The project team got to know that the LIFE Project goal was to facilitate the enlargement of *Emys orbicularis*, *Coronella austriaca*, *Bombina bombina* populations and to ensure their long-time persistence in Latvia by combining in-situ, ex-situ methods, and legal protection improvement..

Then we went to Bebrene village and visited EC LIFE project “Restoration of Corncrake habitats in Dviete River floodplain Natura 2000”. The local guides told the project team that the objectives of the project are: to improve the conservation status of Corncrake *Crex crex* in Latvia, to restore breeding habitats for Corncrake in a degraded and abandoned section of Dviete River floodplain, to demonstrate and promote use of complex restoration methods of Corncrake habitats in degraded floodplain grasslands and to increase the participation and awareness of land-owners and local municipality on management of Dviete River floodplain Natura 2000 site for the species of EU importance, in particular, the Corncrake.

Study tour to the LIFE projects in Estonia

In August, 2011 the LIFE project team visited Estonia to raise knowledge about raised bog restoration in neighboring bogs. In Estonia, the project team met Marika Kose, earlier LIFE manager and the representatives from Estonian Ministry of Environment. The project team visited Tolkuse Mire that includes both natural and degraded raised bog vegetation. Raised bog restoration and monitoring actions were carried out there. Estonians have tried also to plant Sphagnum species and Cranberries in degraded parts of the bog. Beavers are also helping to restore raised bog habitats by building of dams.

The project team also visited Nigula Nature Reserve together with Agu Levits from Nature Protection Agency of Estonia. There were a lot of discussions about dam building methods and types. In Nigula dams were built by hand not by the excavator. Agu Levits mentioned that Latvian experience was used in this site. After discussions everyone agreed that beaver dams sometimes can be even better than those made by humans. After field trip raised bog conservation in both the countries was discussed.

On the way to Viduae Nature Reserve in Saare District it was possible to observe two Lesser Spotted Eagles. In Vidumae NR there was a meeting with Tenu Talvi – there was a discussion about nature conservation problems both in Latvia and Estonia. In the site we visited especially protected habitats of EU importance with *Schoenus ferrugineus*, *Cladium mariscus* and *Juncus subnodulosus*. These wetlands are situated in old Ancylus Lake complex of dunes and depressions. Similar complex in Latvia is situated just in Slitere National Park. It was valuable to see there plant species that are not found in Latvia anymore, like *Pinguicula alpina*.

5.16 Photos of the project actions

A1 Elaboration of management plans



Informative meeting for "Aizkraukle Mires and Forest" management plan - 26.05.2010.
Photo: Aivars Slisāns



Informative meeting for "Aizkraukle Mires and Forest" management plan - 26.05.2010.
Photo: Aivars Slisāns



Informative meeting of "Aizkraukle Mires and Forest" management plan. Photo: Aivars Slisāns



Informative meeting "Aizkraukle Mires and Forest" - 26.05.2010. Photo: Aivars Slisāns



Informative meeting for "Melnais Lake Mire" – management plan 03.06.2010. Photo: Aivars Slisāns



Informative meeting for "Melnais Lake Mire" - management plan 03.06.2010. Photo: Aivars Slisāns



Informative meeting for "Melnais Lake Mire" -
managent plan 03.06.2010. Photo: Aivars
Slisans



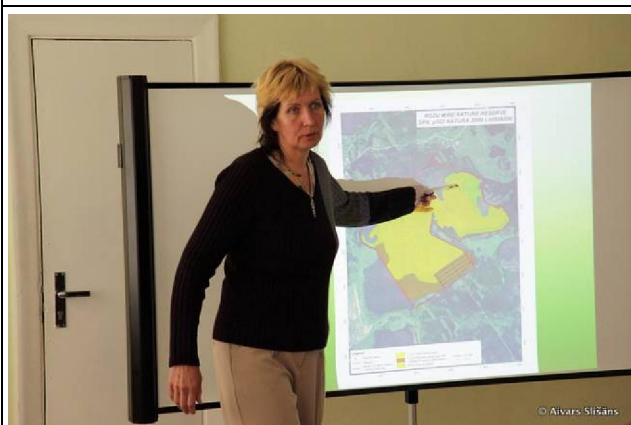
Informative meeting for "Melnais Lake Mire" -
managent plan 03.06.2010. Photo: Aivars
Slisans



Informative meeting for Rožu Mire management
plan - 21.06.2010. Photo: Aivars Slisans



Informative meeting for Rožu Mire managent
plan - 21.06.2010. Photo: Aivars Slisans



Gundega Freimane – coordinator of Rožu Mire
management plan 21.06.2010. Photo: Aivars
Slisans



Informative meeting for Rožu Mire management
plan 21.06.2010. Photo: Aivars Slisans



Informative meeting for Aklais Mire management plan - 21.06.2010. Photo: Aivars Slisāns



Informative meeting for Aklais Mire management plan - 21.06.2010. Photo: Aivars Slisāns



Informative meeting for Aklais Mire management plan - 21.06.2010. Photo: Aivars Slisāns



Informative meeting for Aklais Mire management plan - 21.06.2010. Photo: Aivars Slisāns



First Management Plan Steering Group meeting "Rožu Mire" - 17.09.2010. Photo: Mara Pakalne



First Management Plan Steering Group meeting "Rožu Mire" - 17.09.2010. Photo: Mara Pakalne



First Steering Group meeting "Rožu Mire" - 17.09.2010. Photo: Mara Pakalne



First Steering Group meeting in "Rožu Mire" - 17.09.2010. Photo: Mara Pakalne



Raised bog habitats in Aizkraukle Mire and Forests. Photo: Valda Baronina



Raised bog island in Aizkraukle Mire and Forests. Photo: Mara Pakalne



Raised bog pool in Aizkraukle Mire and Forests. Photo: Mara Pakalne



Raised bog pools in Aizkraukle Mire and Forests. Photo: Mara Pakalne



Raised bog pools in Aklais Mire
Photo: Mara Pakalne



Sphagnum cuspidatum in a bog hollow of Aklais Mire
Photo: Mara Pakalne



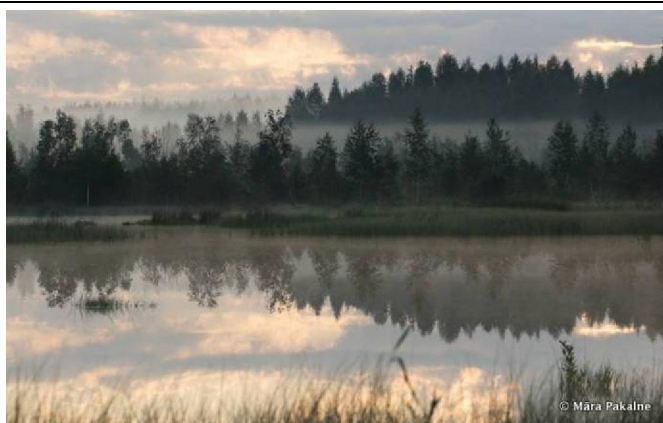
Schistostega pennata in Aklais Mire – rare bryophyte. Photo: Aivars Slisans



Aklais Mire Nature Reserve, experts in the site.
Photo: Mara Pakalne



Melnais Lake Mire Nature Reserve.
Photo: Mara Pakalne



Melnais Lake Mire Nature Reserve.
Photo: Mara Pakalne



Melnais Lake Mire Nature Reserve.
Photo: Mara Pakalne



Melnais Lake Mire Nature Reserve.
Photo: Mara Pakalne



Raised bog habitats in Rožu Mire.
Photo: Mara Pakalne



Raised bog habitats in Rožu Mire.
Photo: Mara Pakalne



Raised bog pools in Rožu Mire.
Photo: Mara Pakalne



Raised bog habitats in Rožu Mire.
Photo: Mara Pakalne



Gundega Freimane, Coordinator of Rožu Mire Management Plan. Photo: Mara Pakalne



Valda Baronina Coordinator of Melnais Lake Mire and Aizkraukle Mires Management Plans. Photo: Aivars Slisans



Janis Reihmanis, Coordinator of Aklais Mire Management Plans. Photo: Aivars Slisans



Ruta Sniedze, species and habitat expert
Photo: Aivars Slisans



Edmunds Racinskis, ornithologist.
Photo: Aivars Slisans



Aivars Petrins, ornithologist.
Photo: Aivars Slisans



Dr. biol. Voldemars Spungis, invertebrate specialist.
Photo: Valda Baronina



Uvis Susko, species and habitat expert.
Photo: Mara Pakalne



Dr. geogr. Laimdota Kalnina, geologist.
Photo: Mara Pakalne



Dr. geol. Aija Delina, hydrologist.
Photo: Mara Pakalne



Field work in Aklais Mire.
Photo: Mara Pakalne



Field work in Aklais Mire.
Photo: Aivars Slisans

A2 Hydro-geological studies for the elaboration of technical designs for building dams



Hydrological and geological studies in Melnais Lake Mire. Photo: A. Slisans



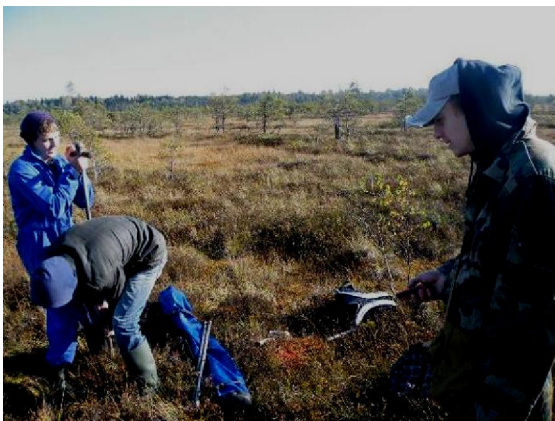
Hydrological and geological studies in Melnais Lake Mire. Photo: A. Slisans



Geological studies in Rozu Mire Nature Reserve
Photo: Laimdota Kalnina



Laboratory studies to determine pollen
Photo: Laimdota Kalnina



Geological studies in Aizkraukle Mire
Photo: Laimdota Kalnina



Geological studies in Aizkraukle Mire
Photo: Laimdota Kalnina



Inventory of dam building areas in in Aizkraukle Mire. Photo: Valda Baronina



Drainage ditch with beaver dam in Aizkraukle Mire. Photo: Valda Baronina



Drainage ditch in Aizkraukle Mire. Photo: Mara Pakalne



Drainage ditch and peat fields in Aizkraukle Mire and Forests Nature Reserve. Photo: Mara Pakalne



Drainage ditches in Melnais Lake Mire. Photo: Valda Baronina



Peat fields in Melnais Lake Mire Nature Reserve. Photo: Valda Baronina



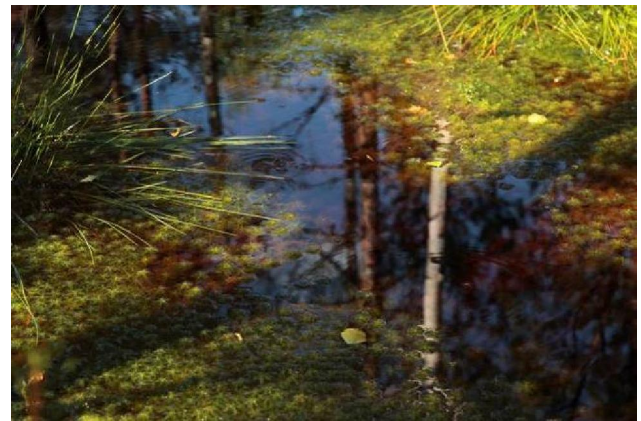
Drainage ditches where dams have to be built in Aklais Mire Nature Reserve. Photo: Maris Ostelis



Equipment used for surface measurement in Aklais Mire. Photo: Maris Ostelis



Drainage ditch in Rozu Mire. Photo: Aivars Slisans



Drainage ditch where dams have to be built in Rozu Mire. Photo: Mara Pakalne



Drainage ditches where dams have to be built in Rozu Mire Nature Reserve. Photo: Mara Pakalne



Drainage ditch where dams have to be built in Rozu Mire Nature Reserve. Photo: Mara Pakalne



Drainage ditch where dams have to be built in Aklais Mire. Photo: Aivars Slisans



Drainage ditch where dams have to be built in Aklais Mire. Photo: Mara Pakalne



Drainage ditch where dams have to be built in Aklais Mire. Photo: Mara Pakalne



Drainage ditch where dams have to be built in Aklais Mire. Photo: Mara Pakalne



Discussions about the location of dams
Photo: Aivars Slisans



Discussions about the planned location of dams
in Melnais Lake Mire. Photo: Mara Pakalne

C1 Re-establishing the active raised bog habitats and natural raised bog hydrology



Meeting with the sub-contractor about dam building in the project sites. Photo: M. Pakalne



Meeting with the sub-contractor about dam building in the project sites. Photo: M. Pakalne



Discussion with sub-contractor about dam building in Melnais Lake Mire. Photo: M. Pakalne



Discussion with sub-contractor about dam building in Melnais Lake Mire. Photo: M. Pakalne



Discussion with sub-contractor about dam building in Melnais Lake Mire. Photo: M. Pakalne



Discussion with sub-contractor about dam building in Melnais Lake Mire. Photo: M. Pakalne

D1 Organisation of seminars

 <p>© Aivars Slisāns</p>	 <p>© Aivars Slisāns</p>
<p>Participants of the First project seminar – 29.03.2010. Photo: Aivars Slisāns</p>	<p>First seminar – 29.03.2010. – project manager Mara Pakalne tells about the project. Photo: Aivars Slisāns</p>
	
<p>First seminar – 29.03.2010. – Vija Busa from the Ministry of Environment. Photo: Aivars Slisāns</p>	<p>First seminar – 29.03.2010. – Viesīte Town local representative Inese Vitola. Photo: Aivars Slisāns</p>
	
<p>First seminar – 29.03.2010. – Nature Protection Board, Juris Jatnieks. Photo: Aivars Slisāns</p>	<p>First seminar – 29.03.2010. – Discussion after the formal part. Photo: Aivars Slisāns</p>



Participants of the seminar “Value of Raised Bog Conservation” – 17.12.2010.
Photo: Aivars Slisans



Seminar “The Value of Raised Bog Conservation” – 17.12.2010 – project manager Mara Pakalne tells about the project. Photo: Aivars Slisans



Seminar “The Value of Raised Bog Conservation” – 17.12.2010 – project ornitologist Aivars Petrins tells about the bog birds. Photo: Aivars Slisans



Seminar “The Value of Raised Bog Conservation” 17.12.2010. – winners of bog quiz.
Photo: Aivars Slisans



Opening of the Photo exhibition “Secrets of Mires” on 17.12.2010.
Photo: Aivars Slisans



Opening of the Photo exhibition “Secrets of Mires” on 17.12.2010.
Photo: Aivars Slisans



Participants of the Teachers' Seminar
17.05.2011. Photo: Aivars Slisans



Participants of the Teachers' Seminar in Melnais
Lake Mire. 17.05.2011. Photo: Aivars Slisans



Iluta Dauksane telling about trees growing in the
bog in Teachers' Seminar 17.05.2011.
Photo: Aivars Slisans



Participants of the Teachers' Seminar
17.05.2011 could see tree samples. Photo:
Aivars Slisans



During the seminar the teachers visited Melnais
Lake Mire. Photo: M.Pakalne



Participants of the Teachers' Seminar
17.05.2011. Photo: Aivars Slisans



Participants of the Seminar for Pupils on 23.09.2011. Photo: Aivars Slisans



Participants of the Pupils Seminar 23.09.2011. Photo: Aivars Slisans



Participants of the Pupils Seminar on 23.09.2011. Photo: Aivars Slisans



Participants of the Pupils Seminar on 23.09.2011. Photo: Aivars Slisans



Participants of the Seminar for pupils on 23.09.2011. Photo: Aivars Slisans



Participants of the Seminar for pupils on 23.09.2011. Photo: Aivars Slisans

D3 Elaboration and publishing of information booklets and boards



Information board in Melnais Lake Mire Nature Reserve. Photo: Gundega Freimane



Information board in Melnais Lake Mire Nature Reserve. Photo: Gundega Freimane



Project information booklets. Photo: Aivars Slisans



Project information booklets. Photo: Aivars Slisans



Project manager M. Pakalne with information booklets. Photo: Aivars Slisans



Information coordinator Daiga Brakmane and the project booklets. Photo: Aivars Slisans

D5 Production of documentary film



Operator Davis Drazdovskis filming in Aizkraukle Mire and Forests. Photo: Ieva Ubele



Filming German visit in Latvia in Aizkraukle Mire. Photo: Ieva Ubele



Operator Lelde Goba.
Photo: Ieva Ubele



Filming in Aklais Mire.
Photo: Aivars Slisans



Operator Davis Drazdovskis filming Teachers' Seminar. Photo: Aivars Slisans



Ieva Ubele from ELM Media telling about film.
Photo: Aivars Slisans

D6 Establishment of the Raised Bog exhibition



Opening of Exhibition in Viesite.
Photo: Aivars Slisans



Opening of Exhibition in Viesite Town. Project
Team at the opening. Photo: Uldis Saulitis



Opening of Exhibition in Ogre.
Photo: Aivars Slisans



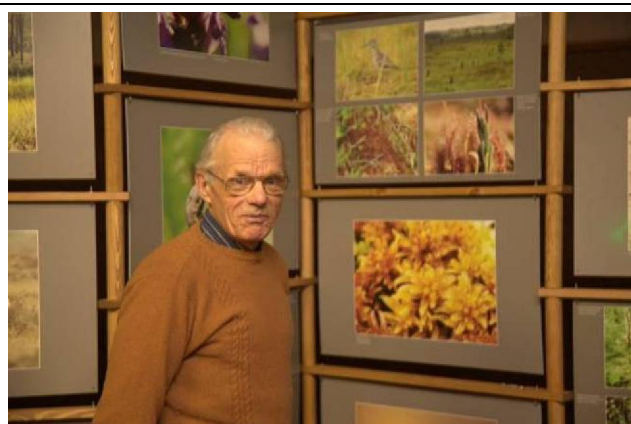
Opening of Exhibition in Ogre.
Photo: Mara Pakalne



Opening of Exhibition in Ogre.
Photo: Aivars Slisans



Opening of Exhibition in Ogre.



Opening of Exhibition in Aizkraukle.
Photo: Aivars Slisans



Opening of Exhibition in Aizkraukle.
Photo: Aivars Slisans



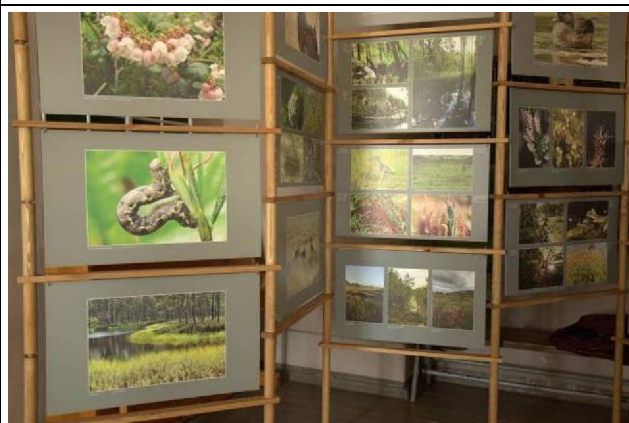
Opening of Exhibition in Sala School.
Photo: Aivars Slisans



Opening of Exhibition in Sala School.
Photo: Aivars Slisans



Opening of Exhibition in Sala School.
Photo: Aivars Slisans



Opening of Exhibition in Sala School.
Photo: Mara Pakalne



Exhibition in Ministry of Environment and Regional Development of Latvia. Photo: Aivars Slisans



Exhibition in The Cabinet of Ministers of the Republic of Latvia. Photo: Aivars Slisans



Exhibition in The Cabinet of Ministers of the Republic of Latvia. Prime Minister of Latvia Valdis Dombrovskis. Photo: Aivars Slisans



Exhibition in The Cabinet of Ministers of the Republic of Latvia. Photo: Aivars Slisans



Opening of Exhibition in Ministry of Defence of Latvia. Photo: Aivars Slisans



Opening of Exhibition in Ministry of Defence of Latvia. Photo: Aivars Slisans



Opening of Project Photo Exhibition in Daugavpils University. Photo: Mara Pakalne



Opening of Project Photo Exhibition in Daugavpils University. Photo: Mara Pakalne



Project Photo Exhibition in Olaine Museum of History and Art. Photo: Daiga Brakmane



Project Photo Exhibition in Olaine Museum of History and Art. Photo: Mara Pakalne



Opening of Exhibition in the Parliament of Latvia.
Photo: Saeima



Opening of Exhibition in the Parliament of Latvia.
Photo: Saeima



Opening of Project Photo Exhibition in Ventspils Library. Photo: Aivars Slisans



Opening of Project Photo Exhibition in Ventspils Library. Photo: Aivars Slisans



Opening of Exhibition in Ventspils Library. Photo: Aivars Slisans



Opening of Exhibition in Ventspils Library. Photo: Mara Pakalne



Photo Exhibition in Ventspils Library. Photo: Mara Pakalne



Photo Exhibition in Jelgava Scientific Library. Photo: Jelgava Scientific Library



Photo Exhibition in the Botanical Garden of the University of Latvia. Photo: Mara Pakalne



Photo Exhibition in the Botanical Garden of the University of Latvia. Photo: Mara Pakalne



Photo Exhibition in the Botanical Garden of the University of Latvia. Photo: Mara Pakalne



Photo Exhibition in Botanical Garden during the Science Night. Photo: Mara Pakalne



Exhibition in Botanical Garden during the Science Night. Photo: Aivars Slisans



Exhibition in Botanical Garden during the Science Night. Photo: Aivars Slisans



Seminar in Daudzese 23.9.2011. Looking into the microscope. Photo: Aivars Slisans



Participants of Teachers Seminar in Daudzese 23.9.2011. Photo: Aivars Slisans



Participants in excursion of Teachers Seminar in Daudzese 23.9.2011. Photo: Aivars Slisans



Participants of Teachers Seminar in Daudzese 23.9.2011 taking peat sample. Photo: Aivars Slisans



Participants in excursion of Teachers Seminar in Daudzese 23.9.2011. Photo: Daiga Brakmane



Participants of Teachers Seminar taking tree sample in Daudzese 23.9.2011. Photo: Aivars Slisans



Project manager gives an interview to Latvian TV about the bog exhibition at the Botanical Garden of the University of Latvia. Photo: O.Sturis



Raised bog exhibition at the Botanical Garden of the University of Latvia. Photo: M.Pakalne



Project manager gives an interview to Latvian TV about the bog exhibition at the Botanical Garden of the University of Latvia. Photo: Oskars Sturis



Project manager gives an interview to Latvian TV about the bog exhibition at the Botanical Garden of the University of Latvia. Photo: Oskars Sturis



Project manager gives an interview to Latvian TV about the bog exhibition at the Botanical Garden of the University of Latvia. Photo: O.Sturis



Project manager gives an interview to Latvian TV about the bog exhibition at the Botanical Garden of the University of Latvia. Photo: Oskars Sturis

E1 Steering Group Meetings



First Project Steering Group Meeting - 19.08.2010. – participants and project manager Mara Pakalne speaking. Photo: Aivars Slisāns



First Project Steering Group Meeting - 19.08.2010. – chair of the meeting Vija Busa. Photo: Aivars Slisāns



First Project Steering Group Meeting - 19.08.2010. – Dr.geol. Aija Delina explaining raised bog hydrology. Photo: Aivars Slisāns



First Project Steering Group Meeting - 19.08.2010. – Valda Baronina telling about nature management plans. Photo: Aivars Slisāns



Participants of the 1st Project Steering Group Meeting on 19.08.2010. Photo: Aivars Slisāns



First Project Steering Group Meeting on 19.08.2010. – Aivars Slisāns presenting overview about the finances of the project. Photo: Mara Pakalne



Participants of the 2nd Project Steering Group Meeting on 01.03.2011. Photo: Aivars Slisans



Participants of the 2nd Project Steering Group Meeting on 01.03.2011. Photo: Aivars Slisans



Second Project Steering Group Meeting - 01.03.2011. – Project Manager Mara Pakalne. Photo: Aivars Slisans



Second Project Steering Group Meeting - 01.03.2011. – chair of the meeting Vija Busa. Photo: Aivars Slisans



Second Project Steering Group Meeting - 01.03.2011. – Valda Baronina tells about management plans. Photo: Aivars Slisans



Second Project Steering Group Meeting - 01.03.2011. – Janis Reihmanis tells about management plans. Photo: Aivars Slisans



Participants of the 3rd Project Steering Group Meeting on 06.09.2011 – Mara Pakalne and participants. Photo: Aivars Slisans



Participants 3rd Project Steering Group Meeting on 06.09.2011. Photo: Aivars Slisans



Third Project Steering Group Meeting - 06.09.2011. – Laimdota Kalnina tells about paleovegetation studies. Photo: Aivars Slisans



Participants of the 3rd Project Steering Group Meeting on 06.09.2011 at the Photo Exhibition. Photo: Aivars Slisans



Third Project Steering Group Meeting - 06.09.2011. – Agnese Priede tells about the results of habitat monitoring. Photo: Aivars Slisans



Third Project Steering Group Meeting - 06.09.2011. – Raised bog photo exhibition. Photo: Aivars Slisans

E1 Project administration by the University of Latvia



Dr. biol. Mara Pakalne, project manager
Photo: Aldis Vite



Aivars Slisans, project assistant
Photo: Mara Pakalne



Gunars Balodis, field manager.
Photo: Aivars Slisans



Daiga Brakmane, information coordinator.
Photo: Aivars Slisans



Rolands Ratfelders visits the project team in 2010. Photo: Aivars Slisans



Project team together in Germany.

E1 Project administration by the University of Latvia



EC Monitoring expert Rolands Ratfelders visiting the project team on June 20, 2011.
Photo: Aivars Slisans



EC Monitoring expert Rolands Ratfelders visiting the project team on June 20, 2011.
Photo: Aivars Slisans



Project team discussing the actions during the project management meeting.
Photo: Aivars Slisans



Project team discussing the actions during the project management meeting.
Photo: Aivars Slisans



Discussion with the experts about the project informations booklets. Photo: Aivars Slisans



Discussion with the experts about the project informations booklets. Photo: Aivars Slisans



Project team in the field work in Rožu Mire
Photo: Mara Pakalne



Project manager Mara Pakalne doing field work in Rožu Mire. Photo Aivars Slisans



Field work carried out by project experts in Rožu Mire
Photo Aivars Slisans



Shooting film in Rožu Mire Nature Reserve
Photo Aivars Slisans



Shooting film in Rožu Mire Nature Reserve
Photo: Aivars Slisans



Project information coordinator in Rožu Mire
Photo: Aivars Slisans



Field work in drained area of Rožu Mire. Monitoring dam building area. Photo: Aivars Slisans



Field work in Aizkraukle Mire Nature Reserve. Photo: Aivars Slisans



Meeting with the stakeholder – Latvian State Forests, discussion about management actions. Photo: Aivars Slisans



Meeting with the stakeholder – Latvian State Forests. Photo: Aivars Slisans



Meeting with the representatives from Jaunjelgava Municipality, discussion about management actions. Photo: Aivars Slisans



Meeting with the representatives from Jaunjelgava Municipality, discussion about management actions. Photo: Aivars Slisans

E2 Monitoring the effects of management actions on raised bog habitats, bird species and site hydrology



Monitoring area including peat field and intact bog in Melnais Lake Mire NR. Photo: M. Pakalne



Monitoring area in Melnais Lake Mire NR
Photo: M. Pakalne



Groundwater monitoring in the project sites
Photo: A. Slisans



Hydrological monitoring wells in the project sites.
Photo: G. Balodis



Bryophyte *Sphagnum magellanicum* in the monitoring plots. Photo: Mara Pakalne



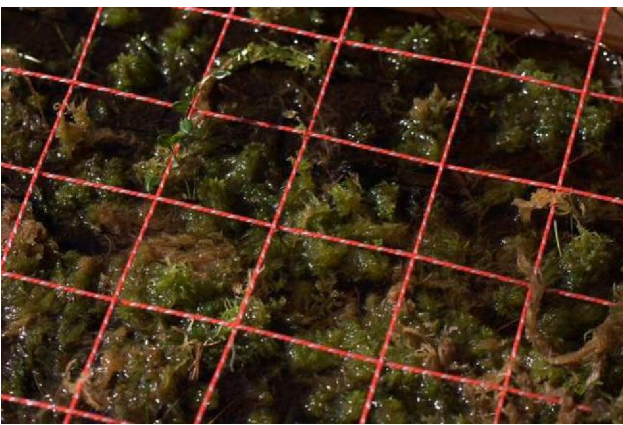
Establishing monitoring plots in Melnais Lake Mire in 2010. Photo: Mara Pakalne



Monitoring habitats in Melnais Lake Mire in summer 2010. Photo: Mara Pakalne



Sundew *Drosera rotundifolia* in the monitoring plot. Photo: Mara Pakalne



Sphagnum species in the monitoring plot in 2010. Photo: Mara Pakalne



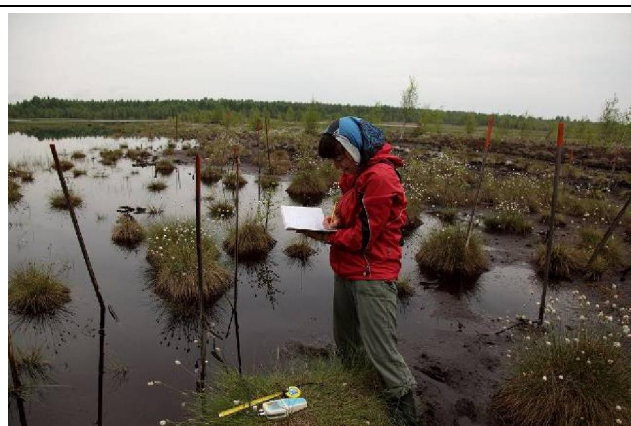
The monitored habitats in Melnais Lake Mire. Photo: Mara Pakalne



Habitat monitoring in spring 2011 in Melnais Lake Mire. Photo: Mara Pakalne



Habitat monitoring peatland area in Melnais Lake Mire. Photo: Mara Pakalne



Habitat monitoring in Melnais Lake Mire.
Photo: Mara Pakalne



Habitat monitoring in Melnais Lake Mire.
Photo: Mara Pakalne



Peatland restoration area in Melnais Lake Mire.
Photo: M.Pakalne



Peatland restoration area in Melnais Lake Mire.
Photo: M.Pakalne



Habitat monitoring plots in summer 2011 in
Melnais Lake Mire. Photo: Mara Pakalne



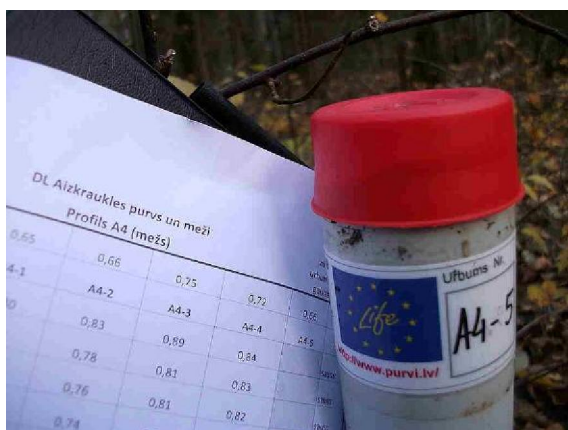
Sphagnum magellanicum in the monitoring plots
in summer 2011. Photo: Mara Pakalne



Hydrological monitoring in Melnais Lake Mire.
Photo: Persijs Gederts



Groundwater monitoring well in Melnais Lake Mire. Photo: Persijs Gederts



Hydrological monitoring in Aizkraukle Mire.
Photo: Persijs Gederts



Hydrological monitoring in Aklais Mire.
Photo: Persijs Gederts



Hydrological monitoring in Aklais Mire.
Photo: Persijs Gederts



Hydrological monitoring in Rožu Mire in December 2011. Photo: Persijs Gederts

E3 Cooperation with LIFE+ projects, participation in study tours, seminars and conferences



Study tour trip to Germany 06.-18.06.2010.
Photo: Aivars Slisans



Experience exchange trip to Germany 06.-18.06.2010. Photo: Aivars Slisans



Study tour trip to Germany 06.-18.06.2010.



Building dams in the Bavarian LIFE project.
Photo: Aivars Slisans



The restored bog area in Bavarian Raised bog.
Photo: Mara Pakalne



The restored bog area in Bavarian LIFE project.
Photo: Mara Pakalne



Field Symposium of the International Mire Conservation Group in Slovakia and Poland 05.-17.07.2010. Photo: Izolda Matchutadze



Field Symposium of the International Mire Conservation Group in Slovakia and Poland 05.-17.07.2010. Photo: Mara Pakalne



Field Symposium of the International Mire Conservation Group in Slovakia and Poland 05.-17.07.2010. Photo: Mara Pakalne



Field Symposium of the International Mire Conservation Group in Slovakia and Poland 05.-17.07.2010. Photo: Mara Pakalne



Utricularia vulgaris - Field Symposium of the International Mire Conservation Group in Slovakia and Poland 05.-17.07.2010. Photo: Mara Pakalne



Gladiolus palustre in Slovakian mires - Field Symposium of the International Mire Conservation Group 05.-17.07.2010. Photo: Mara Pakalne



Experience exchange trip to Wales
Photo: Mara Pakalne



Restored bog in Wales.
Photo: Mara Pakalne



Blanket bogs in Wales
Photo: Mara Pakalne



Erica tetralix in the bogs in Wales
Photo: Mara Pakalne



Discussions about site hydrological monitoring equipment – loggers in Wales.
Photo: Mara Pakalne



Building of dams in LIFE project site - the blanket bogs in Wales
Photo: Mara Pakalne



LIFE project team in the blanket bogs in Wales 01.-09.09.2010. Photo: Mara Pakalne



Project team and Welsh LIFE project team Photo: Mara Pakalne



LIFE project from Wales visiting Latvia, Kemer National Park. Photo: Mara Pakalne



LIFE project from Wales visiting Latvia visiting Cena Mire. Photo: Mara Pakalne



LIFE project from Wales in Latvia 21.-22.09.2010. – visiting Cena Mire. Photo: Mara Pakalne



LIFE project from Wales in Latvia 21.-22.09.2010. – visiting Engure Lake Nature Park. Photo: Mara Pakalne



LIFE project from Wales in Latvia 21.-22.09.2010. – visiting Raganu Mire
Photo: Mara Pakalne



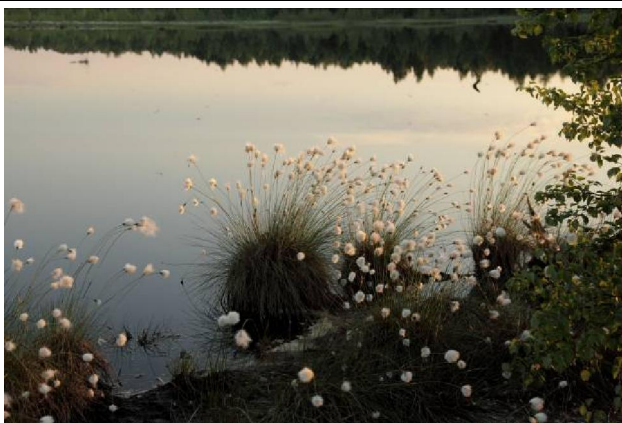
LIFE project from Wales in Latvia 21.-22.09.2010. - visiting Engure Lake Nature Park
Photo: Mara Pakalne



Peatland experts from Germany in Melnais Lake Mire. Photo: Aivars Slisans



Peatland experts from Germany in Melnais Lake Mire. Photo: Aivars Slisans



Peatland resoration area in Melnais Lake Mire NR. Photo: Mara Pakalne



Peatland experts from Germany in Melnais Lake Mire. Photo: Aivars Slisans



Peatland experts from Germany in Aizkraukle Mire and Forests. Discussion about raised habitats. Photo: M.Pakalne



Peatland experts from Germany in Aizkraukle Mire and Forests. Photo: M.Pakalne



Peatland experts from Germany in Aklais Mire. Photo: Mara Pakalne



Peatland experts from Germany in Aklais Mire. Photo: Mara Pakalne



Peatland experts from Germany in Aklais Mire. Discussion about site hydrology and geology with the project hydrologist A. Delina. Photo: Aivars Slisans



Peatland experts from Germany in Aklais Mire. Discussion about management plan and management actions. Photo: Aivars Slisans



Peatland experts from Germany in Aklais Mire.
Discussion about site hydrology.
Photo: Aivars Slisans



Crossing the bog pool in Aklais Mire.
Photo: Aivars Slisans



German experts in Aizkraukle Mire, discussion
about management actions.
Photo: Aivars Slisans



German experts studying Sphagnum moss.
Photo: Mara Pakalne



German experts in Aklais Mire, shooting film.
Photo: Mara Pakalne



German experts in Aklais Mire Nature Reserve.
Photo: Mara Pakalne



Study tour to LIFE project in Daugavpils.
Photo: Aivars Slisans



Study tour to LIFE project in Daugavpils, field discussion.
Photo: Aivars Slisans



Meeting with LIFE project in Daugavpils University.
Photo: Aivars Slisans



Study tour to LIFE project in Daugavpils.
Photo: Aivars Slisans



Study tour to LIFE project in Dviete Floodplain.
Photo: Aivars Slisans



Management area in Dviete Floodplain LIFE project.
Photo: Aivars Slisans



Study tour to LIFE projects in Estonia, discussion about raised bog management and monitoring in Tolkuse Bog, LIFE project site.



Study tour to LIFE projects in Estonia, discussion about raised bog management and monitoring in Tolkuse Bog, LIFE project site.



Life project team and experts from the Estonian Ministry of Environment in Nigula Bog in Estonia. Photo: A. Slisans



Agu Levits from Nigula Nature Reserve tells about building of dams in Nigula Bog in Estonia. Photo: A. Slisans



Agu Levits from Nigula Nature Reserve tells about building of dams in Nigula Bog in Estonia. Photo: Mara Pakalne



Discussion about dam building experience in Estonia with the experts from the Estonia. Photo: Mara Pakalne



Discussion about mire management in Vidumae Nature Reserve in Estonia. Photo: Aivars Slisans



Vidumae Nature Reserve in Estonia. Photo: Aivars Slisans

5.17 Publicity of the project

Newspapers and other printed materials

No.	Date	Title of the edition	Title	Photos	Summary	Audience
	Year 2010					
1	May	Olaines Domes Vestis	Uzsak izstradat dabas aizsardzibas planu	0*	Invitation to Melnais Lake Mire Management plan informative meeting (i)**	No information
2	May 11	Latvijas Vestnesis	Pazinojums	0	Invitation to Aizkraukle Mire and Forests Management plan informative meeting (i)	1'150
3	May 14	Latvijas Vestnesis	Pazinojums	0	Invitation to Aklais Mire Management plan informative meeting (i)	1'15
4	May 14	Latvijas Vestnesis	Pazinojums	0	Invitation to Melnais Lake Mire Management plan informative meeting (i)	1'150
5	May 19	Latvijas Vestnesis	Pazinojums	0	Invitation to Rožu Mire Management plan informative meeting (i)	1'150
6	July	Jaunjelgavas novada vestis	Plans dabas liegumam	0	Invitation to Aklais Mire Management plan informative meeting (i)	No information
7	July 1	Chemjaur Zeitung	Lettische Biologen bei Hochmoor-renaturierung	1	Latvians visiting LIFE project "Rosenheimer Stammbeckenmoore" in Germany (i)	No information
8	August 7	Staburags	Plano paaugstinat purvu udenslimeni (Indulis Burka)	1	After discussions with the plant and habitat expert Uvis Susko journalist Indulis Burka writes an article about the project in the newspaper "Staburags" - about nature management plan and planned actions in Aizkraukle Mire and Forests and in Aklais Mire (v)	6'500
9	October 26	Staburags	Purva ir dabas vertibas (Indulis Burka)	1	After first Steering Group meeting for Aklais Mire Nature Management Plan I.Burka writes about nature values found in the site during experts' expeditions and planned management actions in the mire (v)	6'500
10	December	Olaines Domes Vestis	Par dabas lieguma "Melna ezera purvs" dabas aizsardzibas planu	0	Invitation to Melnais Lake Mire Management plan public discussions (i)	1'150

11	December 14	Latvijas Vestnesis	Sabiedriskas apspriesanas sanaksme par dabas lieguma "Melnā ezera purvs" dabas aizsardzības planu	0	Invitation to Melnais Lake Mire Management plan public discussions (i)	1'150
12	December 14	Latvijas Vestnesis	Sabiedriskas apspriesanas sanaksme par dabas lieguma "Rožu purvs" dabas aizsardzības planu	0	Invitation to Rožu Mire Management plan public discussions (i)	1'150
Year 2011						
13	January 4	Rīgas Aprinka Avīze	Aicina debatēt par Melnā ezera purva dabas aizsardzības planu	0	Invitation to Melnais Lake Mire Management plan public discussions (i)	No information
14	January 10	Novada Vestis (Salas novada izdevums)	Sabiedriskas apspriesanas sanaksme par dabas lieguma "Rožu purvs" dabas aizsardzības planu	0	Invitation to Rožu Mire Management plan public discussions (i)	No information
15	January 18	Ogres vestis	Ogriņu vertējumam nodotas divas fotoizstādes (A. Zeilina)	2	Information about exhibition in Ogre (v)	1'000
16	January 18	Staburags	Dabas lieguma neiklaus	0	Information that Koknese Municipality doesn't want to make Nature Reserve larger (i)	6'500
17	January 25	Latvijas Vestnesis	Par dabas lieguma "Aizkraukles purvs un meži" dabas aizsardzības plāna apspriešanu	0	Invitation to Aizkraukle Mire and Forests Management plan public discussions (i)	1'150
18	January 29	Staburags	Purva dabas aizsardzības planu nodod sabiedriskajai apspriešanai (Indulis Burka)	0	Information about Aizkraukle Mire and Forests Management plan (g)	6'500

19	February 5	Aizkraukles Domes Vestis	Informācija par Aizkraukles purva un mežu dabas aizsardzības plānu sabiedrisko apspriešanu (V.Baronina)	1	Information about Aizkraukle Mire and Forests Management plan and exhibition Secrets of Mires	No information
20	February 9	Latvijas Vestnesis	Pazinojums	0	Invitation to Aklais Mire Management plan public discussions (i)	1'150
21	10/02/11	Novada vestis	Informācija par Rožu purva dabas aizsardzības plāna sabiedrisko apspriešanu (G. Freimane)	0	Invitation to Rožu Mire Management plan public discussions (i)	No information
22	February 15	Jaunjelgavas novada vestis	Par dabas lieguma "Aklais purvs" dabas aizsardzības plāna apspriešanu	0	Invitation to Aklais Mire Management plan public discussions (i)	No information
23	March 5	Aizkraukles Domes Vestis	Plans purva aizsardzībai	1	Information about Aizkraukle Mire and Forests Management plan and exhibition Secrets of Mires	No information
24	March 5	Staburags	Plano veidot 29 dambjus (Guna Mikasenoka)	0	Information about Aizkraukle Mire and Forests Management plan (v)	6'500
25	March 26	Staburags	Iedzīvotāji grib ogu vietas (Guna Mikasenoka)	0	Information about Aizkraukle Mire and Forests Management plan (v)	6'500
26	March 29	Staburags	Savu purvu neatdod (Janis Ozolins)	0	Discussions about Aklais Mire Management plan (v)	6'500
27	April 21	Staburags	Negatīvas ietekmes projekta nav izskatītas (Guntis Jankovskis)	0	Discussions about Aklais Mire Management plan (v)	6'500
28	August 9	Zemgales Zinas	Purvi fotogrāfijas (Uldis Veilants)	0	Information about exhibition "Secrets of Mires" in Jelgava (v)	6'500
29	September	Zinatnieku nakts	Botaniskais darzs	0	Information about Science Night 2011 – "Secrets of Mires" in the Botanical Garden of the University of Latvia	No information
30	November 3	Brīva Daugava	Aicina izstādi "Purvu noslēpumi"	0	Information about exhibition "Secrets of Mires" in Jekabpils (v)	5'300

31	December 5	Staburags	“Purvu noslepumi” Jaunjelgavas bibliotekā	1	Information about exhibition “Secrets of Mires” in Jaunjelgava (v)	6’500
32	December 16	Jaunjelgavas novada vestis	Purvu noslepumi	0	Information about exhibition “Secrets of Mires” in Jaunjelgava (v)	No information

4* - number of photos

** (i) – short paper or news

(v) – medium long paper

(g) – long paper

TV, Radio

Date	Radio/TV channel	Broadcast	Summary	Length
Year 2010				
June 29	Radio LR1	Zinamais nezinamaja	Live interview with project manager Mara Pakalne and invertebrate expert Voldemars Spungis about Management plans, nature values in the Project sites, bogs in other counties. Project is presented to the public.	10'
Year 2011				
July	Kurzemes TV	Zinas Ventspilij	Information about the Project. Information about exhibition Secrets of Mires in Ventspils Library.	5'
July	Talsu TV	Zinas	Information about Bryology seminar in Latvia and raised bogs. Interview with Project Manager Mara Pakalne.	3'
July	LTV1	Zinas	Information about Bryology seminar in Latvia and raised bogs. Interview with Project Manager Mara Pakalne.	2'
October 3	Naba	Izglitibas, zinatnes un kulturas zinas pirmdiena	Photo exhibition "Secrets of Mires" opened in Riga – Botanical Garden of University of Latvia.	1'
October 20	LTV1	Rita zinas	Information about exhibition Secrets of Mires in Botanical garden. Interview with Project Manager Mara Pakalne.	2'

Internet portals and news agencies

No.	Date	Internet portal or news agency	Title	Summary	Photos
	Year 2010				
1	May 1	www.ldf.lv	Augstie purvi	Summary about the Project and Management Plans	0
2	May 1	www.ldf.lv	Aklais purvs	Summary about Nature management plan for Aklais Mire	0
3	May 1	www.ldf.lv	Rožu purvs	Summary about Nature management plan for Rožu Mire	0
4	May 1	www.ldf.lv	Melna ezera purvs	Summary about Nature management plan for Melnais Lake Mire	0
5	May 1	www.ldf.lv	Aizkraukles purvs un meži	Summary about Nature management plan for Aizkraukle Mire and Forests	0
6	May 11	www.lv.lv	Pazinojums	Invitation to Aizkrauke Mire and Forests Management plan informative meeting	0
7	May 11	www.salasnovads.lv	Dabas lieguma Rožu purvaizstrades uzsaksana	Invitation to Rožu Mire Management plan informative meeting	0
8	May 14	www.lv.lv	Pazinojums	Invitation to Aklais Mire Management plan informative meeting	0
9	May 14	www.lv.lv	Pazinojums	Invitation to Rožu Mire Management plan informative meeting	0
10	May 19	www.lv.lv	Pazinojums	Invitation to Melnais Lake Mire Management plan informative meeting	0
11	May	www.elmmedia.lv	Purva noslepumi	Summary about project and the film what will be made during it.	4
12	May 20	www.ldf.lv	Uzsakts darbs pie cetriem dabas aizsardzibas planiem purvu teritorijas	Information about four Nature Management plans what will be carried out by Latvian Fund for Nature and informative meetings for them.	1
13	June 17	www.daudzese.lv	Sanaksme par dabas lieguma Aklais purvs plana izstradi	Invitation to Aklais Mire Management plan informative meeting	0
14	July 30	www.staburags.lv	Plano paaugstinat purvu udenslimeni (Indulis Burka)	After discussions with the plant and habitat expert Uvis Susko journalist Indulis Burka writes an article about the project in the newspaper "Staburags" - about nature management plan and planned actions in Aizkraukle Mire and Forests and in Aklais Mire	1

15	July 31	www.delfi.lv	Daudzseses pagasta plano paaugstinat purvu udenslimeni (Indulis Burka)	After discussions with the plant and habitat expert Uvis Susko journalist Indulis Burka writes an article about the project in the newspaper "Staburags" - about nature management plan and planned actions in Aizkraukle Mire and Forests and in Aklais Mire	1
16	August 18	www.elmmedia.lv	Purva ekspedicija (Davis)	After an expedition with bog experts Elm Media who is preparing film for the project writes an article about people living next to the mires and experts studying bog nature values.	3
17	September 14	www.blanketbogswales.org	Latvian LIFE visit	At the beginning of September, the LIFE project hosted a visit from a Latvian LIFE project team who are working on the project, Restoration of Raised Bog Habitats in the Especially Protected Areas of Latvia.	0
18	September 15	www.ldf.lv	Pabeigta teritoriju izpete cetros dabas liegumos (Valda Baronina)	Summary about animal, plant and habitat inventory in the project sites.	3
19	September 15	www.ldf.lv	Dabas lieguma "Rožu purvs" dabas aizsardzibas plana izstrades I uzraudzibas grupas sanaksme (G.Freimane)	Invitation to attend First Steering Group Meeting for Rožu Mire Nature Reserve Nature Management Plan.	1
20	October 2	www.ldf.lv	Dabas liegumos notiks pirmas uzraudzibas grupas sanaksmes	Invitation to attend First Steering Group Meeting for Aizkraukle Mire and Forests, Melnais Lake Mire and Aklais Mire Nature Management Plan.	1
21	October 18	www.staburags.lv	Purva pasleptas dabas vertibas	After first Steering Group meeting for Aklais Mire Nature Management Plan I.Burka writes about nature values found in the site during experts' expeditions and planned management actions in the mire.	2
22	October 22	www.blanketbogswales.org	LIFE in Latvia	The „Blanket Bogs Wales” LIFE team has recently returned from a visit to see the work carried out by two LIFE-Nature projects in Latvia.	9

23	December 1	www.ldf.lv	Purvu dabas aizsardzības plāniem - otras uzraudzības grupas sanāksmes	Invitation to attend Second Project Steering Group Meeting for Aizkraukle Mire and Forests, Melnais Lake Mire and Aklais Mire Nature Management Plan	1
24	December 14	www.lv.lv	Sabiedriskas apsprišanas sanāksme par dabas lieguma "Melna ezera purvs" dabas aizsardzības plānu	Invitation to Melnais Lake Mire Management plan public discussions	0
25	December 14	www.lv.lv	Sabiedriskas apsprišanas sanāksme par dabas lieguma "Rožu purvs" dabas aizsardzības plānu	Invitation to Rožu Mire Management plan public discussions	0
26	December	www.olaine.lv	Sabiedriskas apsprišanas sanāksme par dabas lieguma "Melna ezera purvs" dabas aizsardzības plānu	Invitation to Melnais Lake Mire Management plan public discussions	0
27	December 23	www.olaine.lv	Sabiedriskas apsprišanas sanāksme par dabas lieguma "Melna ezera purvs" dabas aizsardzības plānu	Invitation to Melnais Lake Mire Management plan public discussions	0
28	December 27	www.salasnovads.lv	Dabas liegums Rožu purvs	Invitation to Rožu Mire Management plan public discussions	0

29	December 29	www.ldf.lv	Dabas lieguma "Melna ezera purvs" dabas aizsardzības plāna sabiedriska apsprišana	Invitation to Melnais Lake Mire Management plan public discussions.	1
	Year 2011				
30		Daba.gov.lv	Publiski apspriežamie dokumenti	Invitation to Management Plans public discussions.	0
31	January 4	www.ldf.lv	Dabas lieguma "Rožu purvs" dabas aizsardzības plāna sabiedriska apspriešana	Invitation to Rožu Mire Management plan public discussions.	1
32	January 5	LETA	Nakamnedel Ogrē atklās fotogrāfiju izstādi par purviem	Photo exhibition "Secrets of Mires" will be opened in Ogrē.	0
33	January 6	www.eogre.lv	Purvu noslepumi	Photo exhibition "Secrets of Mires" will be opened in Ogrē.	1
34	January	www.ogrenet.lv	Ceturtdien foto klubs "Ogrē" atklās divas izstādes	Photo exhibition "Secrets of Mires" will be opened in Ogrē.	0
35	January	www.ogresnovads.lv	Fotoizstādes atklāšana	Photo exhibition "Secrets of Mires" will be opened in Ogrē.	1
36	January 11	www.ogresnovads.lv	Foto klubs "Ogrē" atver divas izstādes	Photo exhibition "Secrets of Mires" will be opened in Ogrē.	1
37	January 13	LETA	Ogrē atklās fotogrāfiju izstādi par purviem	Photo exhibition "Secrets of Mires" will be opened in Ogrē.	0
38	January 13	www.eogre.lv	Izstāde "Purvu noslepumi"	Photo exhibition "Secrets of Mires" was opened in Ogrē.	Video
39	January 17	www.latvijascentrs.lv	Foto klubs "Ogrē" atver divas izstādes	Photo exhibition "Secrets of Mires" was opened in Ogrē.	1

40	January 19	www.staburags.lv	Dabas lieguma "Aizkraukles purvs un meži" dabas aizsardzības planu nolemj nodot sabiedriskajai apspriesanai	Aizkraukle Mire and Forests Nature Management Plan will be discussed in public.	1
41	January 24	www.ldf.lv	Dabas lieguma "Aizkraukles purvs un meži" dabas aizsardzības plana sabiedriska apspriesana	Invitation to Aizkraukle Mire and Forests Management plan public discussions	1
42	January 25	www.lv.lv	Par dabas lieguma "Aizkraukles purvs un meži" dabas aizsardzības plana apspriesanu	Invitation to Aizkraukle Mire and Forests Management plan public discussions	0
43	January 28	www.fotoamatnieki.lv	Foto kluba Ogre "Purvu noslepumi"	Information about photo exhibition by Arno Marnics.	5
44	January 29	www.staburags.lv	Purva dabas aizsardzības planu nodod sabiedriskajai apspriesanai	Aizkraukle Mire and Forests Nature Management Plan will be discussed in public.	1
45	February 9	www.lv.lv	Pazinojums par sabiedriskas apspriesanas sanaksmi par dabas liegumu "Aklais purvs"	Invitation to Aklais Mire and Forests Management plan public discussions.	0
46	February 11	www.ldf.lv	Rožu purva dabas liegumam nosleguma sanaksme	Information about the last Steering group meeting of Rožu Mire Management plan.	1

47	February 11	www.ldf.lv	Dabas lieguma "Aklais purvs" dabas aizsardzības plāna sabiedriska apspriešana	Information about the Public hearing of Aklais Mire Management plan.	1
48	February 24	www.liaa.lv	Informatīvais seminārs Rīgā par ES programmu LIFE+	Invitation to informative seminar about LIFE+ programme; one of speakers – M. Pakalne.	0
49	February, March	www.lu.lv	LU 69. konference	Information of the project staff and experts presentation at the 69 th Scientific Conference of the University of Latvia: 1. M. Pakalne, A. Slisans. Raised bog habitat studies within the LIFE project "Raised Bogs". 2. U. Susko. Rare and protected lichen, bryophyte species in Aklais Mire Nature Reserve. 3. E. Kuske, L. Kalnina, N. Stivrins, A. Dinkite, M. Reča, R. Bigacs. Paleovegetation studies in Rožu Mire.	0
50	March 27	Aizkrauklesbibl.blogspot.com	Dabas liegums "Aizkraukles purvs un meži"	Nature values in Aizkraukle Mire and Forests (information from Nature Management Plan).	3
51	March 28	www.lvafa.gov.lv	Informācija par ikgadēja LIFE+ informatīva semināra norisi un semināra materiāli	Informative seminar about LIFE+ programme; one of speakers was M. Pakalne.	0
52	March 29	LETA	Ministru kabineta skatāma fotografiju izstāde "Purvu noslēpumi"	Raised Bog Photo exhibition "Secrets of Mires" in the Cabinet of Ministers.	0
53	April 11	www.ldf.lv	Apstiprināti pieci Latvijas Dabas fonda izstrādātie dabas aizsardzības plāni	Information about the approval at the Ministry of Environment and Regional Planning of the project management plans.	1

54	April 19	www.ldf.lv	Apstiprinats dabas aizsardzības plans dabas liegumam "Aizkraukles purvs un meži"	Information about the approval at the Ministry of Environment and Regional Planning of Management plan for Aizkraukle Mire and Forests.	1
55	April	Du.lv	Fotoizstade "Purvu noslepumi"	Photo exhibition "Secrets of Mires" will be in Daugavpils University.	1
56	April	www.latgale.lv	Fotoizstade "Purvu noslepumi"	Photo exhibition "Secrets of Mires" will be in Daugavpils University.	1
57	April	www.riga24.lv	Fotoizstade "Purvu noslepumi"	Photo exhibition "Secrets of Mires" will be in Daugavpils University.	1
58	May	www.olainemuzejs.lv		On May 14 th seminar for teachers about raised bog values will be hold.	0
59	May 23	http://www.flickr.com/photos/saeima/5750986570/in/set-72157626787007670/	Izstade "Purvu noslepumi"	Saeima Flickr set about "Secrets of Mires".	4
60	July 1	www.ventspils.lv	Ventspils biblioteka atklas izstadi "Purvu noslepumi"	Photo exhibition "Secrets of Mires" will be opened in Ventspils.	1
61	July 4	LETA	Ventspils biblioteka atklas izstadi "Purvu noslepumi"	Photo exhibition "Secrets of Mires" will be opened in Ventspils.	0
62	July 5	Jaunais.kis.gov.lv	Ventspils biblioteka atklas izstadi "Purvu noslepumi"	Photo exhibition "Secrets of Mires" will be opened in Ventspils.	0
63	July 5	BNS	Ventspils biblioteka atklas izstadi "Purvu noslepumi"	Photo exhibition "Secrets of Mires" will be opened in Ventspils.	0

64	July 5	Easyget.lv	Ventspils biblioteka atklas izstadi "Purvu noslepumi"	Photo exhibition "Secrets of Mires" will be opened in Ventspils.	0
65	July	www.biblioteka.lv	Izstades "Purvu noslepumi" atklāšana	Photo exhibition "Secrets of Mires" will be opened in Ventspils.	0
66	July 6	www.ventspils24.lv	Sodien Ventspils biblioteka atklas izstadi "Purvu noslepumi"	Photo exhibition "Secrets of Mires" will be opened in Ventspils today.	1
67	July 6	Latfoto.lv	Ventspils biblioteka atklas izstadi "Purvu noslepumi"	Photo exhibition "Secrets of Mires" will be opened in Ventspils.	0
68	July 6	www.biblioteka.ventspils.lv	Ventspils biblioteka atklas izstadi "Purvu noslepumi"	Photo exhibition "Secrets of Mires" will be opened in Ventspils.	0
69	July 7	www.biblioteka.lv	Izstade "Purvu noslepumi" uzsakusi ceļojumu pa bibliotekām	Photo exhibition "Secrets of Mires" opened in Ventspils.	1
70	July 8	www.latforin.lv	Augsta purva biotopu atjaunosana ipasi aizsargajamas dabas teritorijas Latvija	Project "Restoration of Raised Bog Habitats in Especially Protected Sites in Latvia".	1
71		www.daba.gov.lv	Aizkraukles purvs un mezi	Nature Management Plan and its attachments.	0
72		www.daba.gov.lv	Aklais purvs	Nature Management Plan and its attachments.	0
73		www.daba.gov.lv	Rozu purvs	Nature Management Plan and its attachments.	1
74		www.daba.gov.lv	Melna ezera purvs	Nature Management Plan and its attachments.	1
75	August 4	www.jelgava.lv	Zinatniskaja biblioteka jauna fotoizstade "Purvu noslepumi"	Photo exhibition "Secrets of Mires" opened in Jelgava.	1

76	August 4	www.zz.lv	Zinatniskaja biblioteka skatami "Purvu noslepumi"	Photo exhibition "Secrets of Mires" opened in Jelgava.	0
77	August 4	www.e-novads.lv	Zinatniskaja biblioteka jauna fotoizstade "Purvu noslepumi"	Photo exhibition "Secrets of Mires" opened in Jelgava.	0
78	August 4	www.jelgavasvestnesis.lv	Zinatniskaja biblioteka jauna fotoizstade "Purvu noslepumi"	Photo exhibition "Secrets of Mires" opened in Jelgava.	1
79	August 5	www.oyo.lv	Zinatniskaja biblioteka skatami "Purvu noslepumi"	Photo exhibition "Secrets of Mires" opened in Jelgava.	0
80	August 18	www.delfi.lv	LU botaniskaja darza 'piestas' celojosa fotoizstade "Purvu noslepumi"	Photo exhibition "Secrets of Mires" will be opened in Riga – Botanical Garden of University of Latvia.	1
81	September 15	www.delfi.lv	LU Botaniskaja darza bus 'Zinatnieku nakts'	Science Night 2011 actions will be in Botanical Garden of University of Latvia, also Photo exhibition "Secrets of Mires" will be there.	1
82	September 23	www.staburags.lv	Rukisu zelts jamekle zem egles saknem	About Teachers' seminar in Daudzese School on September 22 nd .	1
83	September 29	www.botanika.lu.lv	Celojosa fotoizstade "Purvu noslepumi"	Photo exhibition "Secrets of Mires" opened in Riga – Botanical Garden of University of Latvia.	2
84	October 3	www.diena.lv	Botaniskaja darza aplukojama fotoizstade Purvu noslepumi	Photo exhibition "Secrets of Mires" opened in Riga – Botanical Garden of University of Latvia.	1
85	October 3	www.radionaba.lv	Izglitibas, zinatnes un kulturas zinass pirmdiena	Photo exhibition "Secrets of Mires" opened in Riga – Botanical Garden of University of Latvia.	0

86	October 3	www.easyget.lv	LU Botaniskaja darza aplukojama celojosa fotoizstade "Purvu noslepumi"	Photo exhibition "Secrets of Mires" opened in Riga – Botanical Garden of University of Latvia.	0
87	October 3	www.unity.lv	LU Botaniskaja darza aplukojama celojosa fotoizstade "Purvu noslepumi"	Photo exhibition "Secrets of Mires" opened in Riga – Botanical Garden of University of Latvia.	1
88	October 3	www.reitingi.lv	LU Botaniskaja darza aplukojama celojosa fotoizstade "Purvu noslepumi"	Photo exhibition "Secrets of Mires" opened in Riga – Botanical Garden of University of Latvia.	1
89	October 3	www.unity.lv	Latvijas sūnu purvu noslepumi	Photo exhibition "Secrets of Mires" opened in Riga – Botanical Garden of University of Latvia.	1
90	October	www.1188.lv	Celojosa fotoizstade - Purvu noslepumi	Photo exhibition "Secrets of Mires" opened in Riga – Botanical Garden of University of Latvia.	1
91	October 28	www.jekabpilszinass.lv	Jekabpils Galvenaja biblioteka celojosa izstade "Purvu noslepumi"	Photo exhibition "Secrets of Mires" opened in Jekabpils.	1
92	October 28	www.jekabpils24.lv	Jekabpils Galvenaja biblioteka celojosa izstade "Purvu noslepumi"	Photo exhibition "Secrets of Mires" opened in Jekabpils.	1
93	October 28	www.jgb.lv	Izstade: Purvu noslepumi	Photo exhibition "Secrets of Mires" opened in Jekabpils.	0
94	November 1	www.jvestnesis.lv	Jekabpils Galvenaja biblioteka celojosa izstade "Purvu noslepumi"	Photo exhibition "Secrets of Mires" opened in Jekabpils.	1
95	December 5	www.staburags.lv	"Purvu noslepumi" Jaunjelgavas biblioteka	Photo exhibition "Secrets of Mires" opened in Jaunjelgava.	1

96	December 5	www.e-novads.lv	Celojosa fotoizstade Purvu noslepumi Jaunjelgavas biblioteka	Photo exhibition "Secrets of Mires" opened in Jaunjelgava.	1
97	December 5	www.jaunjelgava.lv	Celojosa fotoizstade "Purvu noslepumi" Jaunjelgavas biblioteka	Photo exhibition "Secrets of Mires" opened in Jaunjelgava.	1