

LIFE08 NAT/LV/000449

Progress Report Covering the project activities from 01/01/2012 to 30/11/2012

Reporting Date **30/11/2012**

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

Data Project **Project location** Latvia Project start date: 01.02.2010. Project end date: 30.08.2013. **Total budget** € 726.714 **EC** contribution: € 545.035 (%) of eligible costs € 726.714 **Data Beneficiary Name Beneficiary** University of Latvia Contact person Dr. Mara Pakalne Postal address Kandavas Street 2, University of Latvia Botanical Garden, Riga, Latvia, LV-1083 Telephone +371-29511001 Fax: +371-67024420 E-mail mara.pakalne@lu.lv **Project Website** www.purvi.lv

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1. List of key words and abbreviations

PSG - Project Steering Group

NR – Nature Reserve

MP – Management Plan

TD – Technical design

GW - Ground water

2. Executive summary

2.1. General progress

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

At present, all the planned project actions were implemented. From the 16 project actions the following actions were carried out during the reporting period:

- 1. Hydro-geological studies for the elaboration of technical designs for building dams (A2)
- 2. Organising of public tender, preparation of agreements and contracts (A3)
- 3. Re-establishing the active raised bog habitats and natural raised bog hydrology (C1)
- 4. Organising of seminars (D1)
- 5. Creation and updating of the project home page (D2)
- 6. Elaboration and publishing of information booklets and boards (D3)
- 7. Elaboration of the Methodology for active raised bog restoration in Latvia (D4)
- 8. Producing of a documentary film (D5)
- 9. Project administration by the University of Latvia (E1)
- 10. Monitoring the effects of management actions on raised bog habitats, bird species and site hydrology (E2)
- 11. Cooperation with LIFE+ projects, participation in study tours, seminars and conferences (E3)

Two project actions, Elaboration of Management plans (A1) and Establishment of the raised bog exhibition (D6), were completed in the previous reporting periods, but the rest three actions will be carried out according to the Time schedule.

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	D2	October 2010	Home page updated with the latest information

Name of the Deliverable	Action	Deadline	Progress
information about the progress of the project			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. Mid-term Report Annex 6.14
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
Four 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	Four technical designs were prepared in June, 2011. All the agreements with stakeholders for Technical designs were obtained in February/March 2012. Copies of Technical designs were added to Mid-term Report Annex 6.6
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 on March 14, 2011
			Melnais Lake Mire Management Plan was completed in March, 2010 and approved by the Ministry of Environment and Regional Planning on 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 on April 15, 2011
			Aklais Mire Management plan completed in May, 2010 and approved Ministry of Environment in and Regional Planning on 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, Rozu Melnais Lake Mire Nature Reserves published	D3	September 2011	Completed in November/December, 2011
Information boards for Aizkraukle Mire and Forests, Rozu Mire, Aklais Mire and Melnais Lake Mire set up	D3	September 2011	Information boards printed in December, 2011 and set up in all the project sites until April, 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	E2	November 2011	Completed in November, 2011. Copies of Monitoring Reports were added to the Mid-

Name of the Deliverable	Action	Deadline	Progress
Reports			term Report Annex 6.14
Up-to date photographic information about the progress of the project	D2	January 2012	Completed in January, 2012
Up-to date photographic information about the progress of the project	D2	April 2012	Completed in April, 2012
Up-to date photographic information about the progress of the project	D2	July 2012	Completed in July, 2012
Up-to date photographic information about the progress of the project	D2	October 2012	Completed in October, 2012
Monitoring Protocols summarised in Monitoring Reports	D2	November 2012	In progress, will be completed until 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 progress of the project	D2	January 2013	-
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	Action	Deadline	Progress
First project Seminar 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

Name of the Milestone	Action	Deadline	Progress
Second project seminar organised	D1	November 2010	Completed on December 17, 2010
Third project seminar organised	D1	May 2011	Completed on May 17, 2011. Midterm Report Annex 6.7
Fourth project seminar organised	D1	September 2011	Completed on September 22 and 23, 2011. Mid-term Report Annex 6.7
International seminar organised	D1	June 2012	Completed on July 23-25, 2012
Final project Seminar organised	D1	July 2013	-
Independent audit of the project realised	F4	July 2013	-
Dam building completed in Rozu Mire	C1	July 2011	In progress, will be completed in November, 2012
Dam building completed in Melnais Lake Mire	C1	July 2011	Completed in March, 2012
Dam building completed in Aizkraukle Mire	C1	October 2011	In Progress, will be completed in November, 2012
Dam building completed in Aklais Mire	C1	October 2011	In progress will be completed in November, 2012
Final acceptance of the built dams from the sub-contractor	C1	July 2013	-

2.2. Problems encountered

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

3. Administrative part

3.1. Description of project management

The project is implemented by the project manager Dr. biol. Mara Pakalne, project assistant Aivars Slisans, information coordinator Daiga Brakmane (from April, 2012 replaced by Edite Plokste and from November, 2012 replaced by Liga Strazdina), and field manager Gunars Balodis in cooperation with the project associate beneficiary "Foundation Elm Media" that works on the project documentary film.

During the reporting period two Project Steering Group meetings were held (March 1, 2012 and October 22, 2012). Regular project staff meetings are organised by the project manager to discuss the progress of the project actions.

The project manager follows the progress of the project actions, is a contact person with the project associated beneficiary, co-financers, stakeholders and sub-contractors.

The project has submitted to the EC the Inception Report and Mid-term Report.

3.2. Organigramme of the project team and the project management structure

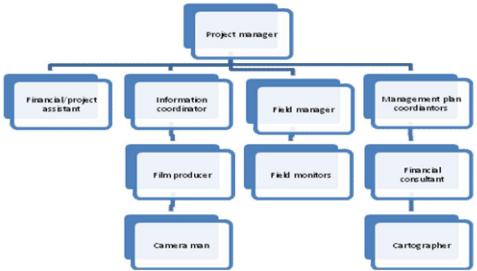


Figure 1. Project team

4. Technical part

Active raised bogs (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 in areas influenced by drainage, restore project site hydrology and to protect the raised bog bird species of EU importance.

The project includes four protected nature areas in Latvia (Nature Reserves) and these are also Natura 2000 sites: Melnais Lake Mire, Aizkraukle Mire and Forests, Aklais Mire and Rozu Mire. The total area of all territories takes 4843 ha, from these 290 ha are degraded areas with critical need of restoration because of previous 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

Status: completed

Progress: The management plans for all the four project sites – Aizkraukle Mire and Forests, Aklais Mire, Melnais Lake Mire and Rozu Mire Nature Reserves were completed as planned and include all the chapters that are needed according to Latvian legislation – Summary, information about legislation, list of plant and animal species, habitats, including species of EU importance, and those protected in Latvia, as well as management actions and maps with habitats of EU importance, maps with management and monitoring areas.

Copies of the Management plans were added to the Mid-term Report. Management plans for all the four project sites, including maps were published in project home page www.purvi.lv and home page of the Latvian Fund for Nature and Nature Conservation Agency of Latvia.

Variations/complications/delays: No

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

Status: completed

Progress: Technical designs for the project sites – Aizkraukle Mire and Forests, Aklais Mire, Melnais Lake Mire and Rozu Mire Nature Reserves were elaborated by the subcontractor – "Meliorprojekts" State Ltd. Precise number of dams is a part of the technical designs, where also their size and construction type is stated.

In the project proposal the planned restoration area was 290 ha, but after studies it increased up to 488 ha, where the positive effect of site hydrology restoration will be observed.

Technical design for Melnais Lake Mire was completed in December, 2011, but for the other three project sites – in March, 2012.

Copies of Technical designs for building of dams and the results of geological and paleovegetation studies in Melnais Lake Mire, Rozu Mire, Aklais Mire and Aizkraukle Mire and Forests Nature Reserves were added to the Mid-term Report (Annex 6.6).

Variations/complications/delays: The action was delayed due to the fact that the subcontractor "Meliorprojekts" State Ltd. prepared the technical designs in June, 2011 but reconciliation process with stakeholders passed very slowly.

Additional information: Annex 6.9. Photos of the project actions.

ACTION A.3

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

Time plan: I – II 2010, I - II 2011

Status: completed

Progress: During the reporting period public tender was organised for building of dams in the three project sites – Rozu Mire, Aklais Mire and Aizkraukle Mire and Forests. For the public tender Terms of Reference were prepared. There were received proposals from three subcontractors – "Riga Rent" Ltd., "E-Buvvadiba" Ltd. and "Monter" Ltd which were evaluated by Public Tender Commission of the University of Latvia. Due to highest points and best price the sub-contractor "E-Buvvadiba" was chosen for building of dams in the project sites. Tender agreements were prepared and signed with the selected sub-contractors on April 24, 2012.

Variations/complications/delays: No

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

Status: completed

Progress: After organizing of public tender, the sub-contractor "E-Buvvadiba" started preparation work for building of dams on the drainage ditches in Melnais Lake Mire Nature Reserve in January, 2012 and completed in total 54 dams.

Building of dams was finalised in November, 2012. All the planned dams - in total 51 dam were built in Rozu Mire, 29 dams in Aizkraukle Mire and 14 dams (from the 16 planned) in Aklais Mire Nature Reserve. In Aklais Mire it was not possible to built 2 dams as the beavers had already flooded the area by building their dams there.

The site hydrology restoration included building of peat dams by excavator and peat/wood dams built by hand, the type and size of which was determined by the Technical designs for the project sites. In Rozu Mire the dams were built from peat using the excavator but in Aizkraukle and Aklais Mire by hand as the areas were not accessible by technique. There was lots of rain in autumn 2012. Therefore, the project technical staff is checking the quality of the dams, whether any reparation is needed.

The results of the raised bog restoration work were presented in the 5th project Steering group meeting on October 22, 2012 by the project staff and the sub-contractor "E-Buvvadiba" Ltd (Annex 6.6).

Positive effect after building of dams is clearly evident in all the project sites. It is also proved also by the results of hydrological monitoring as the rise of groundwater water level which are summarised in Monitoring Reports.

Variations/complications/delays: It was possible to restart the dam building in Rozu, Aklais and Aizkraukle Mires only after July 31, 2012 when the bird breeding season ended.

Additional information: Annex 6.9. Photos of the actions.

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

Status: ongoing

Progress: During the reporting period, an International Seminar "Sharing experience on Raised Bog Restoration" was organized on 23–25 July, 2012. The seminar was attended by 50

participants from different countries, like France, Germany, Norway, Lithuania, Poland, Russia, as well as from Latvia.

On the first day of the Seminar, paper and poster presentations about raised bog restoration were given. Colleagues from Norwey, Lithuania, and Russia talked about diversity of bogs and activities on raised bog conservation. The Seminar participants had also a possibility to listen to the experience of raised bog restoration in Latvia within a number of LIFE projects. Papers were given by Janis Kuze and Agnese Priede about the results of LIFE project LIFE02 NAT/LV/008496 "Conservation of wetlands in Kemeri National Park", Ilze Kuze from LIFE project LIFE10NAT/LV/000160 "Restoring the hydrological regime in the Kemeri National Park". Aija Delina, Uvis Susko, Laimdota Kalnina and Mara Pakalne presented results of the LIFE project LIFE08 NAT/LV/000449 "Restoration of Raised Bog Habitats in the Especially Protected Nature Areas of Latvia".

The Seminar participants had a possibility to see results of raised bog hydrology restoration in the LIFE project site – Melnais Lake Mire. On the second and on the third day field trips to the LIFE project sites Rozu Mire and Aklais Mire were carried out. On the third day, Vasenieki Mire was visited where both habitat and hydrology was restored within a LIFE project LIFE04NAT/LV/000196 "Implementation of Mire Habitat Management Plan for Latvia" on 2007. For now, good results in the mire can be observed – ground water level in the bog is significantly raised and bog vegetation develops in the degraded area. Information and program of the Seminar, as well as minutes are published on the project home page.

Variations/complications/delays: No

Additional information: Annex 6.3. Program of the Project International Seminar, copies of presentations and list of participants. Annex 6.9. Photos of the actions.

ACTION D.2

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

Time span: I 2010 – III 2013

Status: ongoing

Progress: The project home page (<u>www.purvi.lv</u>) was established in April, 2010 and is regularly updated with the information about current actions of the project. The home page includes photo galleries, information about Project Steering Group meetings, Study tours, participation in seminars, and location of the project Photo Exhibition. Information is given both in Latvian and English. The home page is administrated (information and updating) by Public Awareness Coordinator. In the time period from 01/01/2012 to 23/11/2012 the home page was visited by 2398 users (Figure 2) from 63 countries, most often from Latvia, Estonia, Germany, Lithuania, Russia, United Kingdom, Norway and Poland, as well as from such countries as Argentina, Macedonia, Malaysia and New Zealand.

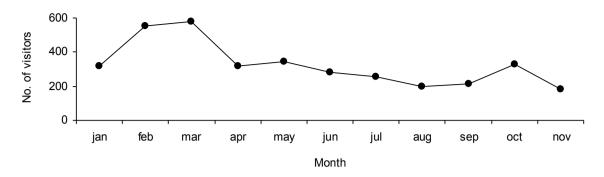


Figure 2. Number of home page visitors from 01/01/2012 to 23/11/2012.

Variations/complications/delays: No

Additional information: No

ACTION D.3

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

Time span: I 2010, I-IV 2011

Status: completed

Progress: All the project booklets were published according to the Time Schedule. Until April, 2012 all the project information boards were set up in the project sites.

The four information boards were set up, one in each of project site – Aklais Mire, Melnais Lake Mire, Rozu Mire, and Aizkraukle Mire and Forests. All information is given in Latvian, however short summary of each site in English is also included. The information boards are richly illustrated with pictures of typical mire habitas, plant and animal species, maps and 3D relief models. Maps are showing precise border of each Nature Reserve where boards are placed, access paths and nearest populated places. Details about location of each information board are given in the project home page www.purvi.lv.

Five booklets and information about the location of four information boards are published in project home page. Informative booklets were distributed in different Project public actions – during Photo Exhibition "Secrets of Mires", Study tours and seminars, as well as during Project administration by the University of Latvia. Copies of booklets were added to Midterm Report Annex 6.9.

Variations/complications/delays: No

Additional information: Annex 6.4. Distribution of informative booklets. Annex 6.9. Photos of the actions.

ACTION D.4

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

Time span: II 2011- III 2013

Status: ongoing

Progress: During the reporting period, the work was continued to elaborate the Methodology. The prepared papers by experts who worked in the project sites are being edited, as well as information summarised from the results of hydrological and habitat monitoring.

The Methodology includes results and experience obtained during carrying out the habitat and hydrological monitoring by project experts – Agnese Priede, Liene Aunina and Aija Delina as well as papers from the project experts on plant species and animals. Papers include 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. Results of the habitat and hydrological monitoring were compared between the influenced and intact areas of the raised bogs and supplemented by maps of the sites and photos.

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

Status: ongoing

Progress: During the reporting period project associate beneficiary "Foundation Elm Media" continued to work on development of the documentary film about project activities and sites. The work included taking a video of project sites during different times of the year and documenting project activities – building of dams in Melnais Lake Mire, Rozu Mire, Aklais Mire and Aizkraukle Mire, installation of the Photo Exhibition in Riga and Jekabpils, and visits of project team to project areas. In addition, interviews with project manager and habitat experts were videorecorded. Editing process of the film was started in September, 2012; it includes revision of material recorded over the course of the project and selecting best material for editing of the film.

The interviews with project manager, local habitat experts and German habitat experts (~10 hours) have been reviewed and quotes to be used in the film (~10 minutes) have been selected. The filmed material on project territories (80 hours) has been reviewed and best shots to be used in the film have been selected. The narrator's text for the introduction as well as Aizkraukle Mire has been elaborated using the film's script and material to illustrate it has been selected. The first 10 minutes of the film has been prepared.

The documentary film includes information about project territories – Melnais Lake Mire, Rozu Mire, Aizkraukle Mire and Aklais Mire (information about habitats, flora and fauna) and shows raised bogs in different times of the year. In addition, the film briefly tells about history of the project idea, includes information about project activities – habitat research carried out before preparation of nature conservation plans, discussions of nature conservation plans in project territories, hydro-geological research, groundwater monitoring and building of dams as well as project public awareness activities (Seminars and Photo Exhibition). Planned duration of the documentary is 30 minutes and it will be made in Latvian and English. It is planned to complete the editing process and publish DVDs of the documentary until the end of 2012.

Variations/complications/delays: No

Additional information: Annex 6.9. Photos of the actions.

ACTION D.6

Name of the action: Establishment of the Raised Bog Exhibition

Time span: II 2011 – III 2013

Status: completed

Progress: Raised Bog Exhibition was prepared by the subcontractor "Ogres fotoklubs" that was selected after the organising of public tender by the University of Latvia. From December, 2010 the Exhibition has been set up already in 24 different places in Latvia, including schools near the project sites, libraries, ministries, Parliament of Latvia, Cabinet of Ministers and Riga City Council. There is a great interest from local libraries to install the Exhibition.

From October 22, 2012 until November 15, 2012 the Raised Bog Exhibition "Secrets of Mires" with 12 transportable boards consisting of 119 photos was set up at the Riga City Council. Further it will be located in Tinuzi Secondary school library, University of Latvia and other project areas.

Variations/complications/delays: No

Additional information: Annex 6.5. List of Raised Bog Exhibition places. Annex 6.9. Photos of the actions.

ACTION D.7

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

Time span: III –IV 2012 – III 2013

Status: ongoing

Progress: The summary of the present project results has been started, especially those concerning the results of the elaboration of the Management plans and the habitat and hydrology monitoring. The Layman's Report will include an overview about the project actions and results of raised bog management, supported by maps and photos.

Variations/complications/delays: No

Additional information: No

E. Overall project operation and monitoring

ACTION E.1

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

Time span: I 2010 – III 2013

Status: ongoing

Progress: The project management team at the University of Latvia consists of the project manager, project assistant, information coordinator and field manager. The monitoring of changes of raised bog restoration in project sites has been carried out by three field monitors (two habitat experts and a hydrologist) that have worked to implement the 11 project actions during the reporting period. The main activity included administration of the International Seminar and following the restoration of site hydrology and habitats in the four project sites.

During the reporting period two Project Steering Group meetings were held to inform about progress of the project actions.

On March 1, 2012 the 4th Project Steering Group meeting was held at the EU House in Riga where the project Photo Exhibition "Secrets of Mires" was set up. There were 17 participants. The meeting was chaired by Inga Belasova from the Ministry of Environment and Regional Development of Latvia. The project manager Dr. biol. Mara Pakalne informed about progress of the project actions – restoration of site hydrology, habitat and hydrological monitoring, participation in the International conference on raised bog restoration in Germany and the planned International Seminar in summer. Iluta Dauskane told about the results of dendrochronological studies in Melnais Lake Mire Nature Reserve. Arnis Staris – representative from the sub-contractor E-Buvvadiba – informed about building of dams in Melnais Lake Mire Nature Reserve. Project Information Coordinator Daiga Brakmane informed about the project public awareness actions. Ieva Ubele represented the project associate beneficiary "Foundation ELM MEDIA" and told about the progress of the film. The project assistant Aivars Slisans gave an overview about the project finances.

On October 22, 2012 the 5th Project Steering Group meeting and opening of Raised Bog Photo exhibition "Secrets of Mires" took place at the Riga City Council. At the beginning, the photo exhibition was opened by the project manager Dr. Mara Pakalne. Afterwards, the floor was given to the Deputy Head of Riga City Council Andris Ameriks and representative of the project co-financer "Riga Forests" Ltd Aivars Taurins and the Chair of "Ogres fotoklubs" who has extablished the exhibition – Vitauts Mihalovskis.

The 5th Project Steering Group meeting was attended by 22 participants from various institutions, including project co-financers, associate beneficiaries and stakeholders, Ministry of Environment and Regional Development and Nature Conservation Agency. The meeting was opened and chaired by Inga Belasova from the Ministry of Environment and Regional Development. The project manager Dr. biol. M. Pakalne informed about the progress of the project actions – restoration of site hydrology, habitat monitoring, International seminar and a Study tour to Lithuania. Dr. geol. Aija Delina told about the results after raising of the water level in the project sites by building of dams and the positive effect on site hydrology. Dr. biol. Liene Aunina informed about the on-going habitat monitoring in Melnais Lake Mire where after raising of water level in winter 2012, the coverage of the main peat building species – Sphagnum and cotton–grass has increased in the monitoring plots. The project subcontractor E-Buyvadiba informed about the building of dams in the project sites. Ieva Goba from the Project associate beneficiary "Foundation ELM Media" told about the progress of project film and showed three short video clips. The Project assistant Aivars Slisans informed about finances of the project – all is going as planned in application. Information about the Steering Group meetings is published on the home page of the Project www.purvi.lv

Variations/complications/delays: No

Additional information: Annex 6.6. Program of the 4th and 5th Project Steering group meetings, copies of presentations. Annex 6.9. Photos of the actions

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.

Status: ongoing

Progress: During the reporting period the site hydrology and habitat monitoring was continued in all four project sites. In the summer of 2012, in all the monitoring plots the raised bog vegetation was described according to a Standard protocol. The Habitat Monitoring Report for 2012 was completed by Agnese Priede for the three sites – Rozu Mire, Aizkraukles Mire and forests and Aklais Mire. The Habitat Monitoring Report for Melnais Lake Mire is still in progress but a presentation was given at the Project Steering group meeting by Dr. biol. Liene Aunina and it will be completed according to Time schedule. Dr. geol. Aija Delina completed the hydrological Monitoring Report. All the Reports will be put on the project home page www.purvi.lv

The most striking feature is one meter wide zone of dead *Calluna vulgaris* along the ditches with dams in Melnais Lake Mire. In the non-flooded area of cutover peat fields increase of *Eriophorum vaginatum* cover was recorded which may indicate wetter conditions. In ditches with dams, cover of *Sphagnum* and *Eriophorum vaginatum* has increased.

Construction of dams and following decrease in water level fluctuations in Melnais Lake Mire has a positive effect on bog vegetation that was influenced by drainage. Observed vegetation changes indicate that the area has become wetter. Species cover of many bog plants is more similar to that one of undisturbed raised bog than it was before the dam construction. In the other three sites where the dams were built later in 2012, the effect on habitats is not still so evident as in the first sites where the water level was raised in winter 2012. However, due to rising of water table and rewetting of bog surface, the heather is dying out. Changes in heather vitality were estimated in all three monitored sites. Changes can be expected in 2013 when the building of dams on drainage ditches could have an effect on the water table consequently causing changes also in vegetation and positively affecting ecosystem recovery.

The best results of hydrological monitoring are observed in Melnais Lake Mire where dams on drainage ditches were constructed in January/February, 2012. First changes of Groundwater table (GW) were observed soon after the construction of dams when GW table rose for 9 cm there. The first significant GW table rise was observed in the beginning of April, when GW table rose for another 21 cm. The water level rose both in the ditch and in the bog during the whole April, and the dam effect also reached the further wells. The water level in the mire has raised and sustained stable and high during the whole summer. The management measures to restore the natural habitat of the mire are successful in the Melnais Lake Mire, and the hydrological regime of the mire has started to stabilize.

Number of habitat monitoring plots and groundwater monitoring wells in the project sites

Project sites	Number of habitat monitoring plots	Number of groundwater monitoring wells
Melnais Lake Mire	58	13
Rozu Mire	26	8
Aizkraukle Mire and Forests	25	26
Aklais Mire	35	16
In total:	144	63

Variations/complications/delays: No

Additional information: Annex.6.7. Summary of habitat and hydrological monitoring.

Annex 6.9. Photos of the actions.

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.

Status: completed

Progress: On February 26 and 27, 2012 the project manager Dr. Mara Pakalne and the project assistant Aivars Slisans participated in the International Conference in Germany "Mire Conservation in Germany". The Conference included expert presentations representiong various organisations where different projects concerning raised bog restoration are implemented. In the presentations various methods and experiences were outlined as well as problems analysed. The presentations included a number of aspects that have to be taken into account when doing the restoration work, such as methodhodologys, habitat and hydrological monitoring, expert studies, climate protection through mire protection, ecological studies. The presentations included the results of LIFE project carried out in Diepholzer Moorniederung. The presentations were wery valuable as the raised bog restoration work is carried out in the LIFE project sites in Latvia. There were over 100 participants that gave a possibility to establish new contacts and obtain new knowledge for raised bog conservation and management in Latvia. In the There was also a poster session where the project poster "Raised Bog restoration in Melnais Lake Mire" was presented.

From September 30 until October 7, 2012 the project manager Dr. Mara Pakalne and the project assistant Aivars Slisans participated in a Study tour to the LIFE project LIFE07NAT/LT/000530 "WETLIFE – Restoring Hydrology in Amalvas and Zuvintas wetlands" and Aukstumala Raised bog. During the Study tour it was possible to see the results of raised bog restoration in Amalvas and Zuvintas bogs where forest has been cut and plastic dams built on the contour ditches and the smaller ones inside the bog. The results show that the groundwater level slowly raises and bog plant species re-appear in the restoration area. As in the LIFE project in Latvia raised bog restoration is carried out, it was important to get to know Lithuanian experience to compare the results in the LIFE project sites in Latvia. It was concluded that building of peat dams in Latvia by an excavator give a faster result in raise of raised bog groundwater level, and consequently habitat restoration than the plastic dams in Lithunia.

Variations/complications/delays: No

Additional information: Annex 6.9. Photos of the project actions.

ACTION E.4

Name of the action: Independent audit of the project

Time span: II-III 2013

Progress: Action not to be started yet **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/			2010				2011			2012				2013			
Activities																	
	1	1T	2T	3T	4T	1T	2T	3T	4T	1T	2T	3T	4T	1T	2T	3T	4T
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Overall project schedule	Proposed		1.02	2.10	•]			X-	Mid-	-Ter	m		L	31.	00.	13
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	Actual	-	<u> </u>	_		Ŀ.											
Action A1	Proposed			!													
A -4: A 2	Actual	┖.						<u> </u>									
Action A2	Proposed																
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Action A3	Proposed	-	-			-											
Action C1	Actual Proposed	1	-														
Action C1	-					Е		T						-		7 '	
Action D1	Actual Proposed	L .															
Action D1	Actual		1	-			_					_			•	_	
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ACTION D2	Actual																
Action D3	Proposed							—									
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Action D5	Proposed																
	Actual												Ē			-	
Action D6	Proposed																
	Actual																
Action D7	Proposed																
	Actual																
Action E1	Proposed																
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Action A3 (Organising of public tender, preparation of agreements and contracts). In January, 2013 the public tender for elaboration and printing of the Methodology for Raised Bog restoration will be organised by the Coordinating beneficiary – University of Latvia.

Action D1 (Organising of seminars). Organising of the Final seminar in July, 2013.

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). The project film will be completed until December 31, 2012.

Action E1 (Project administration by the University of Latvia). Project manager and the team will continue to implement the project actions.

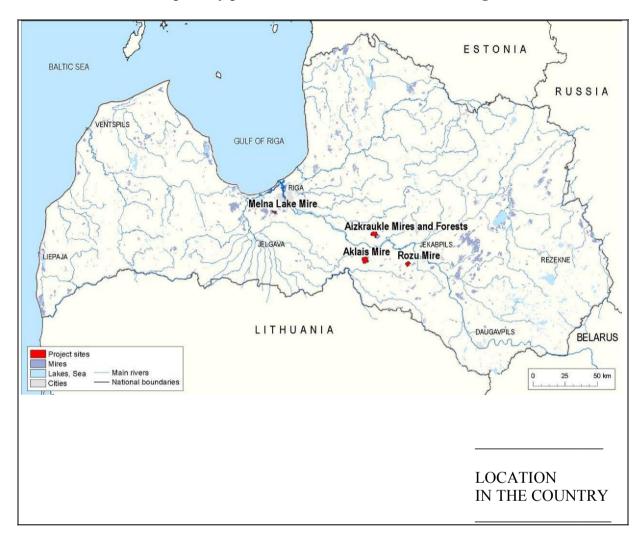
Action E2 (Monitoring the effects of management actions on raised bog habitats, bird and site hydrology). Until November, 2012, the results of habitat and hydrological monitoring will be summarised in the Monitoring Reports and published on the project home page. After rising of the water level in the 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. Groundwater monitoring will be continued every month and the results will be summarised in the Monitoring protocols.

Action E3 (Cooperation with LIFE+ projects, participation in study tours, seminars and conferences). It is planned to participate with presentations in the 22nd meeting of European Vegetation survey in Rome in April 8-12, 2013 to present the results of raised bog restoration in the LIFE project sites in Latvia. The project budjet allows to participate in a conference as there has been an economy of budget in Action A2.

5. Annexes

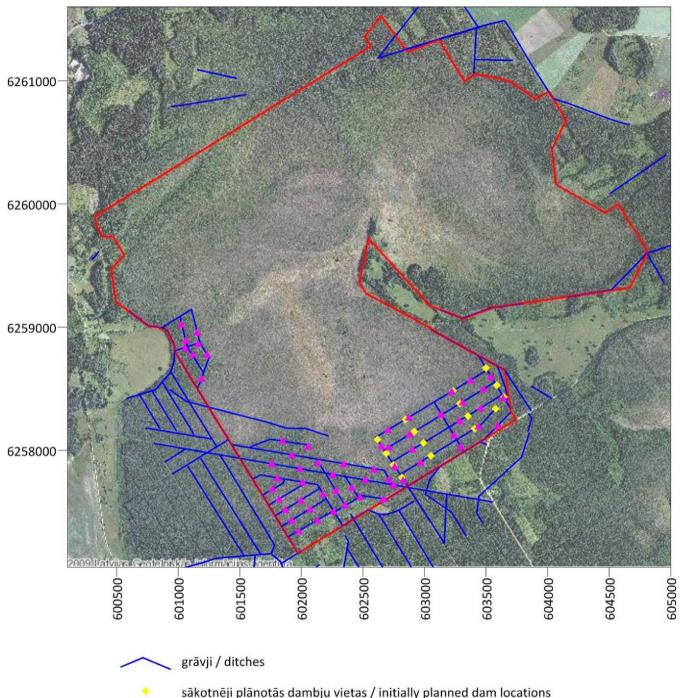
5.1. Maps of the project sites

Location of four especially protected nature areas and raised bogs



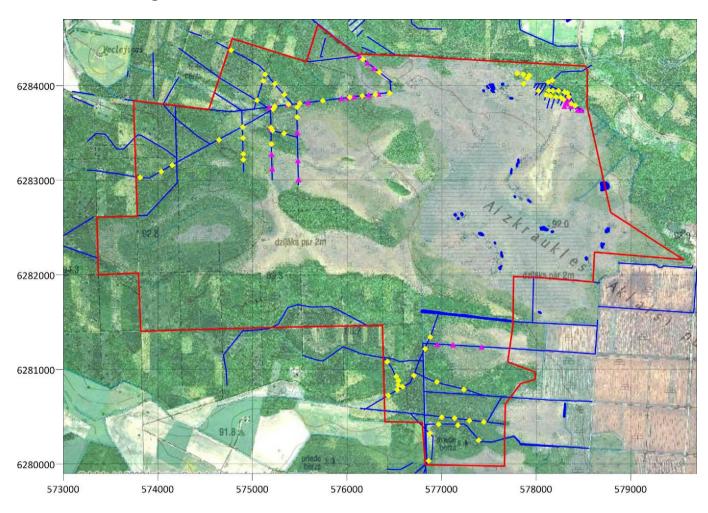
5.2. Management actions in the project sites (A1)

Dam building area in Rozu Mire Nature Reserve



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

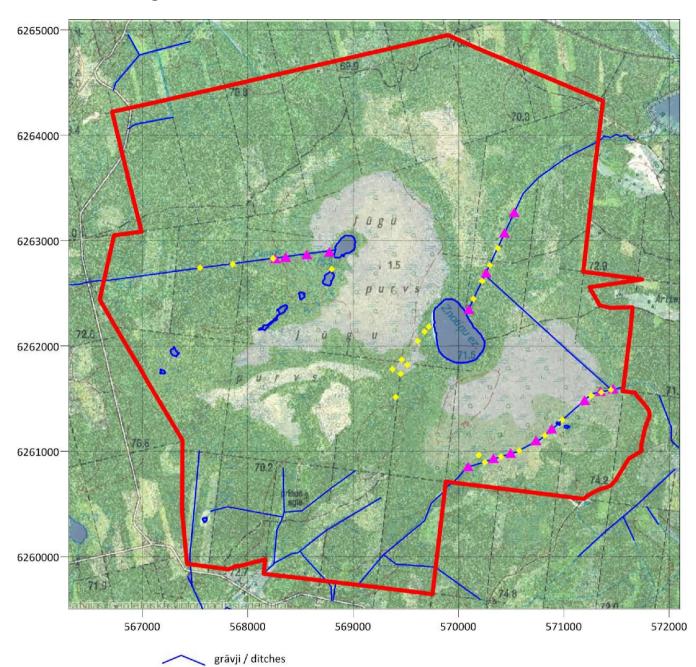
Dam building area in Aizkraukle Mire and Forests Nature Reserve



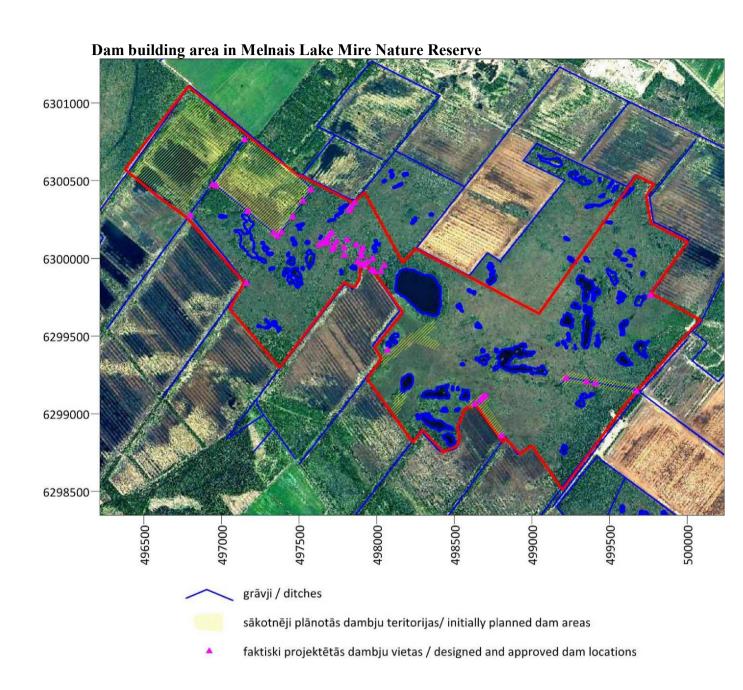
grāvji / ditches

- 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



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



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



LIFE 08NAT/LV/000449

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

International Seminar "Sharing experience on Raised Bog Restoration"

July 23-25, 2012

Programme

Monday, July 23, 2012

Maritim Park Hotel Riga 1 Slokas Street Riga, LV-1048 Tel.: +371-67069014 www.maritim.ly

- 9.00 Dr. biol. Mara Pakalne. Opening of the seminar
- 9.10 Johannes Erik Annoby. The broad and unruly variation of obrogenous mires in West Norway and how to protect them generically by juridical descriptions
- 9.30 Leonas Jarašius, Dr. Romas Pakalnis, Dr. Jūrate Sendzikaite. Approaches to hydrological condition improvement in Aukstumala Raised bog and plant cover restoration in the postmined areas
- 9.50 Anders Lyngstad. Action Plans for Typical Raised Bogs and Oceanic Bogs in Norway 10.10 Dr. biol. Olga Galanina. Spring mires in Pechory district, Pskov region (Russia).
- 10.30 11.00 Coffee break
- 11.00 Janis Kuze. The experience of Kemeri LIFE project
- 11.20 Dr. geogr. Agnese Priede. Vegetation recovery in bog restoration in Kemeri National Park
- 11.40 Ilze Kuze. EC LIFE Project "Hydroplan" actions
- 12.00 Uvis Susko. The history of Aizkraukle and surrounding forests in course of last 330 years

- 12.20. Dr. geogr. Laimdota Kalnina. Raised bog development in the LIFE Project sites in Latvia
- 12.45 Aija Delina. Raised bog hydrology and management measures in the EC LIFE Project "Raised bogs" sites in Latvia
- 12.45 Dr. biol. Mara Pakalne. Mire restoration and conservation experience in Latvia

13.05 Discussion

13.25 - 13.45 Poster session

14.30 – 18.30 Excursion to Melnais Lake Mire Nature Reserve, visit of the Raised bog restoration area. Packet lunch

Excursion guides: Dr. biol. Mara Pakalne, Dr. geogr. Laimdota Kalnina, Dr. biol. Liene Aunina, Dr. geol. Aija Delina 20.00 Dinner

July, 24 2012

8.00 Departure to Rozu Mire Nature Reserve

10.30 – 13.00 Excursion in Rozu Mire

Excursion guides: Dr. biol. Mara Pakalne, Dr. geol. Aija Delina

15.00 – 16.00 Lunch Aizkraukle

16 00 – 19 30 Excursion to Aklais Mire Nature Reserve

20.00 Dinner

July, 25 2012

8.00 Breakfast

8.30 Departure to Vasenieki Mire in Ventspils District

14.00 - 15.00 Lunch in Ventspils

15.00 Departure to Riga

18.30 Arrival in Riga

5.4. Distribution of informative booklets (D3)

Action / Place	No. of booklets
Project Photo Exhibition "Secrets of Mires"	
Jaunjelgava Library	100
Akniste Library	100
Daudzese Primary School	100
EU House in Riga	100
Bulduri Library	100
Vaivari Rehabilitation Centre	100
Stockholm School of Economics in Riga	100
Code Library	100
Riga City Central Library	100
Riga City Council	100
Study tours, seminars and conferences	
International Conference in Germany "Mire Conservation in Germany"	50
Experience Exchange with Estonian colleagues	100
Study tour to Amalvas and Zuvintas wetlands and Aukstumala raised bog in Lithuania	100
International Seminar "Sharing experience on Raised Bog Restoration"	250
Project administration by the University of Latvia	
Plant Conservation Day in the Botanical Garden of the University of Latvia	250
European Researchers Night 2012 in the Botanical Garden of the University of Latvia	250
	In total: 2000

5.5. List of Raised Bog Exhibition places (D6)

	Dates	Place
_	Year 2010	
1	17.12.10	Viesite Culture House
	Year 2011	
2	13.01.11 - 07.02.11	Ogre Culture Centre
3	08.02.11 - 08.03.11	Aizkraukle Municipality
4	09.03.11 - 18.03.11	Secondary School of Sala town
5	21.03.11 - 25.03.11	Ministry of the Environmental and Regional Development of Latvia
6	26.03.11 - 11.04.11	The Cabinet of Ministers of the Republic of Latvia
7	11.04.11 - 26.04.11	Ministry of Defence of Latvia
8	27.04.11 - 09.05.11	Daugavpils University
9	12.05.11 - 20.05.11	Olaine Museum of History and Art
10	23.05.11 - 31.05.11	Saeima (Parliament) of Latvia
11	06.07.11 - 02.08.11	Ventspils Library
12	02.08.11 - 05.09.11	Jelgava Scientific Library
13	06.09.11 - 24.10.11	Botanical Garden of the University of Latvia
14	26.10.11 - 02.12.11	Jekabpils Library
	Year 2012	
15	02.12.11 - 12.01.12	Jaunjelgava Library
16	12.01.12 - 15.02.12	Akniste Library
17	15.02.12 - 24.02.12	Daudzese Primary School
18	01.03.12 - 31.03.12	EU House in Riga
19	04.04.12 - 05.05.12	Bulduri Library
20	08.05.12 - 08.06.12	Vaivari Rehabilitation Centre
21	15.06.12 - 15.07.12	Stockholm School of Economics in Riga
22	08.08.12 - 16.09.12	Code Library
23	17.09.12 - 19.10.12	Riga City Central Library
24	22.10.12 - 15.11.12	Riga City Council

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

Programme of the 4th Project Steering Group meeting and minutes



LIFE 08NAT/LV/000449

Restoration of Raised Bog Habitats in the Especially Protected Nature Areas in Latvia 4th Project Steering Group meeting March 1, 2012, EU House, Riga

Programme

13.30 Arrival

14.00. Inga Belasova. Ministry of Environment and Regional Development. Opening of the meeting.

14.05 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".

14.35 Iluta Dauskane. University of Latvia. Dendrochronological studies in Melnais Lake Mire NR

14.55 Arnis Staris. "E-Buvvadiba" Ltd. Raised bog restoration in Melnais Lake Mire NR

15.05. Daiga Brakmane. University of Latvia, Project information coordinator. Project public relation activities.

15.20. Ieva Ubele. "Foundation ELM MEDIA". Information about the progress of film shooting.

15.50 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:

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

Projecta 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.

Programme of the 5th Project Steering Group meeting, copies of presentations and list of participants



LIFE 08NAT/LV/000449

Restoration of Raised Bog Habitats in the Especially Protected Nature Areas in Latvia 5th Project Steering Group meeting October 22, 2012 Riga City Council, Ratlaukums 1, Riga

Programme

- 11.00 Opening of the Project exhibition "Secrets of Mires" in the Riga City Council by EC LIFE project manager Dr. Mara Pakalne
- 11.10 Welcome from the Deputy Head of the Riga City Council Andris Ameriks
- 11.20 Welcome from the Head of the Council of "Riga Forests" Aivars Taurins
- 11.30 Welcome from the head of the Ogre photo Club Vitauts Mihalovskis
- 13.00 Opening of the project Steering Group meeting by Inga Belasova from the Ministry of Environment and Regional Planning
- 13.10 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".
- 13.30 Dr. geol. Aija Delina. Hydrological monitoring in the project sites.
- 13.50 Dr. biol. Liene Aunina. Raised bog habitat monitoring in Melnais Lake Mire Nature Reserve
- 14.10 A. Staris "E-Buvvadiba". Raised bog restoration by dam building in the project sites.
- 14.30 Ieva Goba, ELM MEDIA. Information about the progress of the project film.
- 14.50 Aivars Slisans, University of Latvia, Botanical Garden, the project assistant. Overview about project finances.

5.7. Habitat and Hydrological Monitoring (E2)

Vegetation monitoring in Rožu, Aizkraukles and Aklais Mires Report summary 2012.

Dr. geogr. Agnese Priede, Kemeri National Park

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 raised bog habitats caused by restoration actions 71 monitoring plots were established: 21 in Rožu Mire, 20 in Aizkraukles Mire, and 30 in Aklais Mire. In 2011, 10 new plots (in Rožu and Aizkraukles Mires – five plots in each) were established. Totally, data from 81 plots were recorded and summarized into the monitoring report. The monitoring plots are located in transect lines perpendicularly to drainage ditches and in sites relatively less affected by drainage (in relatively untouched raised bog habitats as reference sites), 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 classes). 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 every year and named according to the ID codes.

Both in 2011 and 2012, all the plots were repeatedly visited and all parameters estimated according to the standard protocol. Photographs of each plot were repeatedly taken and stored using the same ID codes.

At the moment of monitoring in 2012, the bog restoration actions were completed in Rozu Mire (peat dams built) and partly in Aizkraukle Mire. In Rozu Mire the water table in ditches was elevated for about 10-30 cm. In Aklais Mire and Aizkraukle Mire no visible changes in the vicinity of the monitoring plots were observed.

In most of cases, in 2012 no significant changes in the plots were observed. This indicated that the raised bog vegetation is relatively stable, therefore little changes in species richness and species covers were recorded which might be annual fluctuations not related to hydrological or other natural 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 and 2011.

An excellent indicator for changes in hydrological regime in raised bogs is vitality of heather *Calluna vulgaris* which usually, according to the previous experience in restoration in the bogs in Latvia, rapidly reacts to rewetting of peat in drained areas. Due to elevation of water table and rewetting or partly overflooding the bog surface, the heather is dying out. The

changes in heather vitality, recorded in four classes, were estimated in all three monitored sites (Figures 1, 2, 3).

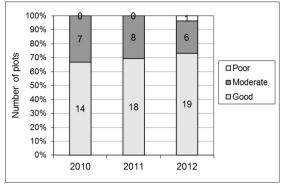


Figure 1
Changes in vitality of heather in Rozu Mire (2010-2012). 2010: n=21, 2011-2012: n=26.

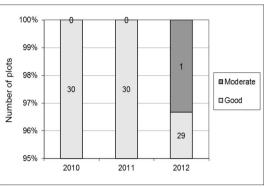


Figure 2
Changes in vitality of heather in Aklais Mire (2010-2012).
n=30

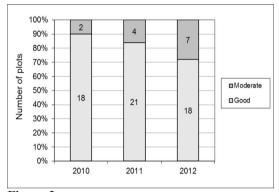


Figure 3
Changes in vitality of heather in Aizkraukles Mire (2010-2012). 2010: n=20, 2011-2012: n=25.



Figure 4
RO01 monitoring plots in Rozu Mire in 2010. Plot centre is located 2 m from the ditch, heather is the dominant species indicating impact of drainage.



Figure 5
RO01 monitoring plots in Rozu Mire in 2012. Due to peat dams built on the ditch in 2012, the water table in the ditch is elevated partly overflooding the monitoring plot. Dying out of heather was observed indicating changes in hydrological regime (rewetting of the drained peat).

Significant changes (from good to poor vitality) obviously indicating elevation of water table were observed only in a single plot Rozu Mire – dying out of heather (an example Figures 4, 5).

Excellent indicators for drainage impacts in raised bogs are cover of sphagnum mosses and cover of mosses typical for dry coniferous forests (e.g. *Pleurozium schreberi*, *Dicranum polysetum*, *D. scoparium*, *Hylocomium splendens*) which usually form a considerable proportion of the total moss cover in drained sites. Over the monitoring period 2010-2012 the cover of sphagnum and other mosses has slightly changed, but no significant changes to be obviously related to the hydrological changes were observed.

In Aizkraukles and Aklais Mires no significant changes related to restoration action could be expected in autumn 2012.

Overall, according to the monitoring results since 2010, the changes in bog vegetation in all three sites (Rozu, Aklais, Aizkraukles Mires) are insignificant and mostly are related to natural fluctuations. However, the three year period before restoration actions assures the reference status for comparison to the expected changes in vegetation in the forthcoming years. The changes can be expected in 2013 when the building of dams on ditches could have an effect on the water table consequently causing changes also in vegetation and positively affecting ecosystem recovery.

Monitoring of mire management success in Melnais Lake Mire Dr. biol. Liene Aunina, Institute of Biology of University of Latvia

Report summary, 2012

The aim of the study was to evaluate the impact on vegetation of dams built to decrease the water level fluctuation in the drained bog.

Annual study of bog vegetation in permanent plots was chosen as appropriate method to detect changes in bog vegetation. In total 49 sample plots were established in 2010/2011, before the dam building in spring 2012 and revisited in late summer/autumn 2012.

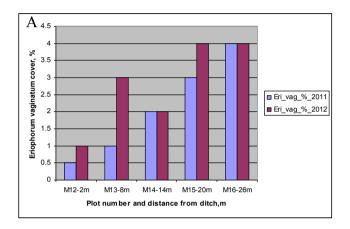
Sample plots were established in the north-eastern part, central part of the nature reserve and in the non-flooded area of cutover peat fields within the nature reserve. Already after six month significant increase of *Sphagnum* species and *Eriophorum vaginatum* cover was observed in majority of sample plots established in drainage influenced bog area (Figures 1, 2). Small increase or establishment of *Rhynchospora alba* was recorded as well. *Calluna vulgaris* decrease was not recorded except the narrow zone along small ditches (Figures 3, 4).

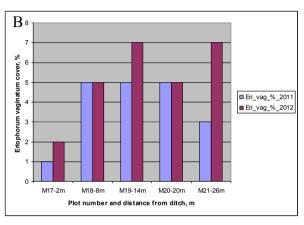
In general, the closest to the ditch, the most expressed is the dam impact in terms of vegetation changes. However, local site microtopography and degree of previous drainage impact plays important role as well.

The most striking feature now is the one meter wide zone of dead *Calluna vulgaris* along the narrowest ditches with dams in Melnais Lake Mire. Slight impact on bog vegetation has been

recorded even in a 100 m distance from the ditch in the north-eastern part of the mire. In the non-flooded area of cutover peat fields slight increase of *Eriophorum vaginatum* cover was recorded which may indicate wetter soil conditions as well. *Sphagnum* and *Eriophorum vaginatum* cover in ditches where dams have been built has increased (Figure 5).

To sum up, the construction of dams and consequently decrease in water level fluctuations in Melnais Lake Mire has positive effect on drainage influenced bog vegetation. The observed vegetation changes indicate that the area has become wetter. Species cover of many bog plant species now is more similar to that one of undisturbed raised bog than it was before the dam construction.





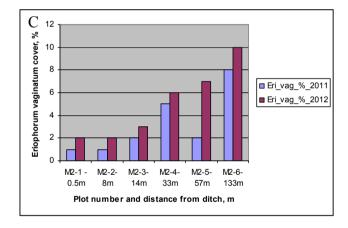
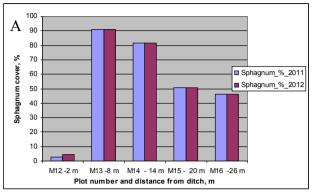
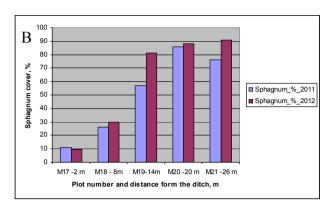


Figure 1 Changes in *Eriophorum vaginatum* cover, %, in Melnais Lake Mire.

Notes. A—north- eastern part of mire, right bank of ditch; B—north-eastern part of mire, left bank of ditch; C—north-eastern part of mire, left bank of ditch, along water level pipes.





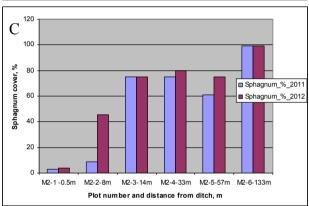
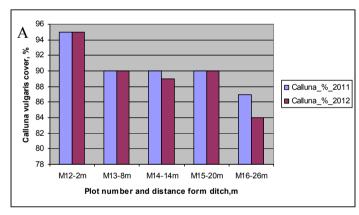
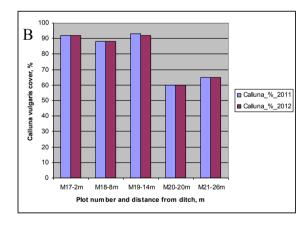


Figure 2 Changes in *Sphagnum* cover, %, in Melnais Lake Mire.

Notes. A—north-eastern part of mire, right bank of ditch; B—north-eastern part of mire, left bank of ditch; C—north-eastern part of mire, left bank of ditch, along water level pipes.





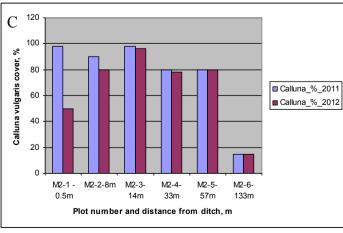


Figure 3 Changes in *Calluna vulgaris* cover, %, in Melnais Lake Mire.

Notes. A—north-eastern part of mire, right bank of ditch; B—north-eastern part of mire, left bank of ditch; C—north-eastern part of mire, left bank of ditch, along water level pipes.



Figure 4Zone of dead *Calluna vulgaris* along ditch in the north-eastern part of Melnā ezera Mire (October 2012)



B

Figure 5
View on sample plot MG7 in 2011 (A) and 2012 (B).

Hydrological monitoring in Melnais Lake Mire

Dr. geol. Aija Delina, University of Latvia

Summaary

The dams on ditches in the Melnais Lake mire were constructed on January – February, 2012. The first changes of GW table were observed soon after the construction of dams in the well M2-1 (1 m from the ditch), and GW table rose for 9 cm there (02/02/2012). There were no changes of GW table observed in the other wells during the winter, but in spring, when the snow melting had started and the ditch filled with water, the GW table raised in the other wells also. The first significant GW table rise was observed in the beginning of April, when GW table in well M2-1 rose for another 21 cm (09/04/2012) and in well M2-2 for 15 cm (09/04/2012). The water level rose both in the ditch and in the bog during the whole April, and the dam effect also reached the further wells. Sharp GW table rise was observed in the well M2-3 (10 m from the ditch) for 20 cm (22/04/2012) in the second part of the April. GW table rise was observed in the other wells located 25 meters and further from the ditch during the April, and these GW table changes could be related both to the dam effect and to the

regional GW table rise due to the snow melting, because the GW table rise is not so sharp. GW table continuously rose for 7-10 cm in total in the wells M2-4, M2-5, M2-6 during the spring period. No GW level rise was observed in the well M2-7 located 250 m from the ditch, even more – the GW table fell for 5 cm (26/05/2012) in the second half of May, and the GW fluctuations with the 5 cm amplitude was observed throughout the summer and in the beginning of autumn. GW table has stabilized since the beginning of May in the other wells and the high GW table reached in the spring has been sustained during the whole summer and in the autumn, there are only slight level fluctuations of 4-6 cm observed.

The observations show that construction of dams on the ditch, where the monitoring profile M2 is located has yielded the expected results – the water level in the mire has raised and sustained stable and high during the whole summer. The direct impact of the dams could be observed up to 10 m from the ditch, but the further wells show indirect effect of the dams, through the GW table stabilization in the bog and sustaining the high levels continuously, which is observed in the whole wells located 25-250 m from the ditch. Maximal GW table rise is obtained next to the ditch, and it is 38 cm in the well M2-1. The GW table rise decreases with the increase of the distance from the ditch, thus the maximal GW table rise in well M2-2 was 22 cm, in well M2-3 – 15 cm, in well M2-4 – 10 cm, in well M2-5 – 7 cm, in well M2-6 – 12 cm and 0 cm in well M2-7.

GW table rise has been observed in the wells M1-3 and M1-4, located in the area of former peat fields, but closer to the main ditch in the east, where dams were constructed. In the spring the water level in these wells raised for 10 cm in M1-3 (09/04/2012) and for 4-6 cm in M1-4 (09-22/04/2012).

The observations in the profile M2 and some wells in profile M1 shows that the management measures to restore the natural habitat of the mire are successful in the Melnais Lake mire, and the hydrological regime of the mire has started to stabilize.

Aizkraukle mire

Dams on ditches in the Aizkraukle mire were built on August – September, 2012. There is slight and continuous GW table rise in all the profiles that could be due to the construction of dams or to the annual water level rise in the beginning of autumn. However, no major changes of GW table are observed in September. Most likely the reasons are lack of heavy rainfalls yielding a lot of water to the ditches and the very short time span after the installation of the dams. During the August and September GW table has raised in all the wells and all the profiles for 2-7 cm.

Aklais Mire

Dams on ditches in the Aklais mire were built on August – September, 2012. There is slight and continuous GW table rise in all the profiles that could be due to the construction of dams or to the annual water level rise in the beginning of autumn. However, no major changes of GW table are observed in September. Most likely the reasons are lack of heavy rainfalls yielding a lot of water to the ditches and the very short time span after the installation of the dams. During the August and September GW table has raised in all the wells and all the profiles for 2-4 cm. Most likely, the first effect of the dams on Girupe is observed in profile Ak1. There is sharp GW table rise for 3-5 cm observed in the wells Ak1-1 and Ak1-2.

Rozu Mire

Dams on ditches in the Rozu mire were built on August – September, 2012. There is slight and continuous GW table rise in all the profiles that could be due to the construction of dams or to the annual water level rise in the beginning of autumn. However, no major changes of GW table are observed in September. Most likely the reasons are lack of heavy rainfalls yielding a lot of water to the ditches and the very short time span after the installation of the dams. During the August and September GW table has raised in all the wells and all the profiles for 2-4 cm.

Ievads

Dabas liegumos izveidotajos monitoringa urbumu profilos tiek turpināti gruntsūdens līmeņa novērojumi. Novērojumi tiek veikti divas reizes mēnesī. Iegūtie dati tiek apkopoti tabulās (skat. pielikumu) un analizētas gruntsūdens līmeņa svārstības purvā. Melnā ezera purvā 2012. gada janvārī — februārī uz grāvjiem plānotajās vietās izbūvēti dambji. Pārējos DL dambji izbūvēti 2012. gada augustā — septembrī.

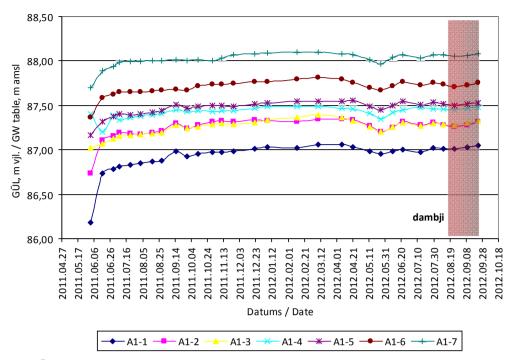
DL "Aizkraukles purvs un meži"

<u>I profils</u> – ūdens līmeņa novērojumiem pie liela grāvja, kas projekta laikā tiks dambēts

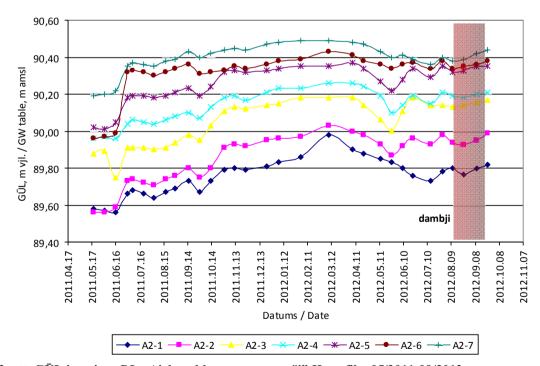
Visos urbumos kopējās GŪL svārstību tendences ir līdzīgas (1. att.). 2011. gada rudens beigās novērots straujāks līmeņu kāpums, ko var skaidrot ar intensīvākiem nokrišņiem šajā laika posmā. Ziemā visos urbumos GŪL bijis diezgan stabils, grāvim tuvākajos urbumos novērojamas nelielas svārstības — līmeņa krišanās februāra vidū un kāpums martā — aprīlī. 2012. gada vasaras sākumā visos urbumos raksturīga līmeņa pazemināšanās ar tam sekojošu īslaicīgu kāpumu un kritumu sēriju vasarā, ko noteicis nokrišņu režīms šajā laikā. Dambju izbūves ietekme pašlaik novērojumos neatspoguļojas, tai vajadzētu parādīties dažu mēnešu laikā pēc dambju izbūves.

<u>II profils</u> – ūdens līmeņa novērojumiem pie maziem grāvīšiem, kas projekta laikā tiks dambēti

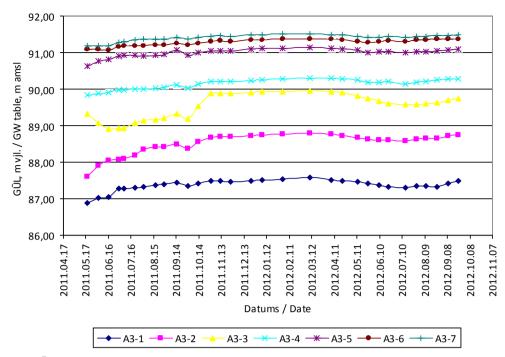
Visos urbumos kopējās GŪL svārstību tendences ir līdzīgas (2. att.). 2011. gada rudens beigās novērots straujāks līmeņu kāpums, ko var skaidrot ar intensīvākiem nokrišņiem šajā laika posmā. Vienlaikus jāatzīmē, ka grāvim tuvākajos urbumos šis līmeņa kāpums ir straujāks un izteiktāks, nekā purvā tālāk esošajos urbumos. Ziemā visos urbumos GŪL lēnām pieaudzis, ko var skaidrot ar to, ka nebija ilgstoša kailsala perioda un purva virskārta nesasala. Tāpēc jau pirmie atkušņi februāra beigās — marta sākumā izraisīja straujāku GŪL kāpumu. 2012. gada pavasara beigās — vasaras sākumā visos urbumos raksturīga līmeņa pazemināšanās ar tam sekojošu īslaicīgu kāpumu un kritumu sēriju vasarā, ko noteicis nokrišņu režīms un grāvju drenējošā ietekme šajā laikā. Kopš 2012. gada augusta vidus vērojama pakāpeniska GŪL celšanās visos urbumos, kas iespējams saistīta ar dambju izbūvi šajā grāvju sistēmā. Tomēr pamatotāki secinājumi par dambju izbūves ietekmi uz ūdens līmeņiem purvā būs iespējami vēlāk, kad dambju ietekme būs nepārprotama, t.i., dažu mēnešu laikā pēc dambju izbūves.



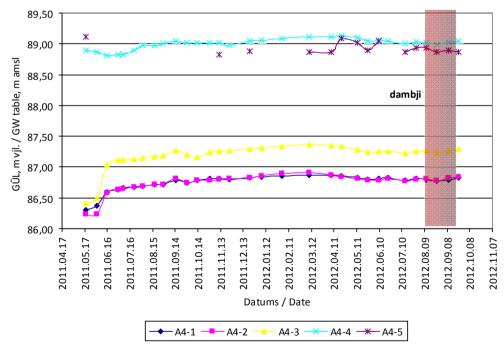
1. att. GŪL izmaiņas DL "Aizkraukles purvs un meži" I profilā, 05/2011-09/2012 Figure 1. Changes in GW table in Aizkraukle Mire and Forests. Profile I, 05/2011-09/2012



2. att. GŪL izmaiņas DL "Aizkraukles purvs un meži" II profilā, 05/2011-09/2012 Figure 2. Changes in GW table in Aizkraukle Mire and Forests. Profile II, 05/2011-09/2012



3. att. GŪL izmaiņas DL "Aizkraukles purvs un meži" III profilā, 05/2011-09/2012 Figure 3. Changes in GW table in Aizkraukle Mire and Forests. Profile III, 05/2011-09/2012



4. att. GŪL izmaiņas DL "Aizkraukles purvs un meži" IV profilā, 05/2011-09/2012 Figure 4. Changes in GW table in Aizkraukle Mire and Forests. Profile IV, 05/2011-09/2012

<u>III profils</u> – ūdens līmeņa novērojumiem pie grāvja DL malā, pie kūdras laukiem, lai novērotu visu laiku funkcionējoša grāvja ietekmi

Visos urbumos kopējās GŪL svārstību tendences ir līdzīgas — lēns un pakāpenisks GŪL kāpums visā novērojumu periodā no 2011. gada maija līdz 2012. gada septembrim (3. att.). Vienlaikus, urbumos, kuri ir tieši grāvja ietekmes zonā (A3-1 un A3-2) 2012. gada pavasarī

gruntsūdens līmenis izteiktāk pazeminās līdz pat vasaras vidum, bet pēc tam pakāpeniski atkal paaugstinās. Urbumos, kurus grāvja drenējošā ietekme praktiski neskar (A3-4, A3-5, A3-6, A3-7) arī vērojams GŪL kritums pavasarī, bet tas ir daudz mazāk izteikts pēc amplitūdas un novērojams īsāku laika posmu. Savdabīgākā situācija veidojas urbumā A3-3, kur 2011. gada rudenī novērojams ļoti straujš GŪL kāpums un izteikts kritums 2012. gada maija beigās. Visticamāk, to var skaidrot ar grāvja drenējošās ietekmes un purva (kūdras) ūdeni akumulējošo īpašību mijiedarbību. Sākoties intensīvu nokrišņu periodam 2011. gada rudenī, līdz tam sausā kūdras daļa piesātinās ar ūdeni, un šo ievērojamo ūdens daudzumu grāvji tik strauji nespēj novadīt, kā rezultātā tas izsauc GŪL paaugstināšanos, bet pavasarī GŪL pazemināšanās sākas vēlāk, kad grāvim tuvākā purva daļa ir vairāk nosusināta un sākas ūdens aizvadīšana no attālākām purva daļām.

<u>IV profils</u> – ūdens līmeņa novērojumiem purvainā mežā un mežā, lai novērotu apsaimniekošanas pasākumu ietekmi uz piegulošajiem mežiem

Visos urbumos kopējās GŪL svārstību tendences ir līdzīgas (4. att.) — pakāpenisks GŪL kāpums rudens un ziemas sezonā, kam seko līmeņa pazemināšanās vasaras sākumā un diezgan stabils GŪL purva malā esošajos urbumos (A4-1 ÷ A4-3) 2012. gada vasarā. Dambju izbūves ietekme pašlaik novērojumos neatspoguļojas, tai vajadzētu parādīties dažu mēnešu laikā pēc dambju izbūves.

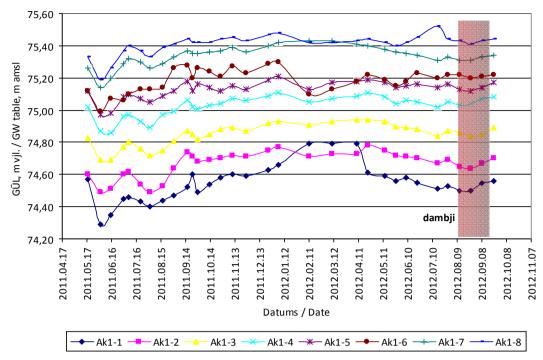
DL "Aklais purvs"

<u>I profils</u> – ūdens līmeņa novērojumiem pie Ģirupes sākuma, kas tiks dambēts

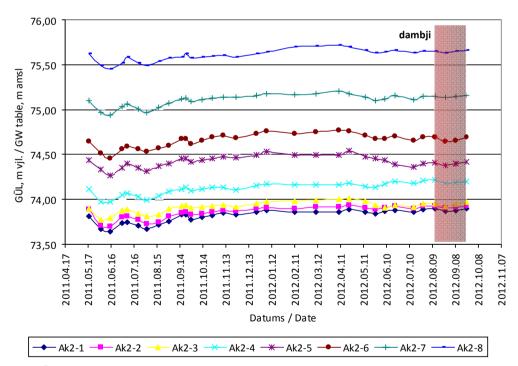
Visos urbumos kopējās GŪL svārstību tendences ir līdzīgas (5. att.) — ļoti pakāpeniska vidējā GŪL paaugstināšanās, ko var saistīt ar vēlo, salīdzinoši īso, sniegiem bagāto ziemu, kā rezultātā veidojās labvēlīgi apstākļi ūdeņu infiltrācijai kūdrā, un tam sekojošu GŪL kritumu vasaras sezonā. Vienlaikus jāatzīmē atsevišķi izņēmumi. Urbumā Ak1-1 paaugstinātais stabilais GŪL ziemas beigās un pavasara sākumā saistīts ar to, ka februāra vidū urbumā bija izveidojies ledus slānis, kurš neizkusa līdz pat aprīlim. Urbumos Ak1-5 un Ak1-6 līmeņa pazemināšanos ziemas vidū varētu saistīt ar ūdens līmeņa svārstībām netālu esošajā akacītī. Dambju izbūves ietekme pašlaik novērojumos neatspoguļojas, tai vajadzētu parādīties dažu mēnešu laikā pēc dambju izbūves.

II profils – ūdens līmeņa novērojumiem pie daļēji aizauguša grāvja, kurš tiks dambēts

Visos urbumos kopējās GŪL svārstību tendences ir līdzīgas (6. att.) — pakāpenisks GŪL kāpums rudenī un ziemā ar tam sekojošu lēnu līmeņa pazemināšanos vasarā. Šajā profilā visos urbumos GŪL svārstību amplitūda ir ļoti līdzīga, neatkarīgi no urbuma attāluma līdz grāvim. Dambju izbūves ietekme pašlaik novērojumos neatspoguļojas, tai vajadzētu parādīties dažu mēnešu laikā pēc dambju izbūves.



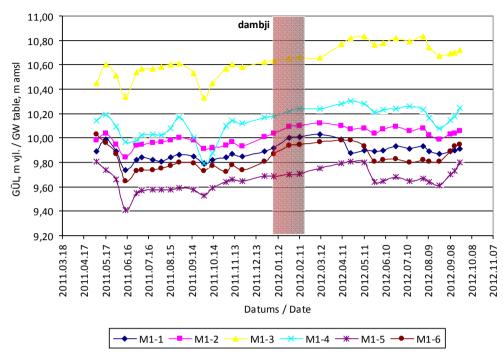
5. att. GŪL izmaiņas DL "Aklais purvs" I profilā, 05/2011-09/2012 Figure 5. Changes in GW table in Aklais Mire. Profile I, 05/2011-09/2012



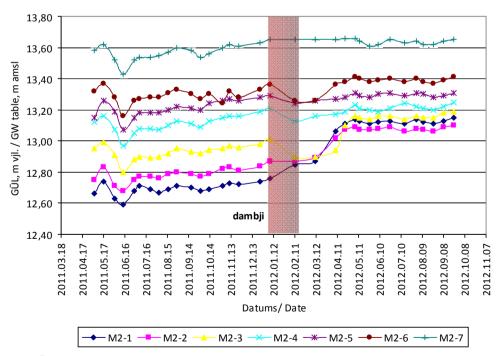
6. att. GŪL izmaiņas DL "Aklais purvs" II profilā, 05/2011-09/2012 Figure 6. Changes in GW table in Aklais Mire. Profile II, 05/2011-09/2012

DL "Melnā ezera purvs"

<u>I urbumu kopa</u> – ūdens līmeņa novērojumiem ap applūdušajiem bijušajiem kūdras laukiem



7. att. GŪL izmaiņas DL "Melnā ezera purvs" I urbumu kopā, 05/2011-09/2012 Figure 7. Changes in GW table in Melnais Lake Mire. Profile I, 05/2011-09/2012



8. att. GŪL izmaiņas DL "Melnā ezera purvs" II profilā, 05/2011-09/2012 Figure 8. Changes in GW table in Melnais Lake Mire. Profile II, 05/2011-09/2012

Visos urbumos, līdzīgi kā citos purvos, kopējās GŪL svārstību tendences ir līdzīgas (7. att.) — pakāpenisks GŪL kāpums rudenī un ziemā. Vienīgais izņēmums ir krass līmeņa pazeminājums 2011. gada oktobra sākumā. Tā kā šis līmeņa kritums visizteiktākais ir urbumos M1-3 un M1-4, tad visticamāk, tas saistīts ar ūdens līmeņa izmaiņām lielajos novadgrāvjos uz austrumiem no noraktajiem kūdras laukiem. Līmeņa pazemināšanās šajos grāvjos (piemēram, nojaucot kādu bebru aizsprostu vai iztīrot kādu caurteku) varēja izraisīt GŪL pazemināšanos pietiekami plašā teritorijā, skarot arī bijušos noraktos un daļēji applūdušos kūdras laukus, kur izvietoti šie novērošanas urbumi.

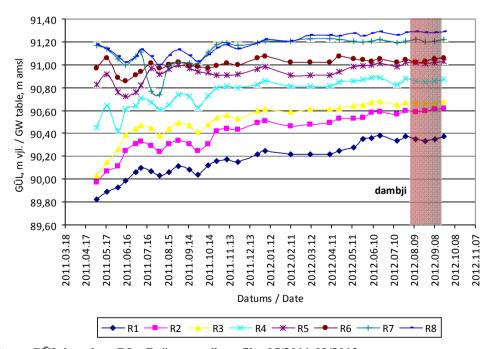
Melnā ezera purvā dambji izbūvēti 2012. gada ziemā — janvārī un februārī. Novērojumi rāda, ka pavasarī, sākoties intensīvai kušanai, un attiecīgi grāvjiem piepildoties ar ūdeni, notika GŪL paaugstināšanās arī piegulošajās teritorijās, t.sk. kūdras laukos. Izteiktākais paaugstinājums ir urbumos M1-3 un M1-4, kas atrodas vistuvāk aizdambētajam grāvim. Dambja ietekme novērojama arī turpmāk vasarā, jo abos minētajos urbumos gruntsūdens līmenis pazeminās daudz mazāk, nekā pārējos urbumos, kur galvenā loma tomēr ir kūdras lauku drenāžas sistēmas darbībai un iztvaikošanai vasaras mēnešos.

II profils – ūdens līmeņa novērojumiem pie grāvja, kas tiks dambēts

Visos urbumos, līdzīgi kā citos purvos, kopējās GŪL svārstību tendences ir līdzīgas (8. att.) — pakāpenisks GŪL kāpums rudenī un ziemā. Melnā ezera purvā dambji izbūvēti 2012. gada ziemā — janvārī un februārī. Novērojumi rāda, ka pavasarī, sākoties intensīvai kušanai, un attiecīgi grāvjiem piepildoties ar ūdeni, notika GŪL paaugstināšanās arī grāvim tuvākajos urbumos M2-1 ÷ M2-3. Vēlāk vasaras laikā šajos urbumos raksturīgs stabils GŪL, nav novērojams neliels līmeņa kritums, kā tas ir bijis visos citos purvos vasaras sezonā. Līmeņa stabilizēšanās ir novērojama arī no grāvja attālākajos urbumos.

DL "Rožu purvs"

Profils – ūdens līmeņa novērojumiem pie grāvju sistēmas pēdējā grāvja, kas tiks dambēti



9. att. GŪL izmaiņas DL "Rožu purvs" profilā, 05/2011-09/2012 Figure 9. Changes in GW table in Rozu Mire. 05/2011-09/2012

Visos urbumos kopējās GŪL svārstību tendences ir līdzīgas (9. att.) — pakāpenisks GŪL kāpums visā novērojumu sezonā, ko var saistīt ar vēlo, salīdzinoši īso, sniegiem bagāto ziemu, kā rezultātā veidojās labvēlīgi apstākļi ūdeņu infiltrācijai kūdrā. 2012. gada vasarā novērojamas atsevišķas GŪL svārstības, kas saistītas ar nokrišņu un iztvaikošanas intensitāti šajā laikā, bet līmeņa svārstību amplitūda urbumos samazinās, attālinoties no grāvja. Dambju izbūves ietekme pašlaik novērojumos neatspoguļojas, tai vajadzētu parādīties dažu mēnešu laikā pēc dambju izbūves.

Secinājumi

Visos purvos visos profilos novērojams pakāpenisks GŪL kāpums visā novērojumu sezonā (05/2011 — 09/2012), ko var saistīt ar vēlo, salīdzinoši īso, sniegiem bagāto ziemu, kā rezultātā veidojās labvēlīgi apstākļi ūdeņu infiltrācijai kūdrā, un salīdzinoši vēso vasaru, kas neveicināja mitruma zudumus purvos. Melnā ezera purvā, kur dambji izbūvēti 2012. gada janvārī — februārī, novērojama dambju pozitīvā ietekme uz purvu hidroloģisko režīmu — GŪL pavasarī paaugstinājās un vasaras laikā bija stabilāks nekā iepriekš, bez pazemināšanās tendences vasaras laikā un bez krasām līmeņa svārstībām, salīdzinājumā ar iepriekšējā gada vasaras sezonu. Pārējos purvos, kur dambji izbūvēti 2012. gada augustā — septembrī, to ietekme novērojumos vēl neparādās, tam nepieciešami daži mēneši.

5.8. Summaries of the Study tours (E2)

From October 8-15, 2012 the project manager Dr. Mara Pakalne and the project assistant Aivars Slisans participated in a Study tour to the LIFE project LIFE07NAT/LT/000530 "WETLIFE – Restoring Hydrology in Amalvas and Zuvintas wetlands" and Aukstumala raised bog. During the Study tour it was possible to see the results of raised bog restoration in Amalvas and Zuvintas bogs.

Previosly, in the area of the bogs was a forest that in the frame of the LIFE project was cut to open the area for the raised bog restoration.

To raise the water level plastic dams built were built on the contour ditches and the smaller ones inside the bog. After the building of dams, it can be observed that the groundwater level slowly raises and bog plant species, like *Sphagnum magellanicum*, *S. rubellum*, *S. cuspidatum* and *Eriphorum vaginatum*, *Andromeda polifolia* and other bog species re-appear in the restoration area.

Photos of the project actions **5.9.**

A1 Elaboration of management plans



management plan 03.06.2010.

Photo: Aivars Slisans



Informative meeting for "Melnais Lake Mire" - Informative meeting for "Melnais Lake Mire" management plan 03.06.2010.

Photo: Aivars Slisans

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



Hydrological and geological studies in Melnais Lake Hydrological and geological studies in Melnais Lake Mire.

Photo: Aivars Slisans



Mire.

Photo: Aivars Slisans

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



Building of peat/wood dam by hand in Aizkraukle Mire on 03.09.2012.

Photo: Arnis Staris



Building of peat/wood dam by hand in Aizkraukle Mire on 03.09.2012.

Photo: Arnis Staris



Peat/wood dam in Aizkraukle Mire on 16.10.2012. *Photo: Gunars Balodis*



Checking of dams building progress in Aklais Mire. *Photo: Aivars Slisans*



Peat dam on the drainage ditch in Aklais Mire Nature Reserve on 14.10.2012.

Photo: Gunars Balodis



Strong water runoff trough peat dam in Aklais Mire on 24.10.2012.

Photo: Gunars Balodis



Building of peat dam in Rozu Mire. *Photo: Mara Pakalne*



Peat dam on drainage ditch in Rozu Mire. Photo: Aivars Slisans



Checking the dams in Rozu Mire. *Photo: Aivars Slisans*



Building of dams in Melnais Lake Mire. *Photo: Mara Pakalne*



Photo: Arnis Staris



Building of dams in Melnais Lake Mire. Photo: Mara Pakalne

D1 Organisation of seminars



Project manager Mara Pakalne giving talk during International Seminar "Sharing experience on Raised Bog Restoration" in Riga.

Photo: Aivars Slisans



Project hydrologist Dr. geol. Aija Delina explaining principle of groundwater monitoring wells during excursion to Melnais Lake Mire to seminar participants.

Photo: Aivars Slisans



Dr. geogr. Laimdota Kalnina explaining raised bog development during excursion to Melnais Lake Mire to International seminar participants.

Photo: Aivars Slisans



Excursion of seminar participants to Melnais Lake Mire.

Photo: Aivars Slisans



Excursion of seminar participants to Melnais Lake Mire.

Photo: Aivars Slisans



Group picture of seminar participants and organizers in Melnais Lake Mire.

Photo: Aivars Slisans



Excursion of seminar participants to Rozu Mire. *Photo: Aivars Slisans*



Seminar participants exploring *Sphagnum* mosses during excursion to Rozu Mire.

Photo: Aivars Slisans



Dr. biol. Mara Pakalne explaining project results to seminar participants during excursion to Rozu Mire. *Photo: Aivars Slisans*



Excursion of seminar participants to Melnais Lake Mire.

Photo: Aivars Slisans



Dr. biol. Mara Pakalne explaining LIFE project "Implementation of Mire Habitat Management Plan for Latvia" results to seminar participants during excursion to Vasenieku Mire.

Photo: Aivars Slisans



Group picture of seminar participants and organizers in Vasenieku Mire.

Photo: Aivars Slisans

D3 Elaboration and publishing of information booklets and boards



Location of informative boards in Central Latvia (1—Melnais Lake Mire, 2—Aizkraukle Mire and Forests, 3—Aklais Mire, 4—Rozu Mire).

Map: http://www.balticmaps.eu



Road map to Melnais Lake Mire information board (approx. coordinates E 496538, N 300648, LKS92). Map: http://www.balticmaps.eu



Information board on Melnais Lake Mire. *Photo: Persijs Gederts*



Information board on Aizkraukle Mire and Forest. *Photo: Gunars Balodis*



Road map to Aizkraukle Mire and Forests information board (approx. coordinates E 575959, N 280950, LKS92).

Map: http://www.balticmaps.eu



Road map to Aklais Mire information board (approx. coordinates E 567633 N 263297, LKS92). *Map: http://www.balticmaps.eu*



Information board on Aklais Mire.

Photo: Gunars Balodis



Information board on Rozu Mire.

Photo: Gunars Balodis



Road map to Rozu Mire information board (approx. coordinates E 602649 N 261079, LKS92).

Map: http://www.balticmaps.eu

D5 Production of documentary film



Making of film in Rozu Mire. *Photo: Gunars Balodis*



Making of film in Aklais Mire. *Photo: Gunars Balodis*



Making of film in Melnais Lake Mire. *Photo: Mara Pakalne*



Making of film in Melnais Lake Mire. Photo: Mara Pakalne

D6 Establishment of the Raised Bog exhibition



Raised Bog Exhibition in Akniste Library (12.01.-15.02.2012).

Photo: Aivars Slisans



Raised Bog Exhibition in Akniste Library (12.01.-15.02.2012).

Photo: Mara Pakalne



Project manager Mara Pakalne showing mire plants Pupils in Raised Bog Exhibition in Akniste Library. and animals to pupils in Raised Bog Exhibition in Akniste Library.

Photo: Aivars Slisans



Photo: Aivars Slisans



Pupils in Raised Bog Exhibition in Akniste Library. Photo: Aivars Slisans

Pupils in Raised Bog Exhibition in Akniste Library. Photo: Aivars Slisans



Raised Bog Exhibition in Bulduri Library (04.04.-05.05.2012).



Raised Bog Exhibition in Bulduri Library (04.04.-05.05.2012).

Photo: Mara Pakalne



Raised Bog Exhibition in Bulduri Library (04.04.-05.05.2012).

Photo: Mara Pakalne



Raised Bog Exhibition in Vaivari Rehabilitation Centre (08.05.-08.06.2012).

Photo: Gunars Balodis



Raised Bog Exhibition in Vaivari Rehabilitation Centre (08.05.-08.06.2012).

Photo: Gunars Balodis



Raised Bog Exhibition in Vaivari Rehabilitation Centre (08.05.-08.06.2012).

Photo: Gunars Balodis



Raised Bog Exhibition in Stockholm Economic School in Riga (15.06.-15.07.2012).



Raised Bog Exhibition in Stockholm Economic School in Riga (15.06.-15.07.2012).

Photo: Mara Pakalne



Raised Bog Exhibition in Riga City Central Library (17.09.-19.10.2012).

Photo: Aivars Slisans



Raised Bog Exhibition in Riga City Central Library (17.09.-19.10.2012).

Photo: Mara Pakalne



Raised Bog Exhibition in Riga City Central Library (17.09.-19.10.2012).

Photo: Mara Pakalne



Raised Bog Exhibition in Riga City Central Library (17.09.-19.10.2012).

E1 Steering Group Meetings



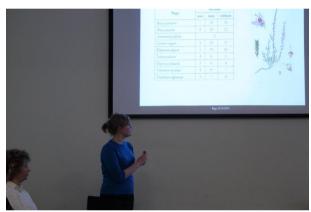
4th Project Steering Group Meeting on 01.04.2012. Daiga Brakmane informs about the project public awareness actions.

Photo: Aivars Slisans



Project manager Dr. biol. Mara Pakalne informs about the progress of the project actions in 4th Project Steering Group Meeting

Photo: Aivars Slisans



Dr. biol. Iluta Dauskane informs about the results of dendrochronological studies in Melnais Lake Mire Nature Reserve.

Photo: Aivars Slisans



Ieva Ubele from "Foundation ELM MEDIA" tells about progress of the documentary film about project activities.

Photo: Aivars Slisans



Arnis Staris from E-Buvvadiba informs about building of dams in Melnais Lake Mire.

Photo: Aivars Slisans

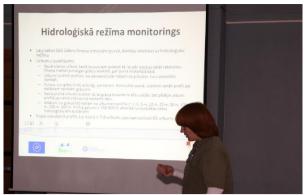


Opening of project photo exhibition "Secrets of Mires" in EU House in Riga on 01.04.2012.



Project Steering Group Meeting on 22.10.2012. Project manager Dr. biol. Mara Pakalne informs about the progress of the project actions.

Photo: Aivars Slisans



Dr. geol. Aija Delina explaining raised bog hydrology in the 5th Project Steering Group Meeting.

Photo: Aivars Slisans



Project Steering Group Meeting on 22.10.2012.

Photo: Mara Pakalne



Project experts, botanist Liene Aunina (left) and ornithologist Janis Kuze (right), in the 5th Project Steering Group Meeting.

Photo: Mara Pakalne



Ieva Goba from "ELM MEDIA" informs about the progress of the project documentary film.

Photo: Mara Pakalne



Project assistant Aivars Slisans gives overview about project finances.



Opening of the project photo exhibition "Secrets of Mires" in Riga City Council on 22.10.2012.

Photo: Vitauts Mihalovskis



Welcome from the Deputy Head of the Riga City Council Andris Ameriks (right) and the Head of the Council of "Riga Forests" Aivars Taurins (left) in the opening of the project photo exhibition "Secrets of Mires" in Riga City Council.

Photo: Aivars Slisans



Welcome from the head of the Ogre photo Club Vitauts Mihalovskis in the opening of the project photo exhibition "Secrets of Mires" in Riga City Council.

Photo: Aivars Slisans



Opening of the project photo exhibition "Secrets of Mires" in Riga City Council. From left to right – member of the board of "Riga Forests" Juris Buskevics, M. Pakalne, A. Ameriks, A. Taurins.

Photo: Aivars Slisans



The project photo exhibition "Secrets of Mires" in Riga City Council.

Photo: Mara Pakalne



The project photo exhibition "Secrets of Mires" in Riga City Council.

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



Liga Strazdina, information coordinator.

Photo: Lauma Strazdina



EC Monitoring expert Rolands Ratfelders visits the project team in 2012.

Photo: Aivars Slisans



EC Monitoring expert Rolands Ratfelders visits the project team in 2012.



Children exploring mire plants in the project stand during Plant Conservation Day in the Botanical Garden of the University of Latvia on May 18th.

Photo: Aivars Slisans



Children exploring mire plants in the project stand during Plant Conservation Day in the Botanical Garden of the University of Latvia on May 18th.

Photo: Mara Pakalne



Children exploring mire plants in the project stand during Plant Conservation Day in the Botanical Garden of the University of Latvia on May 18th.

Photo: Mara Pakalne



Children exploring mire plants in the project stand during Plant Conservation Day in the Botanical Garden of the University of Latvia on May 18th.

Photo: Mara Pakalne



Children exploring mire plants in the project stand during Plant Conservation Day in the Botanical Garden of the University of Latvia on May 18th.

Photo: Mara Pakalne



Project assistant Aivars Slisans explaining pine root system development in mires during Plant Conservation Day in the Botanical Garden of the University of Latvia on May 18th.



Visitors of the project stand during European Researchers Night 2012 in the Botanical Garden of the University of Latvia on 28.09.2012.



Visitors of the project stand during European Researchers Night 2012 in the Botanical Garden of the University of Latvia on 28.09.2012.

Photo: Mara Pakalne



Visitors of the project stand during European Researchers Night 2012 in the Botanical Garden of the University of Latvia on 28.09.2012.

Photo: Mara Pakalne



Visitors of the project stand during European Researchers Night 2012 in the Botanical Garden of the University of Latvia on 28.09.2012.

Photo: Mara Pakalne



Visitors of the project stand during European Researchers Night 2012 in the Botanical Garden of the University of Latvia on 28.09.2012.

Photo: Mara Pakalne



Project stand in European Researchers Night 2012 in the Botanical Garden of the University of Latvia on 28.09.2012.

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.

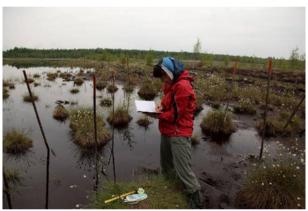
Monitoring area in Melnais Lake Mire NR.

Photo: Mara Pakalne in Melnais Lake Mire NR.

Photo: Mara Pakalne



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



Habitat monitoring in Melnais Lake Mire. Photo: Mara Pakalne



Lake Mire.

Photo: Mara Pakalne



Habitat monitoring plots in summer 2011 in Melnais Sphagnum magellanicum in the monitoring plots in summer 2011.



Establishing of groundwater monitoring well. Photo: Persijs Gederts



Establishing of groundwater monitoring well. *Photo: Persijs Gederts*



Groundwater monitoring well in Rozu Mire. Photo: Persijs Gederts



Groundwater monitoring well in Rozu Mire. Photo: Persijs Gederts





Groundwater monitoring well in Melnais Lake Mire.

Photo: Persijs Gederts

Groundwater monitoring well in Melnais Lake Mire.

Photo: Persijs Gederts



Monitoring of mire management success in Melnais Lake Mire in vegetation plot in 2011.

Photo: Liene Aunina



Monitoring of mire management success in Melnais Lake Mire in the same vegetation plot in 2012.

Photo: Liene Aunina



Monitoring of mire management success in Melnais Lake Mire in vegetation plot on drainage ditch in 2011.

Photo: Liene Aunina



Monitoring of mire management success in Melnais Lake Mire in vegetation plot on the same drainage ditch in 2012.

Photo: Liene Aunina



Vegetation monitoring plot in Rozu Mire in 2012. Significant changes in elevation of water table were observed over the monitoring period 2010-2012.

Photo: Agnese Priede



Vegetation monitoring plot in Rozu Mire in 2012. Dying out of heather was observed over the monitoring period 2010-2012.

Photo: Agnese Priede



Vegetation monitoring plot in Aklais Mire in 2012. Photo: Agnese Priede



Vegetation monitoring plot in Aklais Mire in 2012. *Photo: Agnese Priede*



Vegetation monitoring plot in Aklais Mire in 2012. Photo: Agnese Priede



Vegetation monitoring plot in Aizkraukle Mire in 2012.

Photo: Agnese Priede



Vegetation monitoring plot in Aizkraukle Mire in 2012.

Photo: Agnese Priede



Vegetation monitoring plot in Aizkraukle Mire in 2012.

Photo: Agnese Priede

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



Project manager Mara Pakalne (middle) and the project assistant Aivars Slisans (left) discussing with Friedhelm Niemayer in the conference in Germany "Mire Conservation in Germany".

Photo: Aivars Slisans



Project manager Mara Pakalne introducing conference participants with bog restoration project results during poster session in Germany.

Photo: Aivars Slisans



Conference participants obtaining information from project poster presenting results in the conference in Germany.

Photo: Aivars Slisans



Conference participants obtaining information from project poster presenting results in the conference in Germany.

Photo: Mara Pakalne



Poster session during the conference "Mire Conservation in Germany".

Photo: Aivars Slisans



Oral session during the conference "Mire Conservation in Germany".

Photo: Aivars Slisans



Experience Exchange with Estonian colleagues in Melnais Lake Mire on 17.04.2012.

Photo: Aivars Slisans



Experience Exchange with Estonian colleagues in Melnais Lake Mire on 17.04.2012.

Photo: Aivars Slisans



Experience Exchange with Estonian colleagues in Melnais Lake Mire on 17.04.2012.

Photo: Mara Pakalne



Experience Exchange with Estonian colleagues in Melnais Lake Mire on 17.04.2012.

Photo: Mara Pakalne



Experience Exchange with Estonian colleagues in Melnais Lake Mire on 17.04.2012.

Photo: Aivars Slisans



Experience Exchange with Estonian colleagues in Melnais Lake Mire on 17.04.2012.



Study tour to the LIFE project "WETLIFE – Restoring Hydrology in Amalvas and Zuvintas wetlands" and Aukstumala raised bog in Lithuania. *Photo: Aivars Slisans*



High groundwater level in Aukstumala Bog. *Photo: Mara Pakalne*



Dead shoots of *Calluna vulgaris* **after restoration.** *Photo: Mara Pakalne*



Mosses re-appear in moist areas after bog restoration.



Flowering Calluna vulgaris in Aukstumala bog. Photo: Mara Pakalne



Puffballs in Aukstumala Bog. *Photo: Mara Pakalne*



Protected snake, adder, in Aukstumala Bog. *Photo: Mara Pakalne*



Cranes migrating over Aukstumala Bog.



Dead standing birches in Aukstumala Bog.

Photo: Mara Pakalne



Sphagnum angustifolium re-appear in Aukstumala Bog after restoration.

Photo: Mara Pakalne



Lithuanian colleagues pointing to Aukstumala bog area.

Photo: Mara Pakalne



Aukstumala Bog.



High groundwater level in contour-ditch after building of plastic dams.

Photo: Mara Pakalne



High groundwater level in contour-ditch after building of plastic dams.

Photo: Mara Pakalne



Peat extraction in Aukstumala Bog.



Peat extraction in Aukstumala Bog. *Photo: Mara Pakalne*



Dry peat after peat extraction in Aukstumala Bog. *Photo: Mara Pakalne*



Peat extraction in Aukstumala Bog.

5.10. Publicity of the project

Newspapers and other printed materials

No.	Date	Title of the edition Title	Photos	Summary	Audience
1	01.04.2012.	e-Newsletter Peatland Dates for the Diary Research Special Interest Group	0	Announcement of International Seminar "Sharing experience on Raised Bog Restoration" (i).	Peatland ecologists

^{4* -} number of photos

^{**(}i) – short paper or news (v) – medium long paper

⁽g) – long paper

e-Newsletter Peatland Research Special Interest Group

WELCOME

This is the first e-newsletter to re-launch the Mires Research Interest Group as the new 'Peatland Research Special Interest Group', a specialist forum for researcher and practitioners involved in peatland ecology.

We intend to provide a bi-monthly e-newsletter packed with news, information and opportunities on everything peatland related. We want to keep you up to date with what is happening. To do this we need you, if you have any contributions (share your research, write a review or tell us about a peat bog near you etc.), upcoming events, announcements, opportunities or a recent publication then do let us know.

We hope this will become a useful valued resource for you and your colleagues. Please forward this on and do join our <u>mailing list</u> for future e-newsletters.

Group Contacts:

Chair: Professor Ian D. Rotherham, Sheffield Hallam University, <u>i.d.rotherham@shu.ac.uk</u>

Secretary: Sarah Edwards, School of Geography, University of Leeds gysie@leeds.ac.uk

Or via:

Peatlands@BritishEcologicalSociety.org

Enjoy!

CONTENTS

- 1. Notices
- 2. Upcoming Meetings
- 3. Opportunities
- 4. Courses
- 5. Dates for the Diary

5. Dates for the Diary

2012

- 19 April BES Conservation Ecology Specialist Group: 'Making space for Nature' Ecological implications of the Lawton Review, Charles Darwin House, London
- 22 27 April European Geosciences Union (EGU) General Assembly, Wien, Austria. (website)
- 26 28 April BES Tropical Ecology Specialist Interest Group: 5th Early Career Researcher Meeting 'Making science relevant for the sustainable management of tropical ecosystems', Newcastle University, UK
- 3 -8 June 14th International Peat Congress Peatlands in Balance, Stockholm, Sweden (website)
- 3 8 June 9th INTECOL Wetlands Conference Wetlands in a complex world, Orlando, Florida (website)
- **26 28 June** Joint International Union for Conservation of Nature/British Ecological Society. Symposium: 'Investing in Peatlands Demonstrating Success', Bangor University, UK (website)
- 26 28 June Rewetting of raised bogs, Schneverdingen, Germany (website)
- 15 20 July BIOGEOMON 2012: The 7th International Symposium on ecosystem behaviour, University of Maine, USA (website)
- 22 25 July Sharing experience on raised bog restoration, Riga, Latvia (website)
- 5 -10 August 97th Annual meeting of the Ecological Society of America, Portland, Oregon, USA (website)
- 10 19 August 5th International Meeting on the Biology of Sphagnum, Estonia and Latvia (website)
- **6 8 September** *Mires and their catchment area*, Schorfheide-Chorin, Werbellinsee, Germany (website)
- **14 16 September** BES Forest Ecology Specialist Group: Animals, Man and Treescapes Conference, Sheffield Hallam University, UK.
- 21 September 3 October International Mire Conservation Group (IMCG) Field symposium and conference, Ecuador and Columbia (website)

TV, Radio

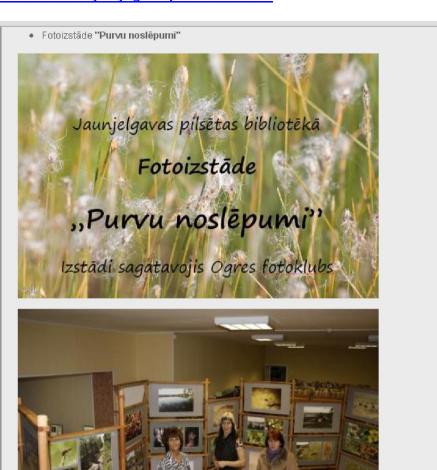
Date	Radio/TV channel	Broadcast	Summary	Length
25.04.2012.	Venstpils TV	Ziņas	Information of project results after restoration in Vasenieku Mire.	00:03
27.04.2012.	LTV-1	Novadu ziņas	Information of project results after restoration in Vasenieku Mire.	00:03

Internet portals and news agencies

No.	Date	Internet portal or news agency	Title	Summary	Photos
1	02.12.2011.	http://www.jaunjelgava.lv/	Fotoizstāde "Purvu noslēpumi"	Announcement about project photo exhibition "Secret of Mires" in Jaunjelgava Library.	2
2	13.01.2012.	http://www.akniste.lv/	Aknīstes bibliotēkā izstāde "Purvu noslēpumi"	Information about project photo exhibition "Secret of Mires" in Akniste Library and their authors. Short overview about mires as important habitats for rare and protected plant and animal species.	1
3	15.01.2012.	http://www.enovads.lv/	Aknīstes bibliotēkā izstāde Purvu noslēpumi	Information about project photo exhibition "Secret of Mires" in Akniste Library and their authors. Short overview about mires as important habitats for rare and protected plant and animal species.	1
4	18.01.2012.	http://www.jekabpilszinas.l v/	Aknīstes bibliotēkā fotoizstāde "Purvu noslēpuumi"	Information about project photo exhibition "Secret of Mires" in Akniste Library and their authors. Short overview about mires as important habitats for rare and protected plant and animal species.	1
5	09.02.2012.	http://latvijas.daba.lv/	Pieredzes apmaiņa augsto purvu atjaunošanā	Information about International Seminar ",,Sharing experience on Raised Bog Restoration" – program, dates, excursion guides, registration form. Short overview about project sites is given.	1
6	09.02.2012.	http://gliemji.daba.lv/	Foto izstāde "Purvu noslēpumi" ceļo pa visu Latviju	Information about project photo exhibition "Secret of Mires".	1
7	15.02.2012.	http://www.staburags.lv/	Skolā skan purva putnu balsis	Information about project photo exhibition "Secret of Mires" in Daudzese Primary School and introducing authors of used photos. Explaining about rare moss species that grows in mires.	1
8	16.02.2012.	http://mezi.lv/	Seminārs "Pieredzes apmaiņa augsto purvu atjaunošanā"	Information about International Seminar ",,Sharing experience on Raised Bog Restoration" – aims and topics of the seminar.	1
9	01.03.2012.	http://www.esmaja.lv/	Notikumu kalendārs	Notification about opening of project photo exhibition "Secrets of Mires" and 4th Project Steering Group Meeting in EU House in Riga.	0
10	23.03.2012.	http://dabasdati.lv/lv/	Foto izstāde "Purvu noslēpumi" apskatāma ES mājā Rīgā	Information about project photo exhibition "Secret of Mires" in EU House in Riga.	2

No.	Date	Internet portal or news agency	Title	Summary	Photos
11	22.07.2012.	http://www.peatsociety.org/	Conferences, Workshops and Symposia. Past Events	Information about International Seminar ",,Sharing experience on Raised Bog Restoration".	0
12	22.07.2012.	http://www.peat.lv/	Jaunumi. Seminārs "Pieredzes apmaiņa augsto purvu atjaunošanā"	Information about International Seminar ",,Sharing experience on Raised Bog Restoration".	0
13	16.09.2012.	http://www.rcb.lv/	Izstādes oktobrī	Announcement about project photo exhibition "Secret of Mires" in Riga City Central Library.	0
14	22.10.2012.	http://www.lu.lv/	Rīgas domē var apskatīt LU projekta fotoizstādi par purviem	Information about project photo exhibition "Secret of Mires" in Riga City Council. Project manager Mara Pakalne briefly explains aims and sponsors of the project.	1
15	22.10.2012.	http://mezi.lv/	Iespēja atklāt purvu noslēpumus	Information about project photo exhibition "Secret of Mires" in Riga City Council. Project manager Mara Pakalne briefly explains aims of the project and critical situation with mires in other European countries.	1
16	22.10.2012.	http://www.delfi.lv/	Rīgas domē atklās izstādi 'Purvu noslēpumi'	Information about project photo exhibition "Secret of Mires" in Riga City Council. Explaining meaning of mire restoration.	1
17	22.10.2012.	http://www.rigasmezi.lv/	Rīgas domē atklāta ceļojošā fotoizstāde "Purvu noslēpumi"	Information about project photo exhibition "Secret of Mires" in Riga City Council. Short information about mire restoration and sponsors of the project.	16
18	23.10.2012.	http://www.atkritumi.lv/	Rātsnamā atklās fotogrāfiju izstādi "Purvu noslēpumi"	Information about project photo exhibition "Secret of Mires" in Riga City Council. Short information about mire restoration.	0
19	26.10.2012.	http://mezi.lv/	Meži.lv Brīvdienu ceļvedis	Announcement about project photo exhibition "Secret of Mires" in Riga City Council.	0

1. http://www.jaunjelgava.lv/lv/bibliotekas/jaunjelgavas-pilsetas-biblioteka



2. http://www.akniste.lv/?lang=lv&id=205&nid=360



Aktualitātes » Jaunumi

Aknīstes bibliotēkā izstāde "Purvu noslēpumi"

Valdemāra Ancīša Aknīstes bibliotēkā aplūkojama Ogres fotokluba sagatavotā foto izstāde "Purvu noslēpumi". Lasītavas zālē izvietotas fotogrāfijas, kas ļauj dziļāk ieskatīties purvu augu un dzīvnieku pasaulē. Īpašu gaisotni rada putnu balsis, kas dzirdamas ekspozīcijas zālē.

Latvijas purvi glabā brīnišķīgas dabas vērtības. Tās ir vietas, kur patverties tikai purva videi pielāgotajiem augiem un dzīvniekiem. Četros aizsargājamos Latvijas augstajos purvos - Melnā ezera purvā, Rožu purvā, Aklajā purvā un Aizkraukles purvā un mežos -

2010. gadā sākta to vērtību apzināšana un atjaunošana. Fotoizstāde stāsta par šo Latvijas purvu vērtībām un to aizsardzību, tajā izmantotas fotogrāfijas arī no Velsas, Vācijas un Slovākijas, lai parādītu purvu daudzveidību Eiropā.

Fotoizstāde tapusi sadarbojoties Ogres fotokluba fotogrāfiem un purvu pētniekiem, Įaujot izstādes apmeklētājiem ne tikai ieraudzīt purvu vērtības, bet arī sadzirdēt purvos dzīvojošo putnu dziesmas. Tās tapšanā piedalījas fotokluba fotogrāfi un dabas eksperti: Valda Baroniņa, Irēna Bērza, Daiga Brakmane, Dāvis Drazdovskis, Kaspars Freimanis, Vitauts Mihailovskis, Maruta Pakalne, Māra Pakalne, Aivars Petriņš, Marita Rauba, Ingūna Roze, Andreta Strade, Aivars Slišāns, Voldemārs Spuņģis, Uvis Suško un Aldis Vīte. Lai radītu īstu purva atmosfēru, tiek atskaņotas Edmunda Račinska ierakstītās purva putnu balsis.

Izstāde ir tapusi Eiropas Komisijas LIFE+ programmas projekta "Augstā purva biotopu atjaunošana īpaši aizsargājamās dabas teritorijās Latvijā" ietvaros. Izstāde tiks izvietota dažādās Latvijas vietās līdz projekta beigām 2013. gada augustā.

Materiāls sagatavots izmantojot www.purvi.lv

PURVU NOSLEPUMI

Kā maza kabatiņa Pie zemes lielā tērpa, Kalnu ieskauta, Aknīste ielejā dus. (Naula Dzirkale)







(Foto: Daiga Kalniņa)

Komentēt rakstu

 $3. \qquad http://www.enovads.lv/component/k2/item/42380-akn\%C4\%ABstes-bibliot\%C4\%93k\%C4\%81-izst\%C4\%81de-purvu-nosl\%C4\%93pumi.html$



4. http://www.jekabpilszinas.lv/lat/novadi/aknistes-biblioteka-fotoizstade-purvu-noslepumi









Kur Jēkabpils, kur Aizkraukle un kur Latgale?! Vai Jēkabpils vispār ir Latgalē? Nē! Jēkabpils ir Sēlijā! Kurš idiots Rīgā sastāda maršrutus...

Sludinājumi

| Krūmu izciršana/Koku zāģēšana Lapu savākšana/Krūmu izciršana/Bīstamo koku zāģēšana....

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Aknīstes bibliotēkā fotoizstāde "Purvu noslēpumi"

Raksts publicēts: 18.01.2012, plkst. 00:00 | Komentāri: 0



JZ PIEDĀVĀ KĻŪT PAB MOBILO REPORTIERI Jekob

Valdemāra Ancīša Aknīstes bibliotēkā aplūkojama Ogres fotokluba sagatavotā foto izstāde "Purvu noslēpumi".

Izstāde tapusi sadarbībā ar purvu pētniekiem, ļaujot izstādes apmeklētājiem ne tikai ieraudzīt purvu vērtības, bet arī sadzirdēt purvos dzīvojošo putnu dziesmas. Lai radītu īstu purva atmosfēru, tiek atskanotas Edmunda Račinska ierakstītās šajā vidē mītošo putnu balsis.

Latvijas purvi glabā brīnišķīgas dabas vērtības. Tās ir vietas, kur patverties tikai purva videi pielāgotajiem augiem un dzīvniekiem. Četros aizsargājamos Latvijas augstajos purvos - Melnā ezera purvā, Rožu purvā, Aklajā purvā un Aizkraukles purvā un mežos - 2010.gadā sākta to vērtību apzināšana un atjaunošana. Fotoizstāde stāsta par šo Latvijas purvu vērtībām un to aizsardzību, tajā izmantotas fotogrāfijas arī no Velsas, Vācijas un Slovākijas, lai parādītu purvu daudzveidību Eiropā.

Fotogrāfiju autoru un dabas ekspertu kopums ir plašs: Valda Baroniņa, Irēna Bērza, Daiga Brakmane, Dāvis Drazdovskis, Kaspars Freimanis, Vitauts Mihailovskis, Maruta Pakalne, Māra Pakalne, Aivars Petriņš, Marita Rauba, Ingūna Roze, Andreta Strade, Aivars Slišāns, Voldemārs Spuņģis, Uvis Suško un Aldis Vīte.

Ekspozīcija sagatavota Eiropas Komisijas LIFE+ programmas projektā "Augstā purva biotopu atjaunošana īpaši aizsargājamās dabas teritorijās Latvijā". Foto izstādi līdz projekta beigām 2013. gada augustā iecerēts izvietot dažādās Latvijas vietās.

5. http://latvijas.daba.lv/scripts/ViesuGramata/vg.cgi?v=g&s=d&grupa=g63purvi

EK LIFE projekta "Augstā purva biotopu atjaunošana īpaši aizsargājamās dabas teritorijās Latvijā" LIFE08 NAT/LV/000449

starptautiskais seminārs

"Pieredzes apmaiņa augsto purvu atjaunošanā"

2012. gada 22. - 25. jūlijā

Rīgā, Melnā ezera purvā, Aizkrauklē un Aizkraukles purvā un mežos, Aklajā purvā, Rožu purvā

- Mērķis: Dalīties pieredzē augsto purvu izpētē, aizsardzībā un atjaunošanā.
- Semināra tēmas
 - · Purvu ekoloģija un dabas daudzveidība;
 - Purvu hidroloģija;
 - Purvu veidošanās, vēsturiskā attīstība un klimata nozīme;
 - Purvu aizsardzība un atjaunošana
- Semināra darba valoda būs anglu

Seminārā apmeklēsim projekta "Augstā purva biotopu atjaunošana īpaši aizsargājamās dabas teritorijās Latvijā" teritorijas

- Melnä ezera purvs (317 ha, dabas liegums, Natura 2000 tentorija, izveidots 2004. gadā) Dabas liegums ir neliela daļa no agrākā plašā augstā purva, kas bija saistīts ar Cenas tīreli. Kūdras izstrādes dēļ purvs ir sadalīts atsevišķos gabalos. Galvenās dabas vērtības augstais purvs ar ciņu un ciņu-lāmu kompleksu (36 %), distrofi ezeri (6 %), putniem nozīnīgas seklas ūdenstilpes, kas izveidojušās izmantoto kūdras lauku vietā (12 %), 17 Latvijā un Europas Savienībā īpaši aizsargājamia sugas, 84 % no dabas lieguma auzņem Latvijā un Eiropas Savienībā īpaši aizsargājami biotopi. Negatīvās ietekmes mehorātija purvā un tā apkārtnē, kūdras ieguve tiešā dabas lieguma tuvumā, Melnā ezera un purva lāmu ūdenstimeņa pazemināšana, daudzkārtēja purva degšana nosusināšanas rezultāta. Melnā ezera purva buklets mājas lapā.
 http://www.purvi.lv/files/2011/12/1/melna_ezera_purvs_web.pdf
- Aklais purvs (2003 ha, dabas liegums, Natura 2000 tentonija, izveidots 2003. gadā). Aklais purvs ir nozīmīga tentonija purvainu mežu un brūnūdens ezeru aizsardzībai. Lieguma purvainajos mežos atrodas vairāki dabiskie meža biotopi. Galvenās dabas vērtības: neskarts augstais purvs ar ciņu mikroreljefū, purvaini meži, daudzveidīgi dabisko mežu biotopi, ainaviski distrofte purva ezeri, 81 % aizņen Latvijā un Eiropas Savienībā īpaši aizsargājamie biotopi, 63 Latvijā un Eiropas Savienībā īpaši aizsargājamas augu un dzīvnieku sugas. Negatīvā ietekme: purva meliorācija. Aklā purva buklets mājas lapā: http://www.purvo.liv/files/2011/12/fikaklais purva drukai sam odf.
- Aizkraukles purvs un meži (1532 ha, dabas liegums, Natura 2000 teritorija, izveidots 1999. gadā). Aizkraukles purvā atrodas vairākas ar mežu klātas salas. Lielākajā purva salā aug veca liepu gārša ar ošiem, un purva malās esošie meži ir daudrveidīgi. Galvenās dabas vērtības: augstais purvs ar dažādām mikroreljefa struktūrām, lāmām un kūdras ieplakām, klajš pārejas purvs ar slīkšņām, menerālaugsnes salas purvā, daudzveidīgi dabisko mežu biotopi, 75 Latvijā un Eiropas Savietībā īpaši, auzsargājamas augu un ddīvnieku sugas, 87 % no dabas lieguma auzpem B Latvijā un Eiropas Savietībā īpaši aizsargājam biotopi. Negatīvās ietekmes: meliorācija purvā un mežā, kūdras ieguve tiešā dabas lieguma tuvumā, egļu monokultūru ierīkošana agrāko platdapju mežu vieta. Aizkraukles purva un mežu buklets mājas lapā: https://www.purvs.liv/fies/2011/12/fazkraukles-purvs-web.pdf
- Rožu purvs (991 ha, dabas liegums, Natura 2000 teritorija, izveidots 1987. gadā). Dabas liegums ir nozīmīga teritorija augsto purvu un purvainu mežu aizsardzībai. Te sastopamas plašas atklāta purva teritorijas. Galvenās dabas vērtības neskarts augstais purvs, purvaini meži, veci un dabiski borcālie meži, maierālvielām bagāti avoti, 98 % aizņem Europas Savienības īpaši aizsargājamie biotopi, 30 aizsargājamas augu un dzīvnieku sugas. Negatīvā ietekme: purva mehorācija. Rožu purva buklets mājas lapā http://www.purvi.lv/files/2011/12/1/rozu_purvs_web.pdf

Semināra programma un vietas

- 22. jūlijs ierašanās.
- 23. jūlijs: prezentācijas viesnīcā "Māra" un ekskursija uz Melnā ezera purvu.
- 24. jūlijs: ekskursija uz Aizkraukles purvu un mežiem un Aklo purvu.
- 25. jūlijs: prezentācijas, plākātu apskate un ekskursija uz Rožu purvu. Atgriešanās Rīgā apmēram 21:00.

Semināra programma tiks precizēta pēc dalībnieku pieteikšanās 2012. gada aprīlī.

Svarīgie datumi

Reģistrēšanās līdz 2012. gada 31. martam.



- Kopsavilkumu iesniegšanas līdz 2012. gada 31. martam.
- Dalības maksa jāsamaksā līdz 2012. gada 31. maijam.

Semināram aicinām pieteikties līdz 31. martam, aizpildot pieteikuma anketu un nosūtot uz e-pastu daiga. brakmane at lu. lv.

Plakāti, prezentācijas un kopsavilkumi

- Plakāti: plakātu izmērs līdz 80 × 100 cm vertikāli.
- Prezentācijas: garums nedrīkst pārsniegt 20 minūtes. Pēc tās būs iespēja 5 minūtes uzdot un atbildēt uz jautājumiem.
- Kopsavilkumi: jābūt līdz 500 vārdiem gariem. Vispirms jānorāda nosaukums, tad autora(-u) pilns vārds(-i) un kontaktinformācija. Teksts jāsagatavo Times New Roman 12. izmēra burtos. Kopsavilkumu iesniegšana līdz 2012. gada 31. martam, sūtot uz e-pastu daiga brakmane at lu. lv.

Dalības maksa

Precīzu dalības maksu norādīsim 2012. gada aprīļa sākumā, kad būs zināms dalībnieku skaits un visas izmaksas. Dalības maksa par katru semināra dienu būs 10 — 15 lati, kas sedz ēdināšanas un ekskursiju izdevumus. Iespējams piedalīties arī tikai vienu vai dažas semināra dienas.

Nakšņošana

Ja vēlieties piedalīties vairākās semināra dienās, tad būs nepieciešams segt arī nakšnošanas izdevumus.

Organizatori

Latvijas Universitātes Botāniskais dārzs EK LIFE projekts "Augstā purva biotopu atjaunošana īpaši aizsargājamās dabas teritorijās Latvijā" LIFE08 NAT/LV/000449 Adrese: Kandavas iela 2, Rīga, LV-1083 Tālrums: 67450861

Attēlā Rožu purvs, attēla autore: Māra Pakalne

2012. gada 9. februārī, 9:03 Zirneklītis

http://www.purvi.lv/lv/jaunumi/starptautiskais-seminars

Atbildes un piebildes ->

Pievienotais fails Pieteikuma veidlapa doc
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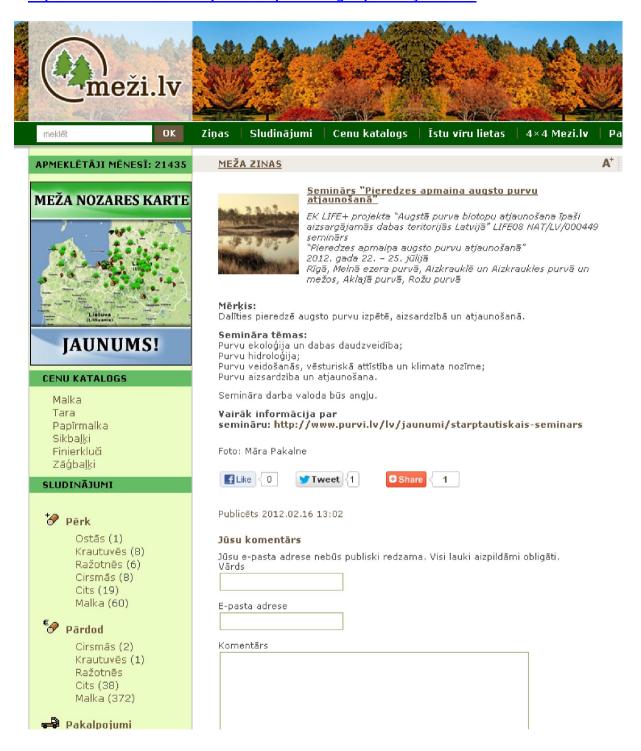
6. http://gliemji.daba.lv/scripts/ViesuGramata/vg.cgi?v=a&s=g&l=en&f=201202



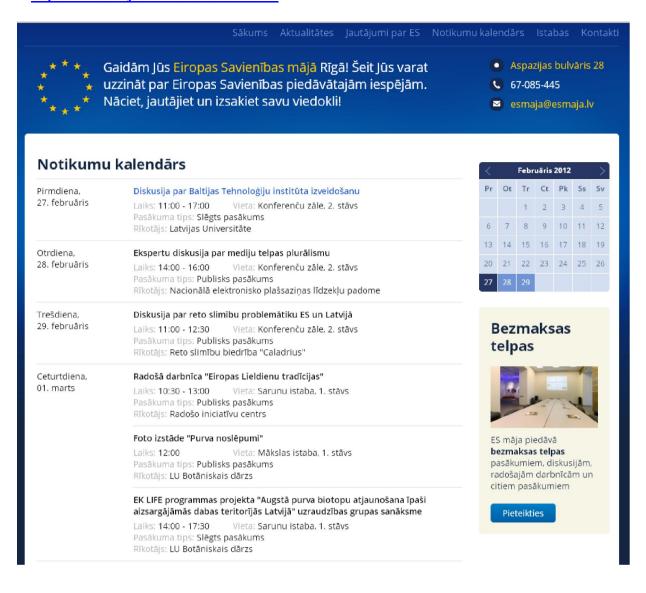
7. http://www.staburags.lv/portals/jauniesiem/raksts.html?xml id=25108



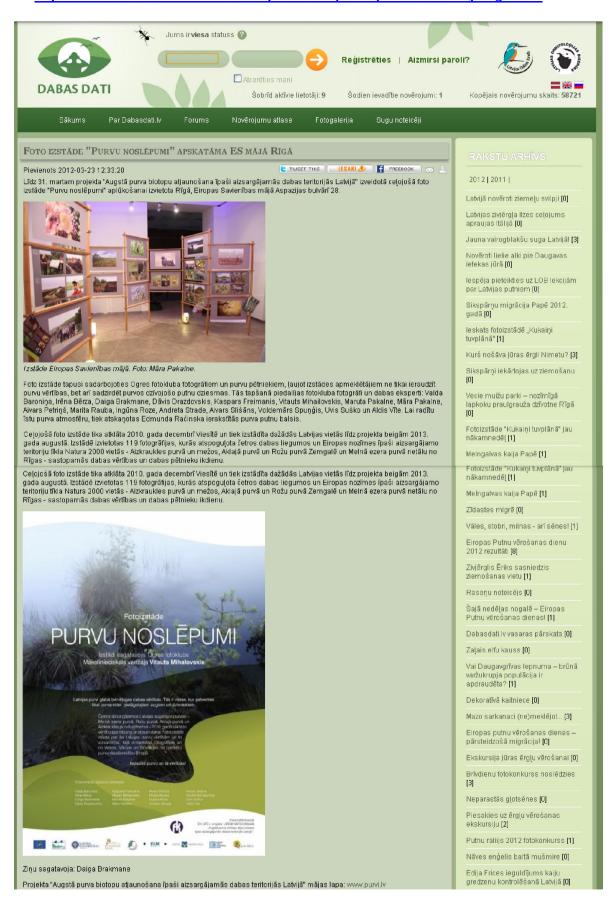
8. http://mezi.lv/2012/02/seminars-pieredzes-apmaina-augsto-purvu-atjaunosana/



9. http://www.esmaja.lv/kalendars/2012-02-27



10. http://dabasdati.lv/lv/article/foto-izstade-purvu-noslepumi-apskatama-es-maja-riga/2012/



11. http://www.peatsociety.org/events





12. http://www.peat.lv/index.php?m0=4&m1=19&lng=lv



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LIKUMDOŠANA	
KĀ KĻŪT PAR BIEDRU	
KONTAKTI	
SAITES	
JAUNUMI	
OL LUBINIĂ ILIBAL	

Jaunumi

Seminārs "Pieredzes apmaiņa augsto purvu atjaunošanā"

2012. gada 22. - 25. jūlijā norisināsies EK LIFE+ projekta "Augstā purva biotopu atjaunošana īpaši aizsargājamās dabas teritorijās Latvijā" LIFE08 NAT/LV/000449 seminārs "Pieredzes apmaiņa augsto purvu atjaunošanā".

Semināta mērķis ir dalīties pieredzē augsto purvu izpētē, aizsardzībā un atjaunošanā.

Semināra tēmas:

- Purvu ekoloģija un dabas daudzveidība;
- Purvu hidroloģija;
- Purvu veidošanās, vēsturiskā attīstība un klimata nozīme;
- Purvu aizsardzība un atjaunošana.

Seminārā būs iespēja apmeklēt projekta "Augstā purva biotopu atjaunošana īpaši aizsargājamās dabas teritorijās Latvijā" teritorijas: Melnā ezera purvu, Aklo purvu, Aizkraukles purvu un mežus un Rožu purvu.

Interesenti tiek aizināti pieteikties semināram līdz 31. martam, aizpildot pieteikuma anketu (mājas lapā) un nosūtot uz e-pastu daiga.brakmane@lu.lv.

Vairāk informācijas par semināru projekta mājas lapā: www.purvi.lv/lv/jaunumi/starptautiskais-seminars



Rīgas Centrālā bibliotēka

Kā kļūt par lasītāju Filiālbibliotēkas Periodiskie izdevumi RCB Katalogs. RCB datubāzes

Izstādes septembrī

Rīgas Centrālās bibliotēkas un filiālbibliotēku izstādes 2012. gada septembrī.

Rīgas Centrālajā bibliotēkā un visās filiālbibliotēkās var iepazīties ar literatūras izstādēm, kas veltītas dažādām septembrī aktuālām tēmām, ievērojamu cilvēku jubilejām u.c. notikumiem.

RCB Centrālājā bibliotēkā:

- no 5. līdz 28. septembrim 2. stāvā gleznu izstāde "Aleksandra Aivara Rabine ceļš mākslas pasaulē"
- no 16. septembra līdz 15. oktobrim 6. stāvā Aivara Slišāna fotoizstāde "Purva noslēpumi"

RCB Bišumuižas filiālbibliotēkā:

līdz 30. septembrim Edmunda Glūdiņa fotoizstāde "Citāda Rīga"

RCB Daugavas filiālbibliotēkā:

• līdz 30. septembrim foto kluba "Rīga" autoru izstāde "Vasaras ritmos"

RCB Ķengaraga filiālbibliotēka:

- līdz 30. septembrim Irēnas Nikkinenas un Modra Akmeņkalna fotoizstāde "Pastaiga pa Rīgu"
- līdz 30. septembrim Marģera Martinsona fotoizstāde "Rīgas Rīdzinieki"
- līdz 30. septembrim Aleksandra Šeffera Dienas aprūpes centra "Cerību sala" audzēkņa fotoizstāde "Es dziedu dziesmu savam dievam"

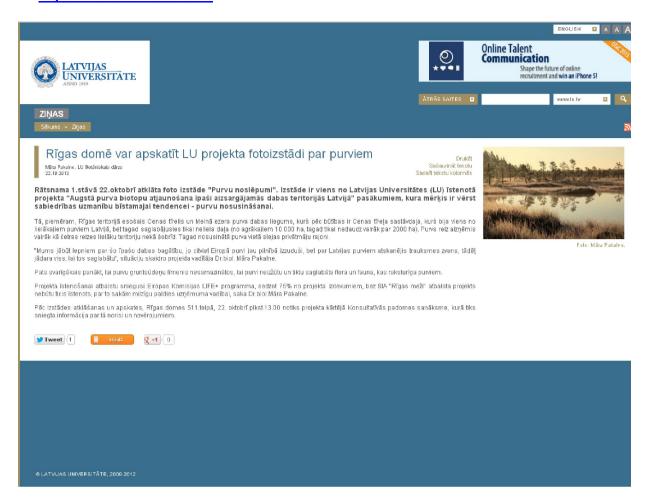
RCB filiālbibliotēkā "Pārdaugava":

 līdz 30. septembrim jauniešu organizāciju kluba "Māja" dalībnieku foto izstāde "Meklējot Rīgas malu"

RCB filiālbibliotēkā "Vidzeme":

līdz 30. septembrim Edmunda Glūdiņa fotoizstāde "Rīga, mana Rīga"

14. http://www.lu.lv/zinas/t/15962/



15. http://mezi.lv/2012/10/iespeja-atklat-purvu-noslepumus/



MEŽA NOZARES KARTE



JAUNUMS!

CENU KATALOGS

Malka Tara Papīrmalka Sikbalki Finierkluči Zāģbaļķi

SLUDINĀJUMI



Ostás (1) Krautuvēs (8) Ražotnēs (6) Cirsmás (8) Cits (19) Malka (60)



Cirsmás (2) Krautuvēs (1) Ražotnēs Cits (38) Malka (372)

🗬 Pakalpojumi

Mežizstrāde (6) Šķeldošana Kokvedēji (28) Šķeldvedēji (96)

MEŽA ZINAS



<u>Iespēja atklāt purvu noslēpumus</u>

Lai vērstu sabiedrības uzmanību purvu nosusināšanai bīstamajai tendencei Latvijas dabā, kopš šodienas Rīgas domē skatāma izstāde "Purvu noslēpumi".

Foto izstāde ir viens no Latvijas Universitātes īstenotā projekta "Augstā purva biotopu atjaunošana īpaši aizsargājamās dabas teritorijās Latvijā", pasākumiem, kura mērķis ir vērst sabiedrības uzmanību purvu nosusināšanai.

Četros aizsargājamos Latvijas sūnu purvos — Melnā ezera purvā, Rožu purvā, Aklajā purvā un Aizkraukles purvā un mežos - 2010. gadā sākta to vērtību apzināšana un atjaunošana. Fotoizstāde stāsta par šo Latvijas purvu vērtībām un to aizsardzību, tajā izmantotas fotogrāfijas arī no Velsas, Vācijas un Slovākijas, lai parādītu purvu daudzveidību Eiropā.

Tā, piemēram, Rīgas teritorijā esošais Cenas tīrelis un Melnā ezera purva dabas liegums, kurš pēc būtības ir Cenas tīreļa sastāvdaļa, bija viens no lielākajiem purviem Latvijā, bet tagad saglabājusies tikai neliela daļa (no agrākajiem 10 000 hektāriem tagad tikai nedaudz vairāk par 2000 hektāriem). Purvs reiz aizņēmis vairāk kā četras reizes lielāku teritoriju nekā šobrīd. Tagad nosusinātā purva vietā slejas privātmāju rajoni, stāsta projekta vadītāja Dr.biol. Māra Pakalne.

"Mums jābūt lepniem par šo īpašo dabas bagātību, jo citviet Eiropā purvi jau pilnībā izzuduši, bet par Latvijas purviem atskanējis trauksmes zvans, tādēļ jādara viss, lai tos saglabātu," uzsver M. Pakalne.





Foto: DELFI

Pirmdien pulksten 11 Rīgā, Rātsnama 1.stāvā tiks atklāta foto izstāde "Purvu noslēpumi", portālu "Delfi" informēja pasākuma rīkotāji.

Foto izstāde ir viens no Latvijas Universitātes īstenotā projekta "Augstā purva biotopu atjaunošana īpaši aizsargājamās dabas teritorijās Latvijā" pasākumiem, kura mērķis ir vērst sabiedrības uzmanību bīstamajai tendencei - purvu nosusināšanai.

Tā, piemēram, Rīgas teritorijā esošais Cenas tīrelis un Melnā ezera purva dabas liegums, kurš pēc būtības ir Cenas tīreļa sastāvdaļa, kurš bija viens no lielākajiem purviem Latvijā, bet tagad saglabājusies tikai neliela daļa. Purvs reiz aizņēmis vairāk kā četras reizes lielāku teritoriju nekā šobrīd. Tagad nosusinātā purva vietā slejas privātmāju rajoni.

Pats svarīgākais panākt, lai purvu gruntsūdeņu līmenis nesamazinātos, lai purvi neizžūtu un tiktu saglabāta flora un fauna, kas raksturīga purviem.



17. http://www.rigasmezi.lv/lv/aktualitates/jaunumi/?doc=3431





www.purvi.lv



Rigasmezi.lv / Foto galerijas

Fotoizstādes "Purvu noslēpumi" atklāšana Rīgas domē



















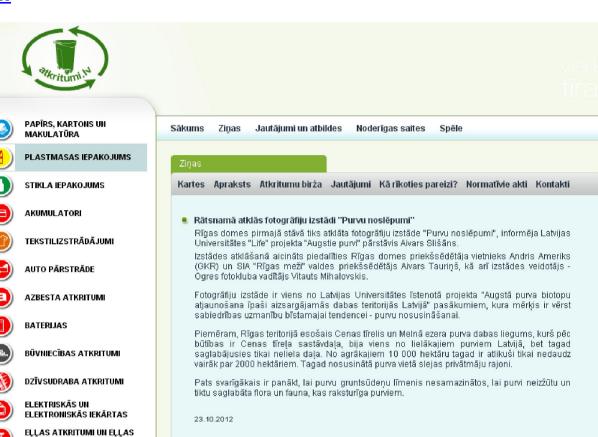








18. http://www.atkritumi.lv/aktualitates a.php?lang=lv®ion=11id=22id=13id=22id=13&kid=13&k=316



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SLUDINĀJUMI



Ostās (2) Krautuvēs (9) Ražotnēs (6) Cirsmās (9) Cits (26) Malka (60)



Pārdod

Cirsmās (2)

Plašu pasākumu klāstu piedāvā Latvijas dabas muzejs. Jau kopš trešdienas ikvienam interesentam ir iespēja aci pret aci sastapties ar pasaulē lielāko ogu — ķirbi, to apskatot, nogaršojot un iegādājoties, kā arī uzzinot tā plašo pielietojumu pārtikā un labvēlīgo ietekmi uz veselību. No 24. oktobra līdz 4. novembrim Dabas muzejā jau piecpadsmito reizi noris izstāde **"Ķirbis jūsu** veselībai", ko organizē Rīgas dārzkopības entuziastu kluba "Tomāts". Ar savām iespaidīgajām kolekcijām iepazīstina tādi dārzkopības entuziasti kā Ausma Zaļuma, Valentīna Narņicka, Sarma Žarčinska, Inta Lielbārde un Bražūnu ģimene. Izstādes laikā ir iespēja ne tikai aplūkot, nogaršot un nopirkt ķirbjus, gmiene. Izstaues laikā ir iespēja ne tikai aplūkot, nogarsot un nopink ķirojus, bet arī iegādāties to sēklas, recepšu grāmatas un dažādus tematiskos izdevumus, kā arī iepazīties ar dažādiem to izstrādājumiem: sulām, sukādēm un sēklu eļļām. Ķirbju audzētāji konsultē apmeklētājus ne tikai par to audzēšanu un šķirņu izvēli, bet arī par plašajām izmantošanas iespējām un ķirbja labvēlīgo un skrīgu izvenī, det arī par plasājam izmāntusarias iespējam un siroja labvenī ietekmi uz veselību. Meži.lv jau paspēja paviesoties krāsaino ķirbju saietā – skaties **šeit**. Tāpat muzejā skatāma izstāde **"Kukaiņi tuvplānā"**, kuras ekspozīciju veido fotokonkursā iesūtītie darbi. 130 dalībnieki iesnieguši vairāk nekā 430 darbus, kur foto mirkļos iemūžināti gan aizsargājamu un reti sastopamu sugu pārstāvji, gan Latvijas dabai ierastie kukaiņu, taču citādākiem vastopania sagu parstavij, gan Latvijas dabai reladie kukandi, tatu diedakajiem un neierastākiem skatu punktiem, tomēr izstāde paver skatu uz 150 labākajiem darbiem. Sestdien, 27. oktobrī, Latvijas Dabas muzejs aicina uz ģimenes dienu "Kāpēc kukaiņi nedraudzējas ar sikspārņiem?", kas notiks no 11:00 līdz 16:00, savukārt jau 18:00 vakarā piedzīvojumu vakars "Sikspārņa vēstījums".

Nedejas Hogali (d.) **Purvu noslēpumi**". Foto izstādi projekta "Augstā purva biotopu

Šo svētdien, 28. oktobrī, no pulksten 12,00 Brīvdabas muzejā notiks galda karalim kartupelim veltīs pasākums "**Tupeņu godi**", kam Hernhūtiešu saiešanas namā sekos Veļu vakars kopā ar folkloras kopu «Grodi». Pasākuma pirmajā daļā no pulksten 12.00 līdz 16.00, tupeņus godājot, aicinās baudīt gan ierastus, gan neparastus kartupeļu ēdienus Priedes krogā. Izstāžu zālē būs skatāma kartupeļu šķirņu izstāde, un notiks to degustācija. Turpat varēs vērot kartupeļu cietes iegūšanas procesu un nobaudīt pārtikas produktus, kuru gatavošanā tā tiek izmantota. Kartupeļu sniegtās iespējas varēs izmēģināt arī radošajā