Conservation of wetlands in Ķemeri National Park, Latvia

Project LIFE2002/NAT/LV/8496

FINAL TECHNICAL REPORT

Covering the project activities from 01.09.2002 to 31.12. 2006

Project location:	Ķemeri National Park, Latvia
Project start date:	01.09.2002
Project end date:	31.12.2006
Project duration:	52 months
Total budget:	1 321 210 EUR
EC contribution:	990 908 EUR

Project beneficiary:	Administration of Ķemeri National Park
Contact person:	Mr. Jānis Ķuze, project manager
Address:	"Meža Māja", Ķemeri, Jūrmala, LV-2012 Latvia
Telephone:	+371 7146820
Fax:	+371 7730207
E-mail:	janis.kuze@kemeri.gov.lv
Project website:	www.kemeri.gov.lv/life/life_index.htm
Report compiled by:	Jānis Ķuze, Vita Caune, Andis Liepa, Gunita Krievāne
Date of the report:	05.04.2007

Table of Contents

1. KEYWORDS AND ABBREVIATIONS

Keywords: Ķemeri National Parks, raised bog, drainage, renaturalization, floodplain meadows, water level, grazing, Heck cattle, Konik horses.
Abbreviations: ĶNP (Ķemeri National Park)

Lielais Ķemeru bog in some reports is mentioned as well as Greater Kemeri bog.
Slampe meadows in some reports are mentioned as well as Dunduru meadows.

2. EXECUTIVE SUMMARY

Project goal
Restoration and/or proper management of wetland habitats – raised bogs and calcareous fens, floodplain meadows and lagoon-type coastal lakes, all located within the Natura 2000 site. Raising awareness on the nature conservation values of ĶNP among local public and visitors of the site.

Project outputs
Biologically valuable meadow areas purchased (163,2 ha); hydrological monitoring system created; 22 ditches in Lielais Ķemeru bog (5752 ha large raised bog) blocked; 2,1 km long stretch of river Slampe remeandered, fish migration between lake Kaņieris and sea enabled (sluice system reconstructed); 4 artificial islands at lake Kaņieris rebuilt; Heck cattle and Konik horses in Slampe meadows introduced, aerophotographic map of the territory updated; reed and scrub in 66 ha of meadows and fens removed; 140 ha of meadows mowed; 7 islands at lake Kaņieris cleared from reed and scrub, field station near river Slampe built.

Deliverables
ĶNP and project's home page, Layman's report, 2 video films, DVD with materials about ĶNP and the project, Final report.

Deliverable	Action	Producing date	Transmission date
Ķemeri NP home page with highlights on the project established	E.1	August 2005	August 2005
Layman's report	E.2	December 2006	March 2007
Video about nature conservation in the ĶNP	E.3	December 2006	March 2007
DVD produced	E.4	December 2006	March 2007
Final report	F.2	March 2007	March 2007

Reports, prepared and sent during the project period:

Report	Date of sending	Covered period
1st progress report without payment request	30.09.2003	01.09.2002 – 29.09.2003
Supplementary progress report without payment request	31.03.2004	01.09.2002 – 31.03.2004

Report	Date of sending	Covered period
2nd progress report without payment request	30.11.2004	20.03.2004 – 30.11.2004
Interim report with payment request	15.02.2006	01.09.2002 – 31.12.2005

Summary of chapters

Conservation of wetlands in Ķemeri National Park, Latvia, LIFE2002/NAT/LV/8496, final report

Introduction

Project aim is partial implementation of the sites management plan – restoration and management of habitats of Community importance in Natura 2000 site Ķemeri National Park. Main threats – degradation of bog habitats due to the drainage, canalization of rivers, overgrowing of meadow areas, blocking of watercourses by dams. Expected results – purchased biologically valuable land parcels, blocked ditches in the raised bog, remeandered river with restored floodplain system, enabled fish migration between the sea and lake, field station built, project results disseminated.

LIFE project framework

The projects actions are hydrological and engineering investigations; land purchase; blocking of drainage ditches in raised bogs; remeandering of chanalized river; restoring of sluice system; rebuilding of 4 artificial islands, restoring and managing of meadows (including introducing of large herbivores); building of field station; creating of monitoring system as well as disseminating of projects results. Project beneficiary – administration of Ķemeri National Park, project partner – WWF Latvia.

Progress and results

A. Hydrological investigations and designing as well as tendering for construction works arranged. B. 163,2 ha of land purchased. C. Ditches in the Lielais Ķemeru bog blocked; river Slampe remeandered; biologically valuable meadow areas managed; sluice system at Starpiņupe river restored; artificial islands at lake Kaņieris rebuilt; monitoring of the project sites started. D. Reed and scrub in meadows and calcareous fens as well as on islands at Lake Kaņieris removed, managing of meadow areas by hay-cutting started. E. Project webpage, layman's report, videos and DVD prepared, contacts with medias maintained, field station near river Slampe built. F. Project administration, audit and monitoring.

Project evaluation and conclusions

The main project success was in large scale habitat (including those of Community importance) management works - first large scale river restoration project in Baltic's; bog restoration by use of peat dams (new approach for Latvian bog restoration); management of meadows and restoration of sluice system at Starpiņupe river. Public awareness was raised and local people were involved in to project realisation. Project objectives were met.

After-Life conservation plan

Land purchase in valuable areas will be continued (priority – floodplain of River Lielupe). Futher bog restoration works will be continued (technical design for Zalais and Raganu bog is under development now); meadow areas will be managed by the use of EU's Agri-environmental program. Infrastructure, built during the project years will be maintained by the parks staff.

There are 15 appendixes attached to this report. With previous reports 51 appendix was sent.

3. INTRODUCTION

Project objective: Conservation and restoration of wetlands, flood-plain and hay meadows and forests in Ķemeri National Park in order to ensure long-term conservation of priority habitats and species of European importance included into the EC Habitats and Birds Directives.
Project background: Ķemeri National Park is a comparatively new (1997) nature conservation area in Latvia, comprising 380 km² of diverse habitats of EU priority such as mire woods, black alder swamps, raised bogs, calcareous fens etc. About a half of the territory (19 500 ha) is directly targeted by the project. The territory of the park and the project area host rich populations of species listed in the EC Birds and Habitats Directives, e.g., *Crex crex, Aquila pomarina, Porzana porzana, Cypripedium calceolus, Lynx lynx, Canis lupus* etc. The lake Kaņieris is designated as an internationally important wetland under Ramsar Convention and is an important site for migratory and nesting bird species. The area holds about 30 habitats of Community importance listed in the EC Habitats Directive. Due to such a high biodiversity whole area of ĶNP is a Natura 2000 site and Important Bird Area.
In 2000-2001, with the support from the Danish Environmental Protection Agency (DANCEE), the nature protection (management) plan for the park was elaborated. This LIFE project served as the first step towards implementation of the management plan through specific management measures related to the on-site protection of valuable wetland areas within the park. At the same time it should be recognised that the nature protection plan was not detailed and numerous issues have to be developed while implementing this project.

Main conservation issues being addressed by the project were:
- Degradation of raised bogs, caused by the drainage and peat excavation, done during the past decades;
- Canalization of rivers and degradation of natural floodplain systems;
- Overgrowing of meadows;
- Unstability of water level in coastal lagoon-type lake (due to the deterioration of sluice system);
- Blocked fish migration from sea to the lake.

Project's objectives and expected results (in brackets) were:
- To prepare the necessary hydrological investigations and technical designs for construction works;
- To purchase 163,2 ha of land (expected result – area, necessary for the remeandering of river Slampe and restoration of floodplain system, purchased)
- To block the ditches in Lielais Ķemeru bog and simultaneously to maintain the access to the bog surroundings (restored natural water level in one of the biggest raised bogs in Latvia);
- To restore the natural riverbed of river Slampe (2.1 km long chanal turned in to meanders, natural floodplain system restored);
- To renew the fish migration between the lake Kaņieris and sea by reconstruction of sluice system; to maintain stable water level in the lake (fish migration enabled; water level held stable during the breeding season of waterfowl);
- To rebuild four artificial islands at lake Kaņieris (islands made more suitable for the breeding waterfowl);
- To introduce the large herbiwores (Konik horses and Heck cattle) in the restored floodplain of river Slampe (15 cattle and 10 horses introduced);
- To aero photograph the territory (updated aerophotographic map of the territory);
- To remove reeds and scrub in the area of 66 ha of meadows and calcareous fens (66 ha of

- To move the hay in the area of 140 ha of meadow (140 ha of typical meadow vegetation and bird community maintained);
- To remove reed and scrubs from the islands at lake Kaņieris (breeding conditions of waterfowl improved);

Finally, one of the project objectives was to increase the awareness of local community in nature conservation as well as to inform the general public about the management activities, done during the project years.

4. LIFE PROJECT FRAMEWORK

Main actions of the project were:

- Technical investigation and preparing of designs for construction works;
- Purchasing of land parcels in biologically valuable areas (meadow habitats, hosting Corncrake *Crex crex*);
- Creating of hydrological monitoring system in Lielais Ķemeru bog;
- Blocking of drainage ditches to increase the water level in drained areas of Lielais Ķemeru bog. Reconstruct the road dam to ensure the access to the bog surroundings after raising of water level;
- Remeander the strightened riverbed of river Slampe. Restore the floodplain system by raising of water level in the entire restored river stretch;
- Renewal of fish migration between lake Kaņieris and the sea (gulf of Riga) by the reconstruction and proper maintenace of sluice system at river Starpiņupe;
- Lower the level of dry land of 4 artificial islands at lake Kaņieris;
- Aerophotographing of territory to obtain the updated aerophotographic map of the area;
- Removing reeds and scrubs in the meadows, calcareous fens and islands at lake Kaņieris;
- Mowing the meadow areas near rivers Slampe and Lielupe;
- Creating of field station with facilities for visitors at main meadow management area (Slampe meadows);
- Preparation and dissemination of information about the project's results as well as ĶNP and its nature protection values.

Working method:

- Technical inventories for both obtaining data's necessary for designing needs and monitoring of the projects results;
- Planning and permitting (obtaining necessary permits for construction works, accepting designs by the responsible bodies); dissemination of projects results;
- Habitat restoration (remeandering of chanalized river; blocking of ditches, cutting of reeds and scrubs);
- Habitat management (maintenance; - mowing of meadows, grazing of area by large herbivores)
- Construction works (reconstruction of sluice system; building of field station);

Presentation of Beneficiary and partner; project organigram
Beneficiary: Administration of Ķemeri National Park.
Partner: WWF Latvia. Responsible for the implementing of action C.6.

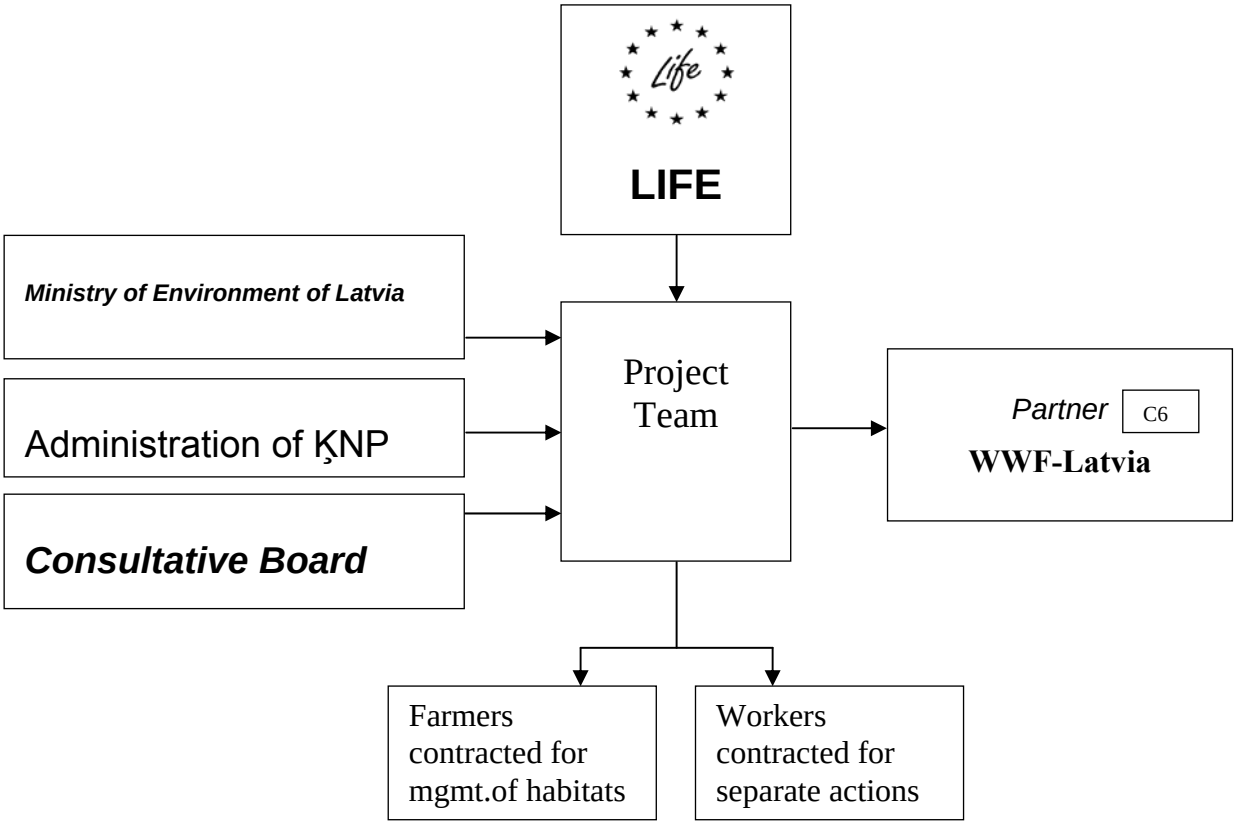

Fig. 1. Project management organigram

Description of modifications according to initial proposal

Following project modifications were accepted by the Comission on 20.12.2005:

1. The project is prolonged by 12 months until 31.12.2006;
2. Partner Stichting Ark withdraws from the project. Project activities are taken over by partner WWF Latvia (contribution increased to 18 750 EUR);
3. Project activities D.4 (water level control and regulation by the sluice at the lake Kaņieris) and E.5 (establish a management centre at the lake Kaņieris) are cancelled;
4. Under action B.1, land purchase target is reduced to 163,2 ha (reduced cost 118 200 EUR);
5. Under action C.1, the hydrological monitoring system is restored instead of the meteorological field station (reduced cost 26 540 EUR);
6. Under action C.2, adjustments to the ditch blocking system are made (reduced cost 192 110 EUR);
7. Under action C.3, the cost of the restoration of river Slampe is increased to 32 725 EUR;
8. Under action C.4, the fish migration way between Lake Kaņieris and sea is renewed. A fish migration way at the sluice by the lake Kaņieris is not built (increased cost 196 142 EUR);
9. Under action C.5, the cost for lowering the islands is increased to 15 770 EUR;

10. Under action C.6, Lielupe meadows are excluded from the action, the total area of meadows to be managed is reduced to 105 ha and the costs of the koniks will not be covered by the project budget (reduced cost 55 707 EUR);
11. Under action E.6, the field station is relocated to Slampe;
12. Costs are reduced for actions C.7 (31 215 EUR), D.2 (4 000 EUR), E.1 (8 560 EUR), E.7 (29 630 EUR), F.1 (8 034 EUR), F.2 (357 602 EUR) and F.3 (30 797 EUR).
13. The project budget is reduced from 1 925 468 EUR to 1 321 210 EUR. The maximum Community contribution is reduced to 990 908 EUR (75% of eligible costs).

The objective of the project remained the same.

5. PROGRESS AND RESULTS (BY ACTIVITY)

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

ACTION A.1. Hydrological and engineering investigations:

Project proposal envisaged that this activity is covering all the investigation and designing needs for the following six activities of current project: C.1., C.2., C.3., C.4., C.5. and E.6. Each of these activities was planned separately and had its own time schedule. This has resulted in separate timing for each of the hydrological and engineering investigations. Detailed description of each of the activities is listed below.

Planned results	Achieved results
Technical design for C.1., C.2., C.3., C.4., C.5. and E.6. prepared and according investigations completed.	Technical designs prepared and investigations completed.

Restore the hydrological monitoring system (C1)

Completed in December 2005

The aim to develop sound, cheap and efficient groundwater monitoring system in Ķemeri Great bog met with problems of past monitoring system. Long history of earlier hydrological monitoring in this unique bog left enormous amount of rather chaotic information as well as unknown amount of existing monitoring boreholes in bog. This project was excellent opportunity to bring this enormous amount of information in order by creating comprehensive data layers in Ķemeri National Park GIS system and other data files.

Important task was development of hydrological monitoring system for the unique nature conservation activity – Slampe River renaturalisation project located at the western rim of Great Ķemeri bog. Installed boreholes will be maintained and monitored by the parks staff after the end of the project.

May 2003 – July 2004	Preparation of preliminary requirements to hydrological monitoring system in Great Ķemeri bog, done by external expert Robertas Gavenas.
November 2003 – December 2004	Compilation of existing hydrological information about Lielais Ķemeri bog from various sources (Geology Library, Hydrometeorological Agency, private enterprises), preparation of MS Access database of information sources – done by project hydrogeologist and external expert Robertas Gavenas.
November 2003 – May 2004	Compilation and digitisation of data from the former hydrological monitoring station (years 1946 – 1996) – done by project hydrogeologist under action F2
November 2003 – December 2005	Creation of Ķemeri National Park borehole database. Currently in GIS system database included information about 1 203 boreholes. Done by project hydrogeologist under action F2.
May 2004 – August 2004	Elaboration of requirements for hydrological monitoring system in Slampe River renaturalisation site, done by project team under action F2.

Block drainage ditches and ensure access to the bog surroundings after raising water level (C2)

Completed in June 2006

There has been made topographical measuring, elaborated technical project, made mathematical modelling of Great Ķemeri bog, preliminary environment impact assessment made, approvals from three municipalities and technical conditions and approvals from Jelgava, Ventspils and Lielriga Environmental Protection Boards received and included in the project design (project is located in the area of supervision of three Environmental Protection Boards).

December 2002	Price quotation to select the designer. One valid bid from company "Meliorprojekts" received.
December 2002 – February 2006	Design contract concluded with "Meliorprojekts", company responsible for design and approval procedures
December 2003 – January 2004	Preliminary approval from Valgunde, Sala, Slampe, Dzukste municipalities for design works
January 2004 – March 2006	Elaborated conditions for the design, Lielriga, Ventspils and Jelgava Regional Environmental Boards. Lielriga Environmental Protection Board transfers the project to Environment Impact Assessment Bureau in May 2005
June – September 2004	Public hearings about the project in Sala, Slampe, Valgunde municipalities
September – October 2004	Receiving of construction permits from municipalities
September – December 2004	Debates with Ventspils and Jelgava Regional Boards, receiving of conclusions from the boards
May 2005 – February 2006	Environmental Impact Assessment Bureau assessing the project. Project is located in area where unique sulphuric water is generated (this resource is used traditionally by the local spa's) – thus mathematical modelling is asked to assess the impact on these resources. When conclusion is received, permit for works issued and project returned to Lielriga Environmental Protection Board for further assessment.
August 2005 – January 2006	Mathematical modelling of Great Ķemeri Bog done by company "Procesu analizes un izpetes centrs". Result –planned activities will decrease the total resources of sulphuric water by 0,05%, there is no influence on main directions of sulphuric water flows. These changes are considered to be of minor importance.
Beginning of February 2006	Results of the mathematical modelling have been approved by State Einvironment Impact Assessment Bureau; the project has been approved by this institution without raising any other requirements. Now only the permit from Lielriga Regional Environmental Board is pending.
June 2006	Technical design of works completed and approved by all responsible authorities.

Restore natural riverbed of the river Slampe (C3)

Completed in January 2005

This has been unique exercise for involved institutions as this was the first large scale river renaturalisation project in Latvia. To large extent this explains the long permitting procedure.

December 2002	Price quotation to select the designer. One valid bid from company "Meliorprojekts" received.
December 2002 – December 2004	Design contract concluded with "Meliorprojekts", company responsible for design and approval procedures
December 2002 – July 2005	Purchase of land in project site under activity B1. All the land in project site was owned by private owners in December 2002.
17. August 2004	North Kurzeme Regional Agriculture Board rises additional requirements for the project to be approved: 2. Groundwater monitoring system to be developed in project site. In November 2004 this requirement is implemented. 3. Approval from all the land owners around the project site. The consultations with several landowners have been done in August - September. In all cases landowners required state paid long-term investigations of groundwater changes in their land, in one case (Jaunbrigi land) the idea of the project on neighbouring land was not supported at all. In October North Kurzeme Regional Agriculture Board lifted this requirement after receiving repeated calculations showing that groundwater change will not affect neighbouring lands.
February – October 2004	Unsuccessful conversations with the owner of neighbouring land parcel "Jaunbrigi"
October – November 2004	Changes in the design of project to avoid the influence on "Jaunbrigi" land. The estuary of the "new" Slampe river is moved to the east.
November – December 2004	Final approvals from municipalities and Ventspils Regional Environmental Board. Project handed over to Ķemeri National Park for further implementation.
December 2004 – January 2005	Independent revision of the project by Ministry of Agriculture.

Renewal of fish migration between the lake Kaņieris and sea (C4)

Completed in August 2006

After initial technical assessment (done in winter 2003/2004) it became clear that the initial plans to build new fish migration way around the sluice gates are not realistic. From several reasons of that the most important was – traditional fish ways are not used by pike and perch (the main fish species, migrating from sea to the lake Kaņieris). Another solution – to reconstruct the two existing sluice gates – provided even better results than the fish migration way would do. Consecutive opening of sluice gates in migration periods allow for any migrating species to enter the lake, while fish migration way can be built only for specific species (mostly salmonids). Renovation of sluice gates required close, simultaneous cooperation between designers, developers of mechanical equipment and construction company. Thus here was taken decision to make a single "turn-key" project for design, production of mechanical equipment and construction. All these activities went

under action C4. Bureaucratical procedures in case of this project were simplified by the fact that this was not a new project but reconstruction of existing sluice gates.

November 2003 – January 2004	Technical assessment of condition at Lake Kaņieris sluice gate by "Meliorprojekts" (the same people who designed the current sluice gate)
15th June 2004	Lapmezciems municipality takes decision to transfer the land around sluice gates to Ķemeri National Park
April – June 2004	Ķemeri Park prepares documents and Lapmezciems municipality announces public hearings about the reconstruction of sluice gate. No negative replies received.
30 January 2006	Agreement about designing of technical project (as well as implementing of construction works) concluded with "VND 2" Ltd.
February – August 2006	Preparation of technical design, getting the necessary permits and approvals from responsible authorities

Lower the level of dry land of 4 artificial islands on the lake Kaņieris (C5)

Completed in January 2005

Although the activity itself does not have a large scale, there were two factors complicating it: 1) islands are located in protected nature area. Even if Ķemeri National park itself is managing this area, there was a need in good concordance with other environmental authorities and municipality to do this action. 2) it was technicaly complicated to move technics over the shallow lake to the islands.

November – December 2004	Public hearings in Lapmezciems municipality about the draft project
November 2004 – September 2005	Elaboration of design documents, technical solutions, getting necessary approvals from municipality and Ventspils Regional Environmental Board
August – September 2004	Repeated inventory of the habitats of EU importance on the islands by park employees. Alcaline fens on islands mapped, excluded from levelling.
December 2004 – January 2005	Receiving of the necessary approval from municipality and Ventspils Regional Environmental Board

Establish a field station near river Slampe (E6)

Completed in July 2006

Initially project envisaged establishment of field station in another location – near River Lielupe. Due to unsolved land issues at River Lielupe site and due to higher public interest in Slampe River project site there was proposed modification in project – to move the site of field station over to River Slampe. This was supported by EU in late December 2005. No design works have been started before this decision.

January 2003 – August 2003	Conversations with the landowner in the southern part of Lielupe meadows (Gneiss dolostone quarry) about the access

	to the planned field station. The owner is not willing to give sufficient warranties for long-term support to environmental tourism through his land.
August 2004 – October 2004	Conversations with the landowner in the northern part of Lielupe meadows (Odini) about the establishment of field station at his land. Finally the owner rejected the idea about field station near his home and visitors passing through his land.
5 June 2006	Agreement concluded with "Arhitektūra un Vide" Ltd. (technical project of the field station near river Slampe)
July 2006	Elaboration of technical design; submitting to the responsible authorities, permitting

ACTION A.2: Announcing Call for Tender works

Project proposal envisaged that this activity is covering all the tendering for the following activities of current project: C.1., C.2., C.3., C.4., C.5. and E.6. Each of these activities was planned separately and has its own time schedule. This has resulted in separate timing for each of the tenderings. Detailed description of each of the activities is listed below.

Planned results	**Achieved results**
Tendering for actions C.1., C.2., C.3., C.4., C.5. and E.6. arranged	C.1.: Price quotation; C.2.: Price quotation; C.3.: Price quotation; C.4.: Open tender; C.5.: Announcement about contract; E.6.: Price quotation. As a result of tendering procedures, implementing companies were found and contracts entered.

Restore the hydrological monitoring system (C1)

July - August 2004	Elaboration of tender documents, tendering procedure for the development of Slampe river project (C3) monitoring system. Done by project team.
23. August 2004	Concluded agreement with the winner of price quotation - company "VentEko" about the development of hydrological monitoring system in Slampe river project site with 13 monitoring boreholes, analyses of the first samples.
August – October 2004	Elaboration of tender documents, price quotation procedure for the technical assessment of the existing Lielais Ķemeri bog hydrological monitoring system – checking the technical condition of 90 boreholes, measuring, sampling the water and giving conclusion about the state of each borehole. Done by project team.
4 October 2004	Concluded agreement with the winner of price quotation (3 bids) – company "Firma L4"

August – September 2005	Elaboration of tender documents, price quotation for the mathematical modelling of Lielais Ķemeri bog – assessment of potential impact of action C2 on the sulphuric water genesis in Great Ķemeri bog. Done by project team.
23 September 2005	Concluded agreement with the winner of price quotation (2 bids) – company "Procesu analizes un izpetes centrs"

Blocking drainage ditches and ensuring access to the bog surroundings after raising water level (C2)

December 2002	Price quotation to select the designer. One valid bid from company "Meliorprojekts" received.
December 2002 – February 2006	Design contract concluded with "Meliorprojekts", company responsible for design and approval procedures
January – February 2003	Price quotation about the supply of ATV organised. "Kesko Agro" bid wins.
5 May - 6 June 2003	First open tender about car (together with car for C1). Bid too expensive, decided to make simpler requirements and anounce one more tender.
19 June – 21 July 2003	Second open tender about car (together with car for C1). Dealer "Baltic Motors" wins.
August 2006	Price quotation about the bog restoration works. Two bids received. Winner – company "Meliorceltnieks" Ltd.

Restoration of natural riverbed in Slampe River (C3)

November - December 2004	Project team organised price quotation for Slampe River meandering project – three bids received. Winner – company "Visko" Ltd.
4 January 2005	Concluded agreement with the winner of price quotation – company " Visko" Ltd.

Renewal of fish migration between the lake Kaņieris and sea (C4)

This turned out to be the most complex tendering procedure – the work to be done is very complicated and at the same time – of small scale. This requires high expertise but at the same time does not promise high profits for the winner of the bid. As a result project team had to organise 4 (!) tenders until we got a valid bid and made an agreement. The price of works asked in the winning bid was considerably higher than in initial project proposal and we had to wait for approval of modifications in project (December 2005) before making agreement.

July 2004	Price quotation on construction and detailed design works of sluice gate. The only bid - from company "DHB" wins, price 33 626 EUR. Started contract negotiations, agreed to make the contract after contracting the supplier of mechanical equipment.
July 2004 – August 2004	Project team prepares tendering documents for the supply of mechanical equipment with the (non paid) assistance of consultants from "DHB".
24 August 2004 – 10 October 2004	Tendering procedure about supply of mechanical equipment for Kaņieris sluice gate.
10 October 2004	Opening of the tender bid. Received one proposal, it complies

	with the requirements – Czech company "MVE technika". Price – 42 714 EUR.
October 2004 – March 2005	Contract negotiations with the companies. In meantime the prices on metal have sharply rised, several other costs have risen as well. As there is no profit from these works expected anymore, both winners have no interest in this contract and negotiations fail.
March – April 2005	Consultations with the hydroengineering companies in Latvia about the conditions for tendering
22 April– 20 May 2005	Next open tender organised, invitations sent out to hydroengineering companies in Latvia. No bids received.
16 June – 14 July 2005	Next open tender organised, one valid bid from company "VND 2" received. Bid is valid but the price (185 000 EUR) exceeds the planned price for activity (150 000 EUR).
July – December 2005	Waiting for approval of project modifications by EU.
30 January 2006	Agreement about implementation of works concluded with "VND 2".

Lowering the level of dry land of 4 artificial islands on the lake Kaņieris (C5)

Similar to previous situation, it was hard to find companies willing to implement this activity due to the tehcnical complexity (transport of technics over the shallow water) and comparatively small scale of the works. One tendering procedure ended with no bids, second got one valid bid but later the winner could not realise the works as planned and there was no agreement concluded.

As this was a small scale activity (the total expenses of 8392, 76 EUR were below the official price threshold – 10 000 LVL or 14 148,27 EUR – when price quotation for building works should be started), no tendering or price quotation was done, instead of that (accordingly to the national law on Public Purchases), information about the planned contracting (announcement about contract) was published in the web page of administration of Ķemeri national park. Contract with the only bidder signed after five days of waiting (no interest from other companies expressed).

April – May 2005	Preparation of price quotation documents by project team, announcement of price quotation. No bids received.
May – July 2005	Consultations with different companies about the problems regarding these works. Observations taken into account while preparing new price quotation.
August – September 2005	Preparation of new price quotation. One valid bid from company "VND 2" received.
September – December 2005	The technics aimed at implementation of the action (the only floating excavator in Baltics) not available and agreement with company "VND 2" not concluded. Still "VND 2" maintains their readyness to implement the action throughout 2006.
25 October 2006	Information about the planned contract published in the web page of Ķemeri national park
31 October 2006	During the five day period after the publishing of information in the webpage no other bids received.

Establish a field station near river Slampe (E6)

April-May 2006	Price quotation, topographical land survey of the future location of field station. "Latvijas Valsts Mernieks" contracted
24 July 2006	Preparation of price quotation documents by project team, announcement of price quotation. One bid received.
25 August 2006	Announcement of results of price quotation. Winner - "Dava" Ltd.

Table 1. Summary table on expenditures, activity A (in bold – spent; compared with initially planned)

Action	1. Personnel	2. Travel	3. External assistance	4. Durable goods	5. Land purchase/ lease	6.Consumable material	7. Other costs	8. Overheads	TOTAL
A1	23 000 **877,83**	-	45 000 **19 687,20**	-	-	1 570	- **21,22**	6 608 **4 961,85**	76 178 **25 548,10**
A2	4 000	-	- **35,72**		-	1 000	1 000 **342,91**	-	6 000 **378,63**
Total costs, EURO	27 000 **877,83**	-	45 000 **19 722,92**	-	-	2 570	1 000 **364,13**	6 608 **4 961,85**	82 178 **25 926,73**

B. Purchase/lease of land and/or rights

ACTION B.1: Land purchase

Completed in December 2005

This action has been implemented as described in the modified project document. In total there have been purchased 163,2 ha of land for nature conservation purpose.

Initial project document envisaged more ambitious program of purchase – due to this land valuations and correspondence has been made about other, non-purchased land parcels as well.

For successful meandering of Slampe river project (C3) we made an attempt to purchase the neighbouring land parcel „Jaunbrigi" (area 6,1 ha). Independent evaluation showed that the market price of this land parcel is 390 EUR per ha. Unfortunately the land owner repeatedly asked price which considerably exceeded the market price – 1480 EUR per ha. Project refused this purchase. Owner did not agree to any changes in hydrological regime on his land as well. To avoid influence on this land the Slampe River meandering project was redesigned and approved during September – December 2004.

First land parcel that was included in the land register, was parcel "Parslas" (17/11/2006). It is stated in the land register that this parcel is located within the nature protection zone of Ķemeri national park. Other two parcels - "Dunduri" and "Parupes" were annexed to the first of the registered parcels, now all together creating a new parcel "Kemeru nacionalais parks".

December 2002 – March 2004	Announcements about land purchase program placed in respective municipalities. Letters about our intent to purchase the land sent to landowners, correspondence on-going.
10 June 2003	Notary certification of purchase agreement of three land parcels;
19 July 2003	Concluded agreement about purchase of three land parcels in Slampe River meadows (two parcels named "Dunduri" and one – "Parupes", total area – 159,3 ha)
June – September 2003	Independent evaluation of land parcels "Dunduri" and "Parupes"
March 2004	In former correspondence with European Commission agreed the following: - approved purchase of three land parcels (two "Dunduri" parcels and "Parupes"); - agreed possible purchase of land parcel "Jaunbrigi" (was not done);
23 July 2004 – 1 September 2004	Independent evaluation of land parcels "Pārslas" and "Jaunbrigi"
February – October 2004	Unsuccessful conversations with the owner of "Jaunbrigi" at Slampe River area. As a result we refuse to buy land from him (price well above market prices asked) and order the redesign of River Slampe renaturalisation project.
March – June 2005	Preparation of documentation for government order on purchase of "Pārslas". Legislation has changed and now there is needed government

	order to purchase the land from private owners.
8 June 2005	Government order No. 380 on purchase of "Pārslas" issued.
13 July 2005	Agreement about purchase of "Pārslas" (3,9 ha, 2 134 EUR) concluded, price paid and land parcel officially becomes owned by state for nature conservation needs.
December 2005	Registration of purchased land. Paid registration fee and land is formally entered in land register as state property – thus project obligations fulfilled.
17 November 2006	Parcel "Pārslas" registered in the land register (cadastre No. 9048 003 0096). It is mentioned that parcel is located within the nature protection zone of Ķemeri national park.
30 March 2007	Parcel "Dunduri" (cadaster No. 9048 003 0129) annexed to the parcel "Kemeru nacionalais parks" (includes the former land parcel "Parslas", clause included that parcel is located within the nature protection zone of Ķemeri national park).
10 April 2007	Parcel "Parupes" annexed to the parcel "Kemeru nacionalais parks" (cadaster No. 9048 003 0096) includes as well the former land parcels "Parslas" and "Dunduri"). There is a clause included that parcel is located within the nature protection zone of Ķemeri national park.

Planned results	**Achieved results**
163,2 ha bought in Slampe river area and registered on the name of Ministry of Environment.	163.2 ha purchased and registered in the land register, it is notified that territory is located within the nature protection zone of Ķemeri national park.

Additional information:
Map (overview of the purchased land) and independent valuations of purchased land was delivered with project's Interim report (submitted in 15.02.2006).
Appendix 1 (this report): Copies from land register recordings.

Table 2. Summary table on expenditures, activity B (in bold – spent; compared with initially planned)

Action	1. Personnel	2.Travel	3.External assistance	4. Durable goods	5.Land purchase/ lease	6.Consumable material	7.Other costs	8. Overheads	TOTAL
B1	-	-	2 279 **1 301,65**	-	113 421 **108 051,78**	500	2 000 **2 597,23**	-	118 200 **111 950,66**
Total costs, EURO	-	-	2 279 **1 301,65**	-	113 421 **108 051,78**	500	2 000 **2 597,23**	-	118 200 **111 950,66**

C. Non-recurring management

ACTION C.1: Restore the hydrological monitoring system

Completed

Project set the following aim – to bring in order the information about the former monitoring systems as well as to check the current condition of existing boreholes. This goal was complicated enough to keep us occupied for several years and led to conclusion that new hydrological monitoring system is needed as far as to monitor the results of action C2 and C3.
Mathematical modelling done for action C2 decreases need for long-term hydrological monitoring. Monitoring of action C2 does not required installation of new boreholes, instead of that, simple system of surface water level monitoring was developed by the company implementing action C2. Monitoring is done by the staff of Ķemeri national park.
There has been developed complex system of hydrological monitoring for action C3 (renaturalisation of Slampe River), monitoring was done by project team until the end of project and will be continued by Ķemeri National Park staff after the end of the project.
In frames of this action there was an information board erected near Lielais Ķemeru bog. It educates the public about bog ecosystem and bog restoration, done during the Life project.

January 2004 – December 2005	Search of old monitoring boreholes in Ķemeri Great bog, preliminary assessment of the state of boreholes, inclusion of information in GIS system. 207 old boreholes found and assessed so far. Done by project hydrologist under action F2.
5 May - 6 June 2003	First open tender about car (together with car for C2). Bid too expensive, decided to make simpler requirements and anounce one more tender.
19 June – 21 July 2003	Second open tender about car (together with car for C2). Dealer "Baltic Motors" wins.
18 August 2003	Car "Ford Ranger" supplied
August – November 2004	Development of Slampe river hydrological monitoring system (10 shallow monitoring boreholes and 3 deeper boreholes), first sampling and analyse. Done by company "Vent Eko".
October – November 2004	Technical assessment of 99 existing and monitoring boreholes in Lielais Ķemeri bog which have better condition visually. There were made technical conclusions about each borehole. Done by "Firma L4". As a result – out of 1 203 boreholes only 23 former boreholes can be used for some simple monitoring exercises, f.e. measurements of groundwater level. None can be used for hydrochemical analysis. Assessment shows - there is no need to make new caps for boreholes for protection of groundwater.
December 2006	Symple system of water level monitoring created at the end phase of C.2

Planned results	**Achieved results**
Water level monitoring system for monitoring of results of action C.2 created. Visitor information created to educate public about bog restoration works.	Simple water level monitoring system created near the infrastructure, created under action C.2. Information board erected near the bog (information about bog restoration works, done during the Life-Nature project)

Additional information:
Appendix 15.1: Photographs illustrating results of the works (erected information board)

ACTION C.2: Blocking drainage ditches and ensuring access to the bog surroundings after raising water level

Completed in December 2006

Project set the following aim – to block the ditches around the Lielais Ķemeru bog in order to decrease the discharge of water from the swamp and the periphery of the bog. The initial time schedule proved to be overoptimistic – due to the long permitting procedures the field works were completed shortly before the end of the project in December 2006.

As a result of this activity, two major areas of the bog were targeted. For the blocking of ditches, method that was little known in Latvia so far was used – peat dams were built by using of heavy machinery (similar approach was used for blocking of drainage ditches in the neighbouring Cenas bog where works were done in frames of another Life-Nature project "Implementation of mire habitat management plan for Latvia"). In the North-Eastern (NE) corner of the bog, where peat excavation was done historically, large scale field works were done – 50 peat dams were built on the peripherial chanals of the peat quarry; 1,4 km of road dam were reconstructed and three separate dams with culverts created (60, 40 and 60 meters in length). On the western edge of the bog, 11 peat dams were built on the drainage ditches.

The NE corner of the bog, where most of the works were done, is one of the main natural discharge areas in the bog. Due to this reason peat excavation was done historically in this area and drainage systems, created during that time, have strenghtened the water leakage and facilitated the overgrowing processes. Blocking of ditches will restore natural water regime and will create necessary conditions for regenerating of typical bog vegetation – botanical surveys were done in the drained areas before blocing of ditches and the same sample plots will be monitored in the coming years to evaluate the results of bog restoration. It can be considered, that completed action will create a direct impact on the areas, located near the ditches while indirectly it will influence the entire bog system.

Hydrological investigations, done during the development of technical design, stated that raising of water level will expose to danger only 1,4 km of forest roads. As a result of this, inadequacy to the initial project proposal arose (in the poject proposal it is planned to reconstruct 4,5 km of forest roads to ensure accessibility to the area).

September – December 2006	Implementation of works in the NE corner and W edge of the Lielais Ķemeru Bog. Reconstruction of road dam (1,4 km), construction of 61 peat dam and 60, 40 and 60 m long dams with culverts. External assistance, company "Meliorceltnieks Ltd."
15 November 2006	Works finished, deed of conveyance signed
22 March 2007	The final commissioning of the field works.

Planned results	**Achieved results**
22 ditches around the Lielais Kemeru bog blocked by building dams; 4,5 km of forest roads raised and culverts repaired to ensure accessibility to the area. 5752 ha of raised bog with restored hydrological regime, simultaneously	22 ditches blocked by peat dams (61 dam built); 1,4 km of forest road rebuilt; 60, 40 and 60 m long dams with culverts created. Restored sites are located on the main routes of natural water discharge, therefore it can be considered that entire bog system (5752 ha)

maintaining the road infrastructure.	benefited. Intensity of bog regeneration in restored areas will be indicated by future monitoring results.

Additional information:
Appendix 2: Deed of conveyance for the construction works; document of the final commissioning;
Appendix 15.2: Photographs illustrating results of the works

ACTION C.3: Restoring natural riverbed of the river Slampe

Completed in May 2005

As a result of this project there has been realised the first large scale river renaturalisation project in the Baltic states – instead of straight 2,1 km long stretch of chanal we have got 4,6 km long meandered stream. Water level in the restored strech was raised by approximately 1 meter to overflood the coastal meadows during the spring flood season. In March/April 2006 around 39 ha of previously drained land were covered by open flood water from the restored river. Results of the hydrological monitoring are included in the appendix 13 of this report, further maintaining of installed boreholes and hydrological monitoring will be done by the park's staff.

January – May 2005	Meandering of the Slampe river according to the technical project, external assistance, company "Visko" Ltd.
January – May 2005	Technical supervision of the works, external assistance, company "Meliorprojekts" Ltd.

Planned results	**Achieved results**
2,1 km long canal turned in to 4,6 km long meandered stream, floodplain system restored	2,1 km long chanal turned in to 4,6 km long meandered stream, floodplain system restored

Additional information:
Appendix 13: Results of the hydrological monitoring; year 2005-2006;
Appendix 15.3: Photographs illustrating results of the works

ACTION C.4: Building the fish migration way at the sluice by the lake Kaņieris

Completed in December 2006

As a result of the project, the existing sluice system at river Starpiņupe was fully reconstructed. Sluice gates are now driven by the hidraulic unit that is fully automatic. During the fish migration season gates are working automatically to let the migrating fish from sea to the lake.

January– August 2006	Design of construction works, permitting
January – August 2006	Production of mechanical equipment by Czech "MVE technika"
15 September 2006	Permit to start the reconstruction works received from Rural Support Service
September – November 2006	Reconstruction works according to the technical project, external assistance, company "VND2" Ltd.
November 2006	Testing of installed equipment, training of Park` s stuff

30 Novemvber 2006	Works completed, deed of conveyance signed

Planned results	Achieved results
Sluice gates reconstructed, fish migration enabled	Sluice gates reconstructed, fish migration enabled again in spring 2007

Additional information:
Appendix 3: Deed of conveyance for the construction works;
Appendix 15.4: Photographs illustrating results of the works

ACTION C.5: Lovering the level of dry land of 4 artificial islands on the lake Kaņieris

Completed in November 2006

The main factor complicating the implementation of this activity was in the need for the specific technics. One of the initial options – to do the work during the winter time when lake is frozen – appeared to be not realistic. Finally it was decided to use the special floating excavator "Watermaster". Works were done late in the autumn 2006, when breeding season of birds was completed and machine was available for the necessary works in Lake Kaņieris.
As a result of this activity, four artificial islands were levelled. It can be expected that breeding conditions for birds (especially gulls) will improve considerably during the coming seasons.

February 2006	Lake is frozed at maximum level, consultations with specialists on-going. Tractor that is light enough to get on the islands appears to be not able to brake up the frozed surface of the islands. It is decided to use the second option – to use the floating excavator in the autumn.
November 2006	Contract with "BGS" Ltd. made. Floating tractor "Watermaster Classic" enters the lake and levels the islands.
17 November 2006	Works completed, deed of conveyance signed.

Planned results	Achieved results
The level of outer zone of four islands reduced	The level of outer zone of four islands reduced in total area of 1,3 ha.

Additional information:
Appendix 4: Deed of conveyance for the construction works;
Appendix 15.5: Photographs illustrating results of the works

ACTION C.6: Natural grazing of the floodplain meadows by the rivers Lielupe and Slampe

Completed

During the project years 6 300 m of fence around 105 ha large area in Slampe River renaturalisation site (action C3) were built and 15 Heck cattle and 10 Konik horses released in nature. Serious crisis happened in late February – early March 2005 when after strong frost three cattle died. Happily cattle survived even stronger and longer frost in January 2006 - thus we hope that they have adapted to local conditions which are considerably harsher than in Belgium where they have born. To educate the farmers, managing the heards, a special manual was prepared by the projects partner WWF. There was as well a constant work done to educate and inform the managers of farm "Kalnaji", who are responsible for herds in Slampe meadows.

May 2004	Experience exchange trip to Lake Pape area, WWF wild animals grazing area. Farmers - future managers of the grazing sites in Ķemeri National Park participate.
May – June 2004	Correspondence between Ķemeri National Park and project partners *WWF Latvia* and *Stichting Ark* about the terms of further cooperation. Ķemeri National Park is interested in cooperation which does not involve high fee for consultancy. Reached agreement, which envisages that *WWF Latvia* takes over the obligations of *Stichting Ark* regarding the supply of animals to Ķemeri National Park. *Stichting Ark* is not partner to the project anymore; this is agreed by official letter (2. July 2004).
May – August 2004	After price quotation selected external assistant, made contract about the construction of fence. Built fence in Slampe river area which includes 161 ha of grazing area, length 6 300 m.
July – September 2004	Conversations, preparation of draft agreement about the grazing of animals in Jaunbrigi land – shrub area next to Slampe meadows. Initial positive agreement fails and owner is against the animals on his land. See description at B.1. – the intent to buy this land fails as well. The fence is reconstructed to exclude this land from the grazing area. Now the area inside the fence – 158 ha.
August 2004 – December 2005	Preparation of agreements with WWF Latvia about supply of animals to Ķemeri National Park, Slampe meadows and Lielupe meadows. The agreements involve also the managers – farmers.
June 2004 – August 2004	Establishment of fenced monitoring plots in Slampe meadows, collection of initial data
21 September 2004	Seminar for the landowners of Lielupe meadows about the agro-environmental funds, biological values of their land and the plans of Ķemeri National Park to develop here grazing area. Participate owners of 8 land parcels, the other owners of 4 parcels are not found. Some agree to let the animals on their land, others ask for time to analyse the situation. Lielupe River meadows are excluded from project by project modifications in December 2005 due to the complicatiuons with land tenure (some of the land owners refuse releasing animals on their lands).
4 – 10 October 2004	Experience exchange trip to Netherlands together with the future managers of grazing sites. Visited wild animal grazing sites in Oostvaardersplassen, Blauwe Kamer and several more places. With local managers discussed numerous technical and financial matters, agreed transportation of animals to Ķemeri National Park.
October 2004	Release of 15 wild cows in Slampe meadows
October 2004 – December 2005	Maintenance of fence, supervision of animals by farmer and park employees.
February – March 2005	After strong frost and wind several cattle die. Some days later there is supplied hay and bridge is built over Slampe River for the animals to access the forest. This unlucky event causes bad publicity and later explanations to the public by WWF Latvia and

	Ķemeri National Park. There is correspondence between project and European Commission (March, April and July 2005) about this event in order to find out if all the necessary actions have been taken.
March 2005	Project partner WWF Latvia prepares the manual "Lielo savvaļas zālēdāju dabiskā ganīšanās" (Natural grazing of large herbivores; available as well on: www.pdf-pape.lv/uploaded_files/LieloZaledajuGramata.pdf), manual is delivered to the farmer, managing the Slampe meadows. There is as well a special guiding tool prepared for farmers, managing the herds (available on: http://www.pdf-pape.lv/uploaded_files/Prasibas.pdf).
June 2005	After the cattle escape from the fenced area there is installed electrical fence in part of fenced area.
21 August 2005	10 Konik horses arrived in Slampe meadows. Two different species of large grazers will help to maintain meadow habitats here.
Late December 2005	After warnings about strong frost hay is supplied to Slampe meadows.
30 January 2006	Signed supplement to partnership agreement between Ķemeri National Park and WWF Latvia
Winter 2006/ 2007	Hay is supplied to the animals, over-wintering is succesful.

Planned results	**Achieved results**
Ca 6000 m of fence built to fence 105 ha large area. 15 wild-ranging cattle and 10 Konik horses introduced.	6300 m of fence built to fence 105 ha large area. 15 wild-ranging cattle and 10 Konik horses introduced.

Additional information:
Map of the fenced area around Slampe River delivered with 2nd progress report (30.11.2004);
Appendix 15.6 (this report): Photographs illustrating results of the works

ACTION C.7: Aerial photography of the territory

Completed in December 2006

Ķemeri National park has received full set of high quality aerial photographs taken in 2003 and 2004. This work was done by State Land Service and maps were available for free for state institutions – this was not known initially when project proposal was written.
In August 2006 aerial photographs were taken for several of the project areas: Slampe meadows, NE corner of Lielais Ķemeri bog and floodplain of River Lielupe. High quality aerial photographs were obtained for areas where project activities already have been realised (Slampe meadows, floodplain of river Lielupe) or where they were about to be done – in Lielais Ķemeri bog situation shortly before the raising of water level was documented for monitoring purposes.
In Lielais Ķemeri bog and on islands of Lake Kaņieris project activities (C.2 and C.5) were completed too late in the season (December and November 2006 respectively) to make repeated aerial photographing possible. Such materials will be obtained during the next aerial photographing sessions, arranged by the administration of ĶNP (see After-Life conservation plan).

March 2003	Air photographing over the eastern area of Ķemeri National Park, State Land Service
June 2003 – July 2004	Postprocessing of photographies
August 2004	Handing over the aerophotographs to Ķemeri National Park
March 2004	Air photographing over the western area of Ķemeri National Park, State Land Service
June 2004 – May 2005	Postprocessing of photographs
May 2005	Handing over the aerophotographs to Ķemeri National Park
August 2006	Air photographing over the southern area of Ķemeri National Park, "Metrum" Ltd.
November 2006	Contract signed with "Metrum" Ltd.
22 December 2006	Aerial photographs received from "Metrum" Ltd.

Planned results	**Achieved results**
Updated aerophotographic map of the territory, showing the effects of the management actions fulfilled	Full set of territories aerophotos obtained (years 2003 and 2004); Repeated aerophotographing of Slampe river area, NE corner of Lielais Ķemeru bog and floodplain of river Lielupe. Detailed map in scale 1:2000 received.

Additional information:
Appendix 5: – Aero photographed areas, August 2006

Table 3. Summary table on expenditures, activity C (in bold – spent; compared with initially planned)

Action	1. Personnel	2.Travel	3.External assistance	4. Durable goods	5.Land purchase/ lease	6.Consumable material	7.Other costs	8. Overheads	TOTAL
C1	-	-	4 400 **16 907,60**	18 200 **15 064,32**	-	2 400 **1480,62**	-	1 540 **1 749,79**	26 540 **35 202,33**
C2	38 000	-	114 000 **97 590,08**	24 900 **24 346,20**	-	14 350	- **212,22**	860 **315,52**	192 110 **122 464,02**
C3	-	-	32 725 **32 540,33**	-	-	-	- **56,82**	-	32 725 **32 597,15**
C4	6 000		124 420 **111 498,93**	58 062 **62 869,89**	-	7 000 **434,07**	660 **697,92**	-	196 142 **175 500,81**
C5	2 500	-	13 270 **8 392,76**	-	-	-	-	-	15 770 **8 392,76**
C6	14 476	-	8 280 **22 302,13**	18 750	-	8 700 **5 553,22**	3 000	2 501	55 707 **27 855,35**
C7	-	-	30 500 **6 858,32**	-	-	215 **22,04**	-	500 **939,63**	31 215 **7 819,99**
Total costs, EURO	60 976	-	327 595 **296 090,15**	119 912 **102 280,41**	-	32 665 **7 489,95**	3 660 **966,96**	5 401 **3 004,94**	550 209 **409 832,41**

D. Recurring management

ACTION D.1: Removing reed and scrubs in the area of 66 ha of meadows and calcareous fens

Completed in October 2006

EU Agri-environmental subsidies were not available for implementing of this action (meadows should be freed from bush before that). After the completing of project it will be possible to continue maintenance of those meadows by using Agri-environmental subsidies. All together during the project years 66 ha of meadows and calcareous fens were cleared from the scrubs.

August - September 2003	Cutting bushes in south-eastern part of Lake Kaņieris (2 ha)
September – November 2003	Cutting bushes in Lielupe meadows (11 ha)
9 September	Supply of 2 chainsaws by company "WESS Instrumenti un Tehnika"
October – November 2004	Cutting bushes in south-eastern part of Lake Kaņieris (10 ha)
August – October 2005	Cutting bushes in the following overgrown meadows: 2. bush near Lake Aklais (1,4 ha) 3. Antinciems calfiphylous meadow (1,5 ha) 4. Kaski overgrown meadows (25,9 ha) 5. Labais purvs owergrown meadows (1,2 ha)
March – April 2006	Cutting bushes at Kaski overgrown meadows (11,4 ha)
October 2006	Cutting bushes at Antinciems (1,6 ha)

Planned results	**Achieved results**
66 ha of meadows and fens cleared from reeds and scrub	66 ha of meadows and fens cleared from reeds and scrub

Additional information:

Appendix 6: Overview of the managed areas (locations of action D1)

ACTION D.2: Mowing the hay in the area of 140 ha of meadows

Completed (On-going, using Agri-environmental subsidies)

The main result of this activity is in starting of large scale meadow management works in Ķemeri national park that allowed maintaining stable or growing population of Corncrake *Crex crex*. Life funding was used only in summer 2003, when EU Agri-environmental subsidies were not yet available for such activities. Managing of Slampe meadows and floodplain of river Lielupe is now contracted to two local farmers - "Kalnaji" and "Plostmuizas Laci", who have applied for the EU support. There are still some problems created by the regulations of Agri-environmental support – it is obligatory to collect the cutted hay while farmers are not interested in it (late cutted hay has low energetical value).

July - September 2003	Mowed 21,2 ha of Lielupe madows and 139,5 ha of Slampe meadows
Since July 2004	Agri-environmental subsidies for management of biologically valuable grasslands available. Ķemeri National park has assisted local farmers to apply for these subsidies and to include the needed meadows in the list. LIFE financing is not used for further activities in these meadows. Ķemeri national park continues to supervise management activities in these

	meadows.
July - September 2004	Mowed 26,6 ha of Lielupe madows and 234,6 ha of Slampe meadows, Agri-environmental subsidies used (Life project not charged)
July - September 2005	Mowed 57,2 ha of Lielupe madows and 245,1 ha of Slampe meadows, Agri-environmental subsidies used (Life project not charged)
July - September 2006	Mowed 13,1 ha of Lielupe madows and 267,5 ha of Slampe meadows, Agri-environmental subsidies used (Life project not charged)

Planned results	**Achieved results**
140 ha of meadows mowed	160,7 (2003) to 302,3 (2005) ha mowed by local farmers in the project areas.

Additional information:
Appendix 7: Overview of the managed areas (locations of action D2)

ACTION D.3: Remove reed and scrubs from the islands on the lake Kaņieris

Completed in December 2006

This activity covered two main tasks – clearing of scrubs from islands in Lake Kaņieris and removing or fragmentation of reeds in their surroundings.

March 2003	Cutting of scrub on islands, 4 ha
August 2003	Mowing the reed around islands in Lake Kaņieris, 16,2 ha
September – October 2003	Cutting scrub on islands, 5 ha
February 2004	Cutting scrub on islands, 4 ha
November - December 2006	Cutting of scrub on islands, 5,1 ha

Planned results	**Achieved results**
Reeds and scrubs removed from 12,2 ha on 7 islands on the lake Kaņieris	Reeds removed or fragmentated in the 16,2 ha around islands; Scrubs cleared on 7 islands (total area 18,1 ha)

Additional information:
Appendix 8: Locations of action D3

Table 4. Summary table on expenditures, activity D (in bold – spent; compared with initially planned)

Action	1. Personnel	2.Travel	3.External assistance	4. Durable goods	5.Land purchase/ lease	6.Consumable material	7.Other costs	8. Overheads	TOTAL
D1	11 000 **1092,66**	-	- **2 879,88**	4 000 **784,39**	-	3 620	-	-	18 620 **4 756,93**
D2	-	-	4 000 **4 170,35**	-	-	-	-	-	4 000 **4 170,35**
D3	14 200 **1 386,97**	-	- **1 139,06**	2 200	-	1 560	-	-	17 960 **2526,03**
Total costs, EURO	25 200 **2 479,63**	-	4 000 **8 189,29**	6 200 **784,39**	-	5 180	**-**	**-**	40 580 **11 453,31**

E. Public awareness and dissemination of results

ACTION E.1: Create a home page of the park and the project

Completed

August 2003	Development of the first LIFE project Webpage.
January - March 2005	Development of new home page for Ķemeri National Park by project team and Ķemeri National park staff. Since early April 2005 on www.kemeri.gov.lv there is available new Webpage with much more comprehensive information about Ķemeri National park, its values, employees, goals, news (the last – in Latvian only).
August 2005	Making of new design for LIFE project homepage (http://www.kemeri.gov.lv/life/life_indexENG.htm) in order to coordinate its design with the design of Ķemeri National Park homepage. Updates to content. Done by the project team under action F2.
December 2005 – January 2006	Overhaul of LIFE project homepage, inclusion of modified project document and update of project descriptions, done by project team under F2.
February – December 2006	Regular placing of LIFE project news in homepage

Planned results	**Achieved results**
The current home page of the park www.kemeri.gov.lv revised, updated and maintained. New section devoted to the Life project created.	Existing home page updated, Life project news published on regular bases. Separate project's section created and maintained.

ACTION E.2: Prepare the layman's report

Completed in December 2006

7 December 2006	Agreement concluded with company "Due" Ltd. about the preparing and publishing of layman`s report.
December 2006	Report layouted and printed (each copy includes both Latvian and English language chapter). 500 copies ready as agreed in the correspondence with EC (letter from 19.12.2006)
December 2006	Report distributed to the local municipalities, schools and libraries as well as made available to the visitors of administration centre of Ķemeri national park "Meza maja"

Planned results	**Achieved results**
Layman's report of the project (200 copies) preapared and distributed	Layman's report of the project (500 copies) prepared and distributed

Additional information:
Appendix 9: Layman`s report of the project

ACTION E.3: Produce a video for visitors of the information centre about nature conservation and rare and endangered species in the park

Completed in December 2006

September 2003 – September 2006	Casting crew has been fixing the important events in the life of project and National Park
February – May 2003	Preparation of tender documents to select the company to do this work. During this time period we made slight modifications to initial plans – we ordered to make three different products – two video films and short advertisement clip. This modification was approved by European Commission and included in modified project document.
12 May – 11 June 2003	Open tender, one valid bid received from "Vides Filmu Studija";
June – August 2003	Contract negotiations;
18 August 2003	Concluded agreement with company "Vides Filmu Studija" about casting two films and a short clip about Ķemeri National Park.
September 2003 – December 2005	Operators of "Vides Filmu Studija" take part in important events of LIFE project and other events in Ķemeri National park in order to make more informative movies. Landscape and wildlife stories casted.
January 2004	First report and scenario by "Vides Filmu Studija" prepared;
23 January 2004	Radiomicrophone and accessories supplied by company "Muzikala Dizaina grupa"
March 2005	Second report by "Vides Filmu Studija" prepared;
January 2006	Agreement with "Vides Filmu Studija" extended as the project is extended until the end of 2006. This does not involve additional costs.
December 2006	Works completed (16 and 60 min versions produced). Additionally, there was a shorter version of 60 min film prepared (36 min long, it was done as a bonus, free of charge).
8 December 2006	Presentation of the films to the participants of the final event of the project
7 January 2007	Premiere of the 16 min film in the broadcast of LTV1 (National television) "Vides fakti"

Planned results	**Achieved results**
Two versions of films produced: 10-15 min (200 VHS copies); 60 min (150 VHS copies)	Two versions of films produced: 16 min (200 DVD copies); 60 min (150 DVD copies). DVD` s are attached to this report.

ACTION E.4: Produce DVD with info on the park and the project

Completed in December 2006

As proposed in the project proposal, the DVD produced within this action includes the materials that were prepared during action E.3 (the longest – 60 min – version of film). In addition, there are five short (each one around 20 sec. in length) advertising video clips prepared and included in the DVD's as well as three casts about the park and project, prepared for broadcasting in the national

TV. To simplify the contracting procedure, it was decided to assign this work to the same company, who was responsible for the producing of videos. This action created no special costs as it was done in frames of an existing contract.

December 2006	Producing the DVD, done by "Vides filmu studija" (company, producing videos in frames of action E.3)
21 December 2006	Works completed. 200 DVD copies received from "Vides filmu studija" Ltd.

Planned results	**Achieved results**
DVD containing materials prepared during action E3 produced (200 copies)	DVD containing materials prepared during action E3 produced (200 copies). DVD is attached to this report.

ACTION E.5: Establish a management centre at the Lake Kaņieris

Excluded during the project modifications (accepted by the Comission on 20.12.2005)

ACTION E.6: Establish a field station near river Slampe

Completed in December 2006

In 2006 technical project of field station was prepared ("Arhitektūra un Vide" Ltd.). Construction works were done by "Dava" Ltd. Facilities built includes watchtower (the main platform being located 5,5 meters above the ground), two information boards and desks for the visitors. Facilities were built in the territory, historically used as a hay stacking place (decked with bituminous concrete) therefore no harm was done to the site (meadows were not build up) and visitors can park the vehicles on the hard ground next to the tower.

12 September 2006	Agreement concluded with "Dava" Ltd. (construction works)
1 October 2006	Permit to start the construction works received from municipality of Džūkste
October – December 2006	Construction works according to the technical project, external assistance, company "Dava" Ltd.
22 December 2006	Works completed, deed of conveyance signed.

Planned results	**Achieved results**
Small management centre aimed at supervision of grazing animals built – facilities include information boards (exhibition about the management of territory) and watching tower.	Created facilities include a wooden tower (serves as a support for supervision af animals), two information boards (with information about the territory and Life-Nature's support) and desks for visitors.

Additional information:

Appendix 10: Deed of conveyance for the construction works;

Appendix 15.7: Photographs illustrating results of the works

ACTION E.7: Media work

Completed

There have been multiple articles about the actions of LIFE project in local and national newspapers, TV, radio, Internet.

27 January – 4 February 2003	Price quotation about supply of server and programs. Company "Balta" wins.
25 February 2003	Server, its accessories and programs supplied.
25 February – 17 March 2003	Price quotation about supply of video projector and screen organised. Company "Balta" wins.
29 April 2003	Video projector and screen supplied by company "Balta", installed.
2 February 2005	World Wetlands day – Ķemeri National Park (including project team) informs local school about the uniqueness of Great Ķemeri bog and planned acitivities there.
15 July 2005	Official presentation of Slampe River renaturalisation project to the public. Opening by Minister of Environment. Participate more than 40 people – mainly journalists and representatives from other nature conservation authorities and NGO's.
7-9 April 2006	Traditional bird days of Ķemeri national park. Theme of this year's event - "Birds at the restored river Slampe". Around 220 participants including 40 people from Social integration centre of Ķemeri participate.
26 May 2006	Event of the European day of parks. Presentation about the Life project in school of Ķemeri. Minister of Environment participates.
8 December 2006	Final event (Gala presentation) of the project. Opening of the reconstructed sluice gates and Slampe field station. Visit to the NE corner of Lielais Kemeru bog. Presentation of videos. More than 50 participants, including representatives of Ministry of Environment and local municipalities. Event was widely covered in local media.

Additional information:

Appendix 11: Program and project team's presentation of final event

Appendix 15.8: Photographs illustrating final event

Table 5. Summary table on expenditures, activity E (in bold – spent; compared with initially planned)

Action	1. Personnel	2.Travel	3.External assistance	4. Durable goods	5.Land purchase/ lease	6.Consumable material	7.Other costs	8. Overheads	TOTAL
E1	7 000	-	1 560	-	-	-	-	-	8 560
E2	4 000	-	1 000 **2 689,33**	-	-	5 000	-	-	10 000 **2 689,33**
E3	-	-	34 500 **23 993,04**	2 500 **537,63**	-	2 560 **174,46**	-	2 330 **2 971,13**	41 890 **27 676,26**
E4	-	-	11 500	-	-	1 000	-	-	12 500
E6	-	-	8 000 **530,34**	21 600 **23 525,45**	-	1 430	- **70,74**	-	31 030 **24 126,53**
E7	12 000	-	1 500 **2 230,48**	14 400 **12 973,69**	-	1 130 **491,37**	-	600 **679,27**	29 630 **16 374,81**
Total costs, EURO	23 000	-	58 060 **29 443,19**	38 500 **37 036,77**	-	11 120 **665,83**	- **70,74**	2 930 **3 650,40**	133 610 **70 866,93**

F. Overall project operation

ACTION F.1: Establishment of project office and administration

Completed

September – December 2002	Recruitment of project team. Core project team (Project manager, project co-ordinator, secretary, bookkeeper, land purchase manager) starts working in 1st December 2002.
November – December 2002	Minor repairs in the rooms of project management (External assistance).

ACTION F.2: Project administration

Completed

Project team worked on continuous basis, the work was supervised by Consultative Board of Ķemeri National Park (includes representatives of all the local municipalities, Ministry of Environment, Ministry of Health, Latvian Fund for Nature).

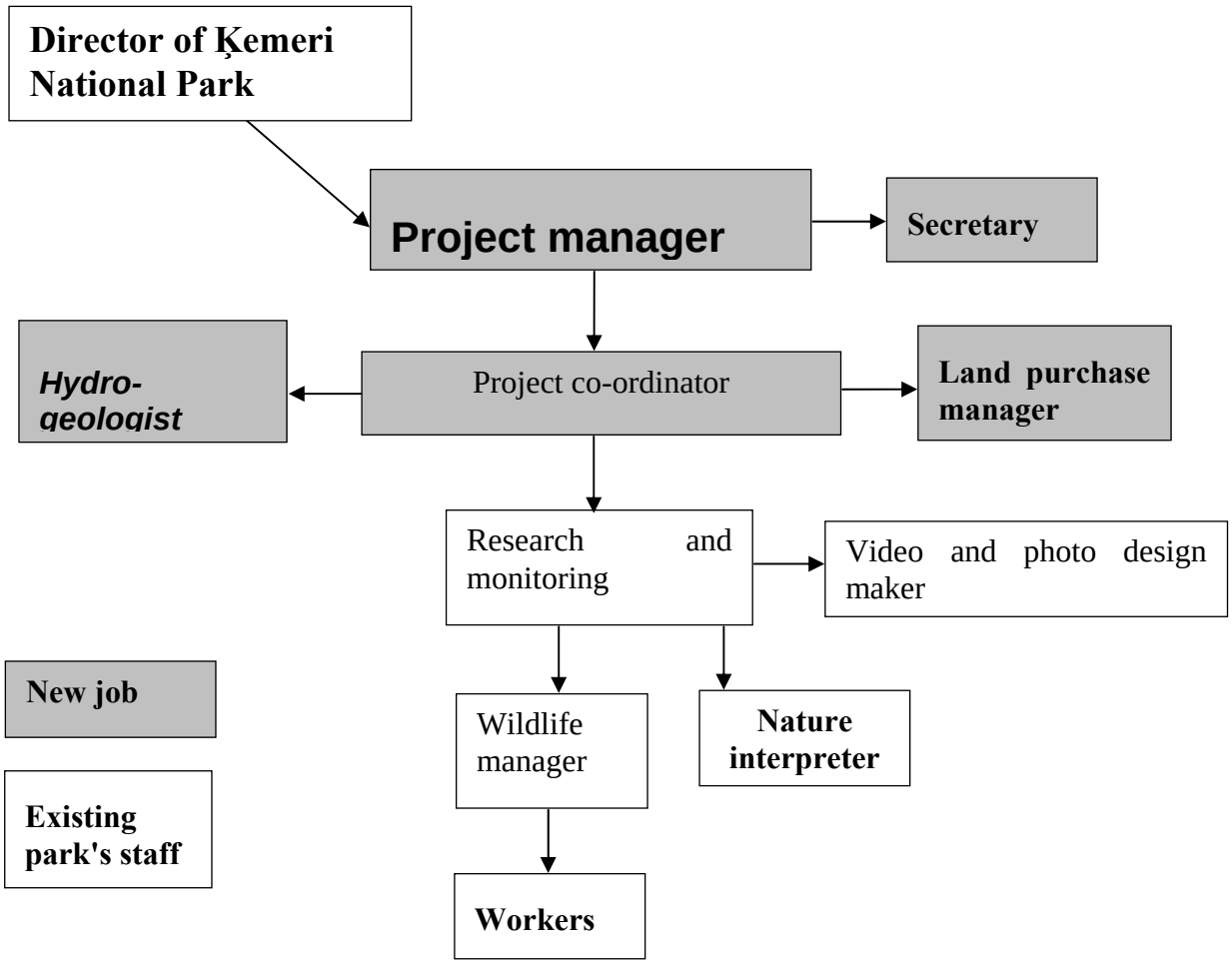

Fig. 2. Project administration organigram

November 2002	Participation in "Eurosite" seminar in Slovenia by future project team.
1 December 2002 – December 2006	Core project team (Project manager, project co-ordinator, secretary, bookeeper) working for the project.
December 2002 - March 2004	Land purchase manager Z. Berezovskis works for project, he organises announcements about our land purchase program, makes correspondence, organises independent land evaluation, prepares first land purchase agreement. The prices for land have rised and there is no possibility to continue land purchase program (as described in B1).
27 January – 4 February 2003	Price quotation about supply of two computers for project team. Company "Balta" wins.
27 January – 4 March 2003	Price quotation about supply of program Arc View 8.0, 2 sets. Company "Envirotech" wins.
25 February 2003	Two computers by company "Balta" supplied.
10 February 2003	Digital camera purchased.
5 – 28 March 2003	Price quotation about supply of colour laser printer organised. Company "Balta" wins.
15 April 2003	2 sets of Arc View 8.0 supplied by company "Envirotech".
29 April 2003	Colour laser printer "Minolta" supplied by company "Balta".
September 2003	First progress report prepared and sent to European Commission
2 – 3 October 2003	Experience exchange visit to Teici Nature Reserve LIFE project LIFE00NAT/LV/7124. Teici Nature Reserve has provided us with valuable information about the management of LIFE project, provided necessary support.
24 October 2003	One more computer supplied by company "Balta" (the price was below 1000 LVL, thus price quotation was not organised)
November 2003 – December 2005	Project hydrogeologist I. Maļika works part-time for project. She is the first geologist ever employed in Ķemeri National Park, does valuable work as described at A1, A2 and C1.
27 May – 4 June 2004	Price quotation about computer and programs, tender won by company "Balta".
1 July 2004	Fourth computer supplied.
5 – 8 October 2004	Participation in "LIFE Co-op" seminar in Netherlands by two members of project team and Ķemeri National Park director and four local farmers (potential managers af projects meadow areas).
January 2005	Second progress report prepared, initial set of project changes proposed for amendment.
April 2005	Initial response to European Commission about crisis in action C6 (death of three cattle) prepared.
July 2005	Final response to European Commission about crisis in action C6 prepared. Modified project document prepared.
August 2005	Price quotation organised about auditing of LIFE project. Three valid bids received, bid of company "Inspekcija AMJ" selected.
August – October 2005	Contract negotiations, waiting for EU decision about project

	modifications (received only in December 2005)
6 October 2005 – 31 January 2006	Auditing of LIFE project.
November - December 2005	Modified project document with time extension discussed and approved in European Commission.
January 2006	Project manager Gatis Pavils tenders his resignation.
February 2006	Janis Kuze starts to work as a project manager.
19-21 April 2006	Project manager and Ķemeri National Park director participates in the "Wetland restoration and management Conference – by use of the EU LIFE Nature Program and EU's Agri-environmentalal Scheme", Denmark
December 2006	Announcement about contract (final auditing of LIFE project). Company "Inspekcija AMJ" contracted.
January – April 2007	Final auditing of LIFE project.
January – April 2007	Final report prepared and sent to the European Commission

Additional information:
Appendix 12: Results of the project's Final audit: Auditor's conclusion, auditor's details;

ACTION F.3: Project monitoring

Completed

Monitoring plan has been elaborated and monitoring systems have been set up under other actions. Employees of Ķemeri National Park during years 2004 – 2006 collected the necessary biological and hydrological information.

January – April 2003	Elaboration of LIFE project monitoring plan by "Latvijas Dabas fonds"
May – June 2003	Establishment of network of biological monitoring stations, 23 stations for botanical monitoring and 8 stations for hydro-biological monitoring.
June – September 2003	Collection of biological monitoring data
May – September 2004	Collection of biological monitoring data
May – September 2005	Collection of biological monitoring data
March 2005 – November 2005	Collection of hydrological data, River Slampe renaturalisation project.
June – September 2006	Collection of biological monitoring data. Establishment of biological monitoring stations (sample plots) in Lielais Ķemeri bog (areas to be influenced by the restoration works of natural hydrological regime, C.2).
March 2006 – November 2006	Collection of hydrological data, River Slampe renaturalisation project.
6 October 2006	Public monitoring of restored river Slampe started by the local schools. 35 pupil from schools of Tukums, Dzukste and Slampe (Zemgale) participates.

Additional information:
Appendix 13: Map of monitoring plots
Appendix 14: Monitoring results

Table 6. Summary table on expenditures, activity F (in bold – spent; compared with initially planned)

Action	1. Personnel	2.Travel	3.External assistance	4. Durable goods	5.Land purchase/ lease	6.Consumable material	7.Other costs	8. Overheads	TOTAL
F1	1 014	-	-	-	-	500	-	6 520	8 034
			1 153,41					**3 610,81**	**4 764,22**
F2	225 622	24 000	16 780	19 000	-	15 200	15 000	42 000	357 602
	193 001,92	**6 578,67**	**260,71**	**15 855,47**		**47 905,84**	**7 219,03**	**28 230,54**	**299 052,18**
F3	20 000	-	8 093	-	-	2 704	-	-	30 797
	3 660,83		**2 863,31**						**6 524,14**
Total costs, EURO	246 636	24 000	24 873	19 000	-	18 404	15 000	48 520	396 433
	196 662,75	**6 578,67**	**4 277,43**	**15 855,47**		**47 905,84**	**7 219,03**	**31 841,35**	**310 340,54**

6. EVALUATION AND CONCLUSIONS

6.1. The process

In general the project was implemented according to the initial plan and it can be considered, that project objectives were reached. However, there were unexpected difficulties in realisation of several of the project activities. The process was made unwieldy by the long and complicated permitting procedures for construction works and as a result of that, project had to be prolonged by one year.

6.2. The project management

Project was managed by the beneficiary (administration of ĶNP). The role of the project's partner (WWF Latvia) was in introducing of large herbivores in Slampe meadows (action C.6) as well as in educating of farmers, responsible for the supervising of herds.
Initially there was another partner included in the partner's list – Stichting Ark in Netherlands. It was excluded from the list at the stage of project modifying (accepted by the Commission on 20/12/2005). There have been no activities from the side of Stichting Ark, which would incure costs for this project; we did not sign partnership agreement either. Project activities were taken over by partner WWF Latvia, whose financial contribution was increased accordingly.

6.3. Successes and failures

The main successes of the project:
River Slampe restoration (C.3). Full scale remeandering of historically straightened river course as a site renaturalisation solution was a completely new issue for Latvia. Realisation of this work took seven years from the originating of initial idea and completing of it was possible largely due to the including of this action in the list of Life-Nature project actions. During the project years a valuable experience was gathered both for the practical realisation of the works (planning, elaborating of technical design as well as excavation works) and permitting procedures.

Blocking of drainage ditches in the Lielais Kemeru bog (C.2). Dealing with the results of historically done drainage works in the raised bogs was not a new issue for Latvian nature conservation as similar experience was known from the Teiči Nature reserve in the Eastern part of the country and elsewhere. In case of Lielais Kemeru bog, the existing experience was used as well as little known methods (like creating dams from the peat using heavy machines) were adapted. The planning process (elaboration of technical project) and getting of the necessary permits took unexpectedly long time and real field works were started just in the last months of the project. Despite that the action was successfully implemented.
This action was of particular importance since the long permitting procedure provided a valuable experience that will be used in the future bog restoration works (Zalais and Raganu bog, see After -Life conservation plan)

Renewal of fish migration between the Lake Kaņieris and sea (C.4). Similarly as with previous action, the real reconstruction works took minor part of the time dedicated to this action. The project team had to organise 4 (!) tenders until we got a valid bid and made an agreement. The permit to start the reconstruction works from Rural Support Service was received just in the mid September 2006. Nevertheless, the reconstruction works were completed in good quality before the end of the project. We expect that in the coming years the reconstructed sluice system will be one

of the very few cases in Latvia where fish migration will be successfully maintained artificially by the use of sluice gates.

Introducing of large herbivores in the meadows by river Slampe (C.6). Despite the problems that appeared in course of this action (see 4.1.3), it was a first step in shifting to self-sustainable meadow management methods in Ķemeri national park. It is planned that in the future the proportion of hay-cutted areas will decrease while the grazed – increase. Introduced animals are serving as a positive visual aid to the visitors; this example encouraged one of the local landowners to introduce the Heck cattle and Konik horses in the areas, managed by him near river Lielupe.

Cooperation with local landowners and farmers (B.1, C.6, D.2). Realisation of several of the project's actions would not been possible without active cooperation with local inhabitants. We established close ties with the biggest farmer and landowner ("Kalnaji" Ltd.), who contributed significantly in the realisation of several of project's actions. He sold several of the most needed land parcels (this made action C.3 possible) as well as did most of the management works in the Dunduru meadows (hay-cutting, supervision of grazing animals).

Education and rising of public awareness. The project served as an educational and experience exchange tool for two main target groups. First was a wide range of specialists who are involved in the practical nature management works. The results of the projects actions were disseminated both at national and international level (participation in the workshops and seminars), knowledge gathered during this project (particularly action C.3) is already being adapted by other institutions in planning of similar works elsewhere in Latvia.
Another target group was school pupils who visited the project sites during the excursions, organized by the administration of National park (classes of park's "Nature school"). In cooperation with local schools we started a public monitoring program of restored river Slampe. We believe that all of these activities will give a considerable contribution in rising of awareness among local public.

The main failures of the project:
Overoptimistic initial project schedule. At the initial stage the planned Life project was considered as a tool to solve majority of tasks, listed in the park's management plan. The lack of experience in preparing of projects of such scale resulted in a project proposal that was way too overoptimistic. The project structure and long list of the planned activities made management of the project weighty, balancing on the border where realisation of several activities would be impossible in planned time schedule. As a result throughout 2005 there were elaborated project modifications which were accepted by the Commission in December 2005. There were made multiple modifications to the project but the main have been – decrease of land purchase program, decrease of the meadow area to be grazed, extension of project by one year – until the end of 2006.

Problems with land purchase (B.1). Total area, that was purchased in frames of the project was 163.2 ha (as agreed in the project modifications) to compare with 877.5 ha, mentioned in the initial project proposal. There were several reasons of that:
1. Fast increase of land prices. This forced us to scale down the land purchase actions in modified project document. Land purchase according to modified project document has been done, while the non-purchased land has got stronger protection regime during the project life time and is not endangered by human activity now.

2. Refuse to sell/use land in key locations. Fast increase of land prices had changed the mind of many landowners refusing to permit long-term nature conservation activities on their land. This has forced us to decrease the area of activity C6 (grazing) and to change the locality of action E6 (field station), as well as to exclude action E5 (management station at Lake Kaņieris).

Long permitting procedures. The largest and most time consuming actions of the project (especially C.2 and C.3) demanded unexpectedly long permitting procedures and consequently seriously delayed starting of field works. Reason of that was in lack of previous experience in realisation of river restoration projects (for both project beneficiary and responsible authorities, issuing the necessary permits) and in specific local conditions (e.g. need for the mathematical model of dynamics of sulphural waters under the Lielais Ķemeru bog). This has forced us to ask for prolongation of project which has been accepted.

Problems with acclimatization of grazing animals (C.6). Lack of experience in managing of grazing animals as well as extremely harsh winter conditions in the first winter season resulted in death of several of supplied animals. Some days after the accident hay was supplied to the animals and bridge built over the river Slampe to let animals to access the forest. This unlucky event caused bad publicity to the WWF Latvia and Ķemeri National Park. There was a correspondence between project and European Commission (March, April and July 2005) going on about this event in order to find out if all the necessary actions have been taken.

6.4. Comparision against the project objectives

The projects objectives were:

1) Restoration of natural hydrological regime of the active raised bogs (5752 ha including 1022 ha of transition mires and 95 ha of degraded bog capable of restoration) influenced by drainage;
2) Purchase of private lands (163,2 ha of meadows including feeding / breeding habitats of Crex crex and Aquila pomarina) in order to ensure conservation of the most vulnerable habitats and/or using the incentive measures to ensure special management of their lands;
3) Restoration of 105 ha of the natural flood-plain meadow along the river Slampe (remeandering of 2,1 km long strightened chanal);
4) Maintaining habitats of bird species of EU importance (e.g. *Crex crex*) and regional and Latvian importance, requiring meadow vegetation (removing reed and scrubs in area of 66 ha; mowing of meadows in area of 140 ha);
5) Active management to conserve bird colonies at the Ramsar site – lake Kaņieris (restoration of sluice system, lowering 4 artificial islands in total area of 1,3 ha);
6) Raising public awareness of nature conservation.

Objectives have been reached:

1) Historically drained areas in the Lielais Ķemeru bog were treated by blocking of 22 ditches to stop the water leakage - works included reconstruction of road dam (1,4 km), blocking of ditches with 61 peat dam and 60, 40 and 60 m long dams with culverts. Result - 5752 ha large bog complex with restored hydrological system (intensity of regeneration will be indicated by the future monitoring results);
2) In total there have been purchased 163,2 ha of land (meadows, important as a breeding ground of Corncrakes *Crex crex*) for nature conservation purpose (entire area is located within the Natura 2000 site);
3) Strightened river Slampe was remeandered(stright 2,1 km long stretch of chanal was turned in to 4,6 km long meandered stream with restored floodplain; in late March 2006 during the spring flood season meadow areas located next to the river were covered by water);

4) Reeds and scrubs in meadows and calcareous fens removed in area of 66 ha. Life funding for mowing of meadows was used in 2003 before the agri-environmental subsidies became available (160,7 ha of meadows were mowed). In 2006 total area of 280,6 ha was mowed (by the use of agri-environmental program);
5) In Lake Kaņieris deteriorated sluice system on the chanal, connecting lake and the sea, was reconstructed to allow the fish migration. Management of the lake as well included rebuilding of four artificial islands (created in 1965) in order to improve the breeding conditions of waterfowl. Removing of reeds and scrubs on 7 islands in Lake Kaņieris was done in total area of 18,1 ha and fragmentation of reeds around islands in area of 16,2 ha.
6) In order to raise the awareness on nature conservation and to inform about the project results, public was addressed in following ways: By creating and updating of projects webpage, by publishing of layman's report (500 copies prepared and distributed), by videos about the park and the project (60 and 16 min long versions; 150 and 200 DVD copies) and special DVD (200 copies containing both films as well as short advertising clips and TV casts about the park). Media work included articles about the actions of Life project in local and national newspapers, TV, radio, Internet. The biggest publicity events were official presentation of Slampe River renaturalisation project (opened by the Minister of Environment; more than 40 participants – mainly journalists and representatives from other nature conservation authorities and NGO's) and the final event (Gala presentation) of the project.
This objective was addressed as well by the establishing of field station near river Slampe - facilities built includes a wooden tower, two information boards and desks for visitors.

6.5. Incentive/ pump-priming effects
Project activities were incentive for a wider meadow management works. During the project years we submitted necessary information to the Latvian Fund for Nature (NGO responsible for the meadow inventories with a view to select the biologically valuable grasslands) and as a result of that, Slampe meadows, floodplain of river Lielupe and set of smaller meadows all over the park were included in the list of Biologically valuable grasslands (the corresponding data base is supervised and managed by the Rural Support Service). Areas, included in the list, are certified to apply for the special support from agri-environmental program. Consequently, the land owners are now stimulated in nature-friendly meadow management practices.
Incentive effect is created as well by the bog restoration works, done in the Lielais Ķemeru bog. The experience, gained during the works, allowed us to write a project proposal that was granted by the Latvian Environmental Protection fund. The project goal is to develop a technical project for the restoration of natural hydrological regime in the Zalais and Raganu bogs (see After-Life conservation plan).
The project has as well initiated originating of new ideas on the renaturalisation of strightened rivers in Latvia. Administration of Ķemeri national park considers now remeandering of part of the Kauguru canal in the southern part of the park. Such initiatives are considered recently as well for the restoration of river Dviete in the SE part of the country.

6.6. Environmental benefits
Entire area of Ķemeri national park is included within the list of Natura 2000 sites. In the result of project activities, several species and habitat types of EU conservation importance benefited.

Species of Annex 1 of EU Bird directive (79/409/EEC): Corncrake *Crex crex* was used as a main indicator, indicating the quality and results of meadow management works (C.6, D.1, D.2). In the largest meadow tracts (Slampe meadows and floodplain of river Lielupe) where dynamics of this

species was monitored, numbers of singing males were stable or were growing since the beginning of the project.

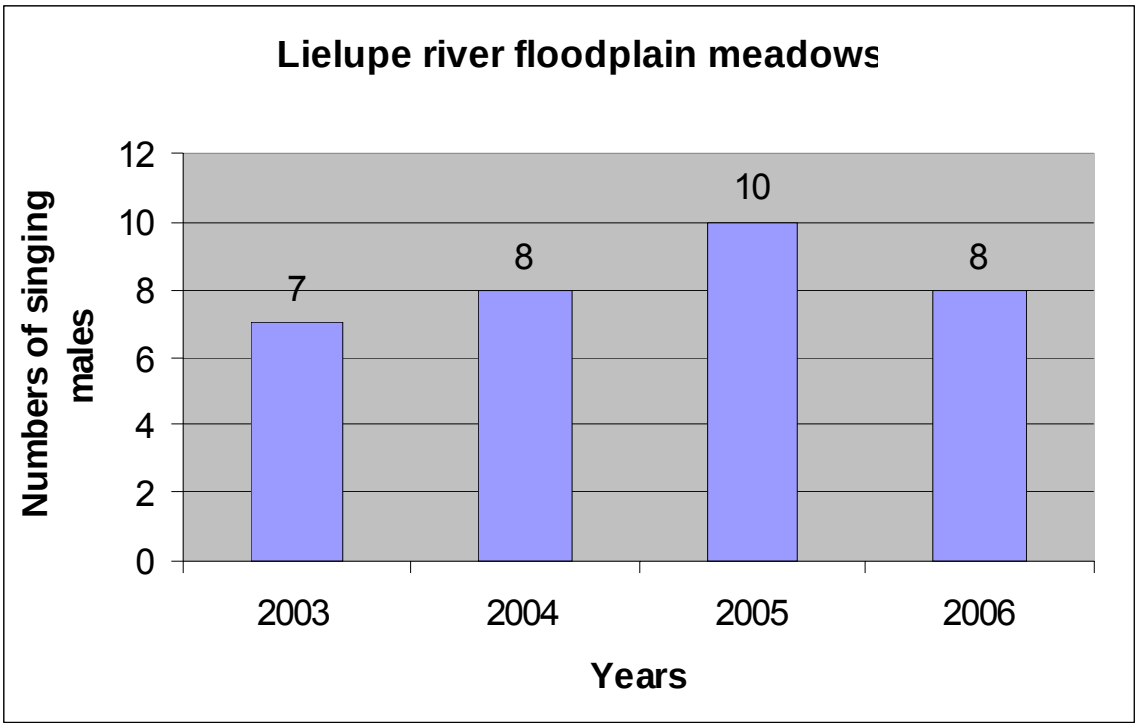

Fig. 3. Numbers of singing Corncrake *Crex crex* males in floodplain of river Lielupe; 2003-2006

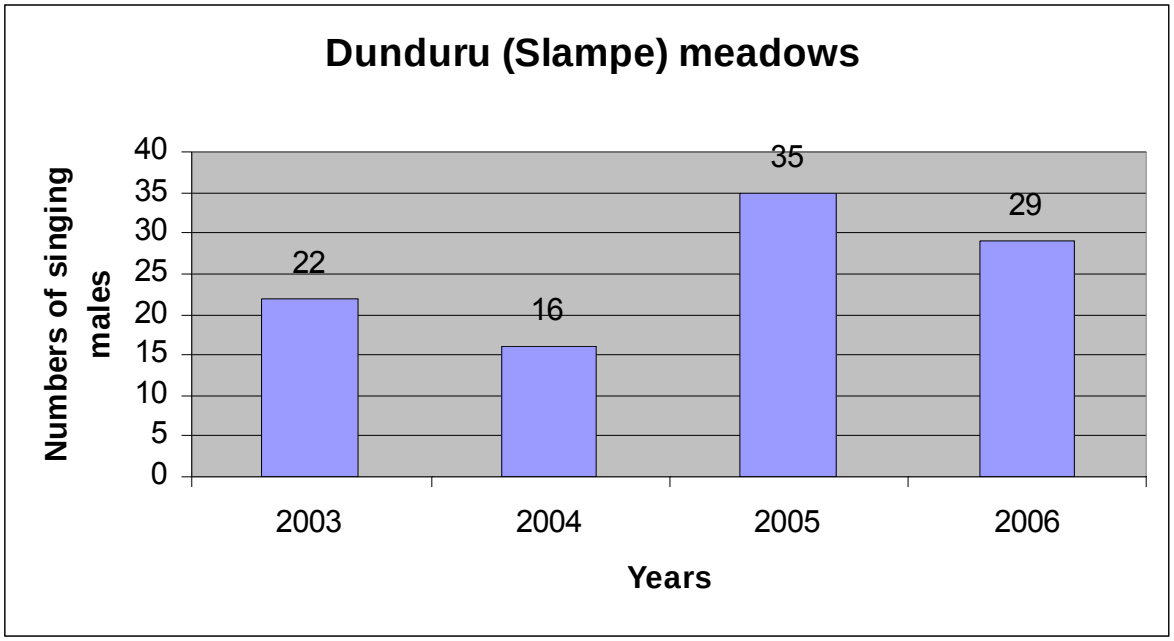

Fig. 4. Numbers of singing Corncrake *Crex crex* males in Dunduru meadows near restored river Slampe; 2003-2006

Habitats of Annex 1 of EU Habitats Directive (92/43 EEC): Bog restoration works (C.2), realised in the Lielais Ķemeru bog (in historicaly drained areas that can be considered as "Degraded raised bogs still capable of natural regeneration", code 7120) created obstacles for regenerating of natural "Active raised bogs" (code 7110*). Works were done in the NE corner and W edge of the bog, most significantly affected by the drainage and peat excavation works. As a result of this, influence of artificial water leakage has been minimized or stopped. Works will have a direct influence on the areas, located next to the ditches and indirectly (overall water flow in the bog) will influence larger areas.

Remeandering of river Slampe resulted in restoration of floodplain system, an important precondition for regeneration of floodplain meadows with respective vegetation (classified habitat 6450 "Northern Boreal alluvial meadows"). In the next spring after the completion of works (late March 2006) large areas (ca. 39 ha) in the N and S parts of Slampe meadows were covered with water, providing good resting conditions for migrating waterfowl.

6.7. Policy and legislation implications

6.7.1. Implications – EC

1. During the project years a new significant tool for managing of biologically valuable meadow areas – Agri-environmental program – become available. However, there is a growing concern among Latvian conservationists and managers of nature sites that some of the well started actions migt not be continued in the next planning period of 2007-2013. At this phase it should be stressed by the EC that protection and management of EU's importance habitats is a national level responsibility.

6.7.2. Implications - Latvia

1. Deatalization of land use options to be included in the land register is insufficient. Currently it is impossible to include a clear clause with a statement that land can be used for the nature protection only.
2. Legal way of permitting procedures is long and in some cases irrational. Territory of ĶNP is located in a supervisoion area of three regional nature protection boards (representing one institution – State Environmental Service). In case of restoration of Lielais Ķemeru bog (located in three administrative regions) it was necessary to address all three of those boards to get the necessary permits. Permitting process would be made easier if only one permit from State Environmental Service would be needed.

6.8. Demonstration and innovation value

There were several aspects that created a considerable demonstration value during the project: Activities carried out in Lielais Ķemeru bog (C.2) rised the public awareness on the need of restoration of degraded rised bogs. The used methods at the same time can be considered as an innovativation for Latvia – so far mostly small wooden dams were built on the drainage ditches in the bogs, but this is probably not the best solution in the long perspective (dams that are built from the wood should be repaired on a regular bases and complete renovation is needed every 10-20 years). In Lielais Ķemeru bog we used a new approach – dams were built from the peat by using of excavator. Results of this work were presented to the public during the gala presentation of the project.

However, the main innovation value for the Latvian nature conservation, created during the project years, was in the remeandering of River Slampe. This work was widely reflected in the media (articles in the national newspapers and magazine "Terra", story's on the National TV and radio). As this was a first large scale river restoration project in the Baltic States, there is a growing interest from the organizations who are considering similar river restoration projects.

Remeandered river Slampe together with a large herbivores, introduced in the restored floodplain meadows are currently one of the main demonstration objects, managed by the administration of Ķemeri national park. The new field station (tower and information boards) serves as a supporting base for this work.
Experience that was gained during the project works was shared with other nature conservation organizations in Latvia and abroad. Project cooperated with Life-Nature projects runned by the administration of Teiči Nature reserve as well as Latvian Fund for Nature (exchange of experience in bog restoration works), WWF Latvia (introducing of large herbivores). We participated in the workshops in Netherlands and Denmark, presenting the results of our project as well as learning from our partners.

6.9. Socio-economic effects

With a view to involve the local people in the project implementing and supervising works, a Consultative board of Ķemeri National park (includes representatives from local municipalities as well as Ministry of Environment and different nature conservation NGO's) was delegated to be a Project Steering Committee. The meetings of PSC were held on regular bases, thus informing the local people about the project activities.
The project team was widely cooperating with local inhabitants and local companies, who were implementing some of the most complex field works. Most of the meadow management works were done by the local farmers (especially "Kalnāji" ltd.). When the Agri-environment support become available for the meadow management works, they were contracted to the "Kalnāji" ltd. (Slampe meadows) and "Kažas" farm (floodplain of River Lielupe), who had the necessary technics. Thus the subsidies got for the managing of the area went to the local economy. Local companies were contracted for implementing of bog restoration works ("Meliorceltnieks" ltd., based in the neighbouring town of Tukums) and constructing of Slampe field station ("Dava" ltd. from the town of Jūrmala). It is important to notice that for some of the contracted companies it was a first experience in nature conservation and management works ("Meliorceltnieks" ltd. is working mostly on road construction and drainage works, "Kalnāji" ltd. deals mostly with intensive farming), thus the project activities were significant alternative experience in the field, still at some extent considered among landowners and managers as a threat.
During the project years there were 4 up to 20 people involved in the direct project works (project team plus employees of the contracted companies). Some of the jobs indirectly created by the project (employees of the local farms, managing the project meadow areas) will be maintained as well after the end of the project.
The project as well sent a positive message to the local people about the importance of protection and managing of endangered species and habitats. Slampe river area is visited by almost all groups of visitors (both local and from abroad), coming to the Ķemeri national park. It is a regular sightseeing place for groups of local school pupil; schools of Slampe (Zemgale), Džūkste and Tukums are participating in the public monitoring of the site. Administration of Ķemeri national park believes, that involving and educating children is a way to educate as well the parents and to send a positive message to all of the local community.

6.10. Assesment on the project dissemination results

Dissemination of projects results was arranged mostly at local and national level. At sites where major project activities took place, information desks were erected with information about the project results in both Latvian and English languages.
Project results were disseminated broadly among the local schools. Events of World Wetlands day in 2005 as well as traditional bird days of Ķemeri national park and event of the European day of

parks in 2006 were held in the local schools. Three schools (10th classes, together 35 pupil) were involved in the public monitoring of restored river Slampe.
For the broader public there were several deliverable materials prepared: layman's report, two versions of videos as well as DVD, containing both films and additional video materials (short clips and TV casts about the park and the project). Videos will be distributed among national nature conservation organizations and schools as well as will be demonstrated to the visitors of park's administration centre.
During the project years a new web page of national park was created, it contains a separate section, devoted to the Life project. Project news were published in the page on regular bases, it is possible to download the project reports (including the layman's report) from there.
To exchange the experience with similar Life-Nature projects in Latvia, visit to the administration of Teici Nature reserve (implementing project "Measures to ensure the nature conservation management of Teici Area") was arranged in October 2003 but in October 2006 project representative participated in the workshop, organized by the Life-Nature project "Implementation of mire habitat management plan for Latvia". Project team participated as well in the international events where results of the project were presented: in October 2004 project team took part in the "LIFE Co-op" seminar in Netherlands; in April 2006 it participated in the "Wetland restoration and management Conference – by use of the EU LIFE Nature Program and EU's Agri-environmentalal Scheme" in Denmark.
The largest public events during the project years were official presentation of remeandered river Slampe in July 2006 (more than 40 participants including Minister of Environment) and the final workshop (Gala presentation; December 2006) of project (around 50 participants). Both of those events were covered in local and national media.

7. AFTER-LIFE CONSERVATION PLAN

After the end of the project management works will be continued in several of the sites, targeted during the project years.

B.1 Land purchase will be continued in the most valuable areas, at first hand in the floodplain of river Lielupe. The maximum program of land purchase for next 10 years is an entire floodplain area between the Odini and dolomite stone quarry at Kalkis. Administration of Ķemeri national park will actively negotiate with land owners to persuade them of selling their properties and at the same time will take an opportunity if necessary land parcels will suddenly appear in the market.
Source of funding: Latvian Environmental Protection fund, others.

C.1. Maintaining of hydrological monitoring system, created during the project years

Action	**Responsible for implementing**	**Time schedule**	**Source of funding**
Collecting of hydrological data in the boreholes at river Slampe	Administration of KNP	On a regular bases (once a month)	Budget of KNP

C.2 Block drainage ditches in the raised bogs, capable of natural regeneration

Action	**Responsible for implementing**	**Time schedule**	**Source of funding**
Maintaining of dam system, created during the project years	"Meliorceltnieks" Ltd. (during the three years of warranty period), later - Administration of KNP (contracted company)	On a regular bases	"Meliorceltnieks" Ltd., later - budget of KNP
Developing of technical project of restoration of natural water regime in Zalais and Raganu bogs	Contracted company	2007	Latvian Environmental Protection fund
Blocking of drainage ditches in Zalais and Raganu bogs	Contracted company	2008-2010	Latvian Environmental Protection fund, others

C.4 Maintaining of sluice system at river Starpinupe

Action	**Responsible for implementing**	**Time schedule**	**Source of funding**
Maintaining of sluice system, managing of water level of lake Kaņieris	Tenant of boat station, Administration of KNP (after the end of the contract in 2009)	On a regular bases	Tenant's budget; Budget of KNP

C.6 Natural grazing of the floodplain meadows by the river Slampe

Action	Responsible for implementing	Time schedule	Source of funding
Supervising of heards of cows and horses	"Kalnaji"Ltd. (till the end of the contract in 31.12.2008), later - administration of KNP	On a regular bases	Budget of KNP, EU agri-environment program

C.7 Aerial photography of the territory

Action	Responsible for implementing	Time schedule	Source of funding
Aerophotographing of Lielais Kemeru bog (areas, targeted by the bog restoration works) and artificial islands at lake Kaņieris	Contracted company	2008	Budget of KNP

D.1 Maintaining the areas, cleared from the scrubs during the project years

Action	Responsible for implementing	Time schedule	Source of funding
Regular (once a year) clearing of outgrowths in ca 10 ha of meadows (areas, cleared during the project years)	Administration of KNP (contracted companies)	2008-2010	Budget of KNP, EU agri-environment program

D.2 Mowing the hay in Slampe meadows and floodplain of river Lielupe

Action	Responsible for implementing	Time schedule	Source of funding
Mowing the hay in 250 ha (on average, depending on the seasonal conditions) in Slampe meadows and floodplain of river Lielupe	Contracted companies - "Kalnaji"Ltd., "Plostmuizas Laci" farm	2008	EU agri-environment program

D.1 Remove scrubs from the islands on the lake Kaņieris

Action	Responsible for implementing	Time schedule	Source of funding
Regular (once a year) clearing of outgrowths in ca 5 ha of islands (areas, cleared during the project years)	Administration of KNP (contracted companies)	2008-2010	Budget of KNP

E.6 Maintaining the field station near river Slampe

Action	**Responsible for implementing**	**Time schedule**	**Source of funding**
Regular maintenace of the built infrastructure (tower and information desks), refreshing of information for visitors	Administration of KNP	On a regular bases	Budget of KNP

8. COMMENTS ON THE FINANCIAL REPORT

8.1. General comments on budget expenditures – exchange rate losses.

Total project costs were 1 042 999,37 EUR which makes 79% of the planned expenditures. However, in the financial report there is an account only of 940 370,58 EUR given. Discrepancy is made by the currency exchange rate – when first part of the money (577 637,20 EUR) was transferred by the Commission on 17/01/2003, it was converted in national currency using exchange rate 0,589 EUR/LVL (340 228,31 LVL). Second payment (115 998,40 EUR; 02/08/2006) was converted using rate 0,7028 EUR/LVL (81 523,68 LVL). The final report was re-calculated, using the exchange rate 0,7068 EUR/LVL (applied by the European Central Bank on 01/03/2007) for the entire project period.

Difference in used exchange rates created a significant difference in project's balance (102 628,79 EUR). Knowing that exchange rate losses are considered as ineligible costs by the Commission, beneficiary had to increase its own contribution to 330 613,77 EUR (31,7% of total project costs including exchange rate losses or 35,2% of eligible costs).

8.2. Savings in the budget categories.

Total eligible project expenditures were 940 370,58 EUR which is 71% of planned (1 321 210 EUR). Despite that, project actions were implemented.

Personnel: 52% of the planned finances have been spent. Largest savings were made in categories C and E, largely due to the contracted external assistance.

Travel: 27% of the planned costs have been spent. Savings were possible mostly because there was a local experience available for succesful implementing of most of the projects actions (project budget was charged to cover costs of four trips abroad). Project team participated as well in many events where participation costs were covered by the organizers.

External assistance: 78% of the planned costs have been spent. This was one of the categories, were savings were the least possible due to the large contracted works in actions C.

Durable goods: 85% of the planned costs have been spent. Difference is made mostly by the costs of animals for action C6. As animals are owned by the projects partner WWF Latvija, they were not included in the project costs as deliverable goods, instead of that these expenditures are put under the external assistance.

Land purchase: 95% of the planned costs have been spent.

Consumable material: 80% of the planned costs have been spent. Largest savings were possible in categories C and D, largely due to the covering these costs by the external assistance. Purchase of necessary materials (e.g. for construction works) was more profitable when purchased by the contracted companies themselves.

Other costs: 52% of the planned costs have been spent.

Overheads: 68% of the planned costs have been spent.

8.3. Comments on action categories.

A actions: 32% of the planned costs have been spent. All actions were implemented at full extent. Largest savings were possible in action A1 where favourable contracts under external assistance were concluded.

B actions: 95% of the planned costs have been spent. Actions were implemented at full extent.

C actions: 74% of the planned costs have been spent. Savings were made in all of the budget categories (largest – in the personnel category) mostly in action C2 (tender resulted in cheaper contract than expected before). All actions were implemented at full extent except C7

(aerophotographing of project areas after the completing of actions was impossible in Lielais Ķemeru bog (C2) and islands of Lake Kaņieris (C5) where works were finished late in the autumn).
D actions: 28% of the planned costs have been spent. In action D1 savings were possible due to the fact that contracted company did most of the works free of charge and was payed in kind (it processed the harvested scrubs in to wooden chips). Action D3 originated savings as it was possible to find cheaper workers for implementing of planned works. All actions were implemented at full extent.
E actions. 53% of the planned costs have been spent. It was possible to save on all of the actions of this category. All actions were implemented at full extent.
F actions. 78% of the planned costs have been spent. It was possible to save on all of the actions of this category. All actions were implemented at full extent.

Table 7. Summary table on expenditures

Budget category	**A**	**B**	**C**	**D**	**E**	**F**	**Total**	% of planned
Personnel	8 77,83			2 479,63		196 662,75	**200 020,21**	52%
Travel						6 578,67	**6 578,67**	27%
External assistance	19 722,92	1 301,65	296 090,15	8 189,29	29 443,19	4 277,43	**359 024,63**	78%
Durable goods			102 280,41	784,39	37 036,77	15 855,47	**155 957,04**	85%
Land purchase		108 051,78					**108 051,78**	95%
Consumable material			7 489,95		665,83	47 905,84	**56 061,62**	80%
Other costs	364,13	2 597,23	966,96		70,74	7 219,03	**11 218,09**	52%
Overheads	4 961,85		3 004,94		3 650,40	31 841,35	**43 458,54**	68%
Total	**25 926,73**	**111 950,66**	**409 832,41**	**11 453,31**	**70 866,93**	**310 340,54**	**940 370,58**	71%
% of planned	32%	95%	74%	28%	53%	78%	71%	

9. List of annexes delivered with previous reports

1. 1st progress report (submitted in 30.09.2003)
1. Maps
2. Excerpts from contractors
3. Independent conclusions about the price of land
4. Printouts from home page

2. Supplementary progress report (submitted in 31.03.2004)
1. Current budget situation, March 2004
2. Revised project budget
3. Revised time schedule proposal
4. Terms of reference, hydrogeologist
5. Map, proposed sites of hydrogeological monitoring stations
6. Map, renovation of hydrological regime in Greater Kemeri bog
7. Map, restoration of natural riverbed in Slampe River
8. Land purchase situation, table
9. Map, land purchase situation, map No IV
10. Map, land purchase situation, map No VII
11. Map, artificial islands in Lake Kaņieris
12. Provisional information on equipment to be purchased
13. Summary of project changes by activities
14. Mowing around Slampe River, summer 2003
15. Mowing the reed in Lake Kaņieris, summer 2003
16. Mowing in Lielupe meadows, summer 2003

3. 2nd progress report (30.11.2004)
1. Revised time schedule proposal
2. Project funding and budget breakdown, Nowember 2004
3. Map of old monitoring boreholes assessed in October – November 2004
4. Map of preliminary proposal, Greater Kemeri bog hydrological monitoring system
5. Map of activities in Eastern part of Greater Kemeri bog
6. Map of planned dams on melioration ditches, Greater Kemeri bog
7. Copy of project document, Greater Kemeri bog renaturalisation
8. Map of the Slampe renaturalisation project site with the planned activities
9. Copy of project document, Slampe river renaturalisation
10. Map, overview of Lake Kaņieris sluice system
11. Copy of the winning bid, supply of mechanical equipment for the sluice gates
12. Copy of the winning bid, design and construction works of the sluice gates
13. Map of the extent of biotope 7230 on islands in Kaņieris Lake and the area of the islands to be levelled
14. Map with the location of the proposed Slampe river field station
15. Current land purchase situation, table
16. Map, overview of the purchased land
17. Map of the Slampe river hydrological monitoring system
18. Map of the fenced area around Slampe River
19. Map of the fenced area at Lielupe River
20. Map, overview of the managed area, activity D.1
21. Map, overview of the mowed area, 2003, activity D.2

4. Interim report (submitted in 15.02.2006)

1. Report, mathematical modelling of Lielais Ķemeru Bog
2. Report, design for lowering the level of 4 islands in Lake Kanieris
3. Map, overview of the purchased land
4. Independent valuations of purchased land
5. Supplement to partnership agreement between Kemeri NP and WWF Latvia
6. Financial documentation regarding purchase of Heck cattle
7. Locations of actions D1 and D2
8. Auditor's conclusion, auditor's details
9. Regulations of Cabinet of Ministers regarding application of VAT
10. Copies of orders regarding overhead expenses

10. List of annexes delivered with this report

Appendix 1 – Copies from land register recordings (purchased land, action B1);
Appendix 2 – Deed of conveyance for the action C.2;
Appendix 3 – Deed of conveyance for the action C.4;
Appendix 4 – Deed of conveyance for the action C.5;
Appendix 5 – Aero photographed areas, August 2006;
Appendix 6 – Locations of action D1;
Appendix 7 – Locations of action D2;
Appendix 8 – Locations of action D3;
Appendix 9 – Layman`s report of the project;
Appendix 10 – Deed of conveyance for the action E.6;
Appendix 11 – Program and project team's presentation of final event;
Appendix 12 – Results of the project's Final audit: Auditor's conclusion, auditor's details;
Appendix 13 – Map of monitoring plots;
Appendix 14 – Monitoring results;
Appendix 15 – Photographs showing the project achievements:

- **15.1. C.1** (information board at Lielais Ķemeru bog)
- **15.2. C.2** (Blocking of ditches in Lielais Ķemeru bog);
- **15.3. C.3** (Remeandering of river Slampe);
- **15.4. C.4** (reconstructing of Starpiņupe sluices);
- **15.5. C.5** (lowering of islands at lake Kaņieris);
- **15.6. C.6** (grazing of Slampe meadows);
- **15.7. E.6** (Slampe field station);
- **15.8. E.7** (project's final presentation).

There are as well 4 CD's annexed to this report. They contain:

1. Electronical version of this report;
Layman's report (*pdf file);
Information materials, prepared for the boards at Slampe meadows (about grazing animals and remeandering of River Slampe) and at bog restoration site at Lielais Ķemeru bog.
2. Video, prepared during action E.3 (60 min version);
3. Video, prepared during action E.3 (16 and 36 min versions);
4. Materials, prepared during action E.4 (60 min version);
Short advertising clips (about 20 sek each);
Three TV casts about the park and the project