



LIFE Project Number
LIFE05 NAT/DK/000150

TECHNICAL INTERIM REPORT
Covering the project activities from 10.01.2005 to 31.12.2007

Reporting Date
15 May 2008

LIFE PROJECT NAME

Restoration of raised bogs in Denmark with new methods

Data Project

| | |
|---|--|
| Project location | 7 different NATURA 2000 areas in Denmark |
| Project start date: | 10/01/2005 |
| Project end date: | 31/12/2009 |
| Total Project duration (in months) | 60 months |
| Total budget | € 2.947.471 |
| EC contribution: | € 1.407.578 |
| (%) of total costs | |
| (%) of eligible costs | |

Data Beneficiary

| | |
|-------------------------|--|
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1. List of Contents and Annexes

Section 2: Lists of (i) key-words and (ii) abbreviations (when appropriate)

Section 3: Executive Summary

- 3.1. Project objective
- 3.2. Status on deliverables and milestones
- 3.3. Summary of each section of the interim report

Section 4: Introduction.

- 4.1. Background of the project
- 4.2. Project objectives
- 4.3. Project sites and habitat types targeted
- 4.4. Expected results

Section 5: LIFE-project framework.

- 5.1. Working method
- 5.2. Beneficiary, partners and project-organisation
- 5.3. Project modifications.

Section 6: Progress, Results.

A. Preparatory actions/management plan preparation.

- Action A.1. Kick off workshop
- Action A.2: Hydrological investigations.
- Action A.3: Development of improved restoration methodology.
- Action A.4: Introduction and testing of active re-vegetation methods.

B. Purchase/lease of land and/or rights.

- Action B.1: Purchase of land.

C. Non-recurring biotope management.

- Action C.1: Restoration of hydrology.
- Action C.2: Clearing of trees and shrubs.

D. Recurring biotope management.

- Action D.1: Clearing of re-growth.

E. Public awareness and dissemination of information.

- Action E.1: Mounting of map tables / information boards.
- Action E.2: Governance: Co-operation with local communities, landowners and interest groups.
- Action E.3: Facilities for visitors including boardwalks.
- Action E.4: Best management guidelines for Danish bogs
- Action E.5: Seminar on improved methods for raised bog restoration.
- Action E.6: Production of a layman's report.
- Action E.7: Project web site.

F. Overall project management

- Action F.1: Project management and co-ordination
- Action F.2: Effect monitoring
- Action F.3: Participation in international workshops and international networking
- Action F.4: After-LIFE Conservation Plan



Section 7: Evaluation and conclusions.

- 7.1. The process
- 7.2. The project management
- 7.3. Success and failures
- 7.4. Comparison against the project-objectives
- 7.5. Innovation, demonstration value
- 7.6. Socio-economic effects
- 7.7. The future
- 7.8. Long term indicators of the project success

Section 8: Planned project progress.

Section 9: Comments on the financial report.

Section 10: Annexes.

- Annex A: Report on Kick-off work-shop.
- Annex B: Report on hydrological investigations at site 34.
- Annex C: Report on hydrological investigations at site 88.
- Annex D: Report on equipment most suited for restoration of raised bogs.
- Annex E: Report on testing of active re-vegetation methods.
- Annex F: Maps of the re-vegetation test areas.
- Annex G: Map from activities on site 20.
- Annex H: Map from activities on site 49.
- Annex I: Map from activities on site 88.
- Annex J: Map from activities on site 104.
- Annex K: Map from activities on site 250.
- Annex L: Information boards (Reduced in size).
- Annex M: Temporary information board (site 20)
- Annex N: List of guided tours.
- Annex O: Newspaper articles concerning the project.
- Annex P: Spreadsheet explaining “Maskinomkostninger”

2. Lists of (i) key-words and (ii) abbreviations (when appropriate)

It has been judged that such a list isn't necessary at the moment

3. Executive Summary.

3.1. Project objective:

The main objective of the project is to contribute significantly to upholding of the coherence of the network of Danish NATURA 2000 sites with 7110 *Active raised bogs.

Main results to be achieved:

Restoration of the hydrology of 361 ha of bog habitats

Clearing of 270,7 ha of overgrowth with trees and scrubs

Establishment of conditions for 398 ha of active raised bog to develop from degraded raised bog.

Reduction of the negative impact from nutrient enrichment by elimination of dry deposition of atmospheric N at trees and scrubs through clearing of 270,7 ha

Development of cost efficient and adequate methodology for restoration of raised bogs in Denmark.

Ensure dissemination of methodology and results of the project.

3.2 List of key deliverables and outputs during the report period.

| <i>Product/milestone</i> | <i>Action n^o</i> | <i>Deadline</i> | <i>Date of completion</i> |
|--|-----------------------------|-----------------|---------------------------|
| Press releases | E.2 | 30/09/2005 | Completed |
| Kick-off Workshop | A.1 | 30/11/2005 | 08/12/2005 |
| Kick-off Workshop Report | A.1 | 31/12/2005 | 25/01/2006 |
| Launch of project web-site | E.7 | 31/12/2005 | 07/04/2006 |
| Text for information boards | E.1 | 30/05/2006 | 31/12/2006 |
| First meeting with landowners held | E.2 | 30/06/2006 | 30/11/2006 |
| One guided tour held at all relevant sites | E.2 | 30/06/2006 | 30/10/2006 |
| Hydrological investigations complete | A.2 | 31/12/2006 | 31/12/2007 ¹ |
| Report on best practice machinery use | A.3 | 31/12/2007 | 31/12/2007 |

3.3. Summary of each section of the interim report:

Section 4: Introduction to the project.

This section summarizes the project, the background, the project sites and the expected results.

Section 5: LIFE-project framework.

This section describes the project working method and the actions involved in the project. Further more a brief introduction to the beneficiary, the partners and the project organisation is given. Finally the section summarizes project modifications.

Section 6: Progress and results.

This section presents project-activities. For each action expected results, status and problems encountered is presented.

¹ Was reported completed 31/12/2006, but supplementary investigations has been necessary at some sites. And it is possible that a need for new investigations can still arise.

Section 7: Problems encountered, evaluation and conclusions.

The section provides a summary of the problems encountered and a basic assessment of the project.

Section 8: Planned project progress.

The planned activities in the rest of the project period are listed in this section.

Section 9: Comments on financial report.

The financial report is briefly commented in this section.

Section 10: Annexes.

The 16 annexes to the report are listed in the final section.

4. Introduction.

4.1. Background of the project:

The Raised Bogs of Europe and Denmark are considered to be threatened and vulnerable habitat types. The evaluation of the conservation status in Denmark of the two habitat types (7110 *Active raised bogs and 7120 Degraded raised bogs still capable of natural regeneration) indicates an unfavourable status.

The main threats are identified as follows

- Modification of hydrographical functioning due to drainage and general management of water levels.
- Eutrophication due to atmospheric deposition of airborne nutrients (mostly nitrate) coming mainly from agriculture.
- Overgrowth with bushes and trees changing the structure and function of the ecosystems.
- Fragmentation of the remaining raised bogs making it questionable if the type can be preserved in its full variety.

4.2. Project objectives:

The main objective of the project is to contribute significantly to upholding of the coherence of the network of Danish Natura 2000 sites with 7110 *Active raised bogs.

This will be done by pursuing a twofold strategy:

Firstly, the project will restore and maintain a favourable conservation status for 7110 Active Raised bog at the 7 project sites by conserving the present areas of active raised bog vegetation as well as other Annex II habitat types in the project sites. The restoration will also provide the conditions for development of active raised bog vegetation on a further 398 ha.

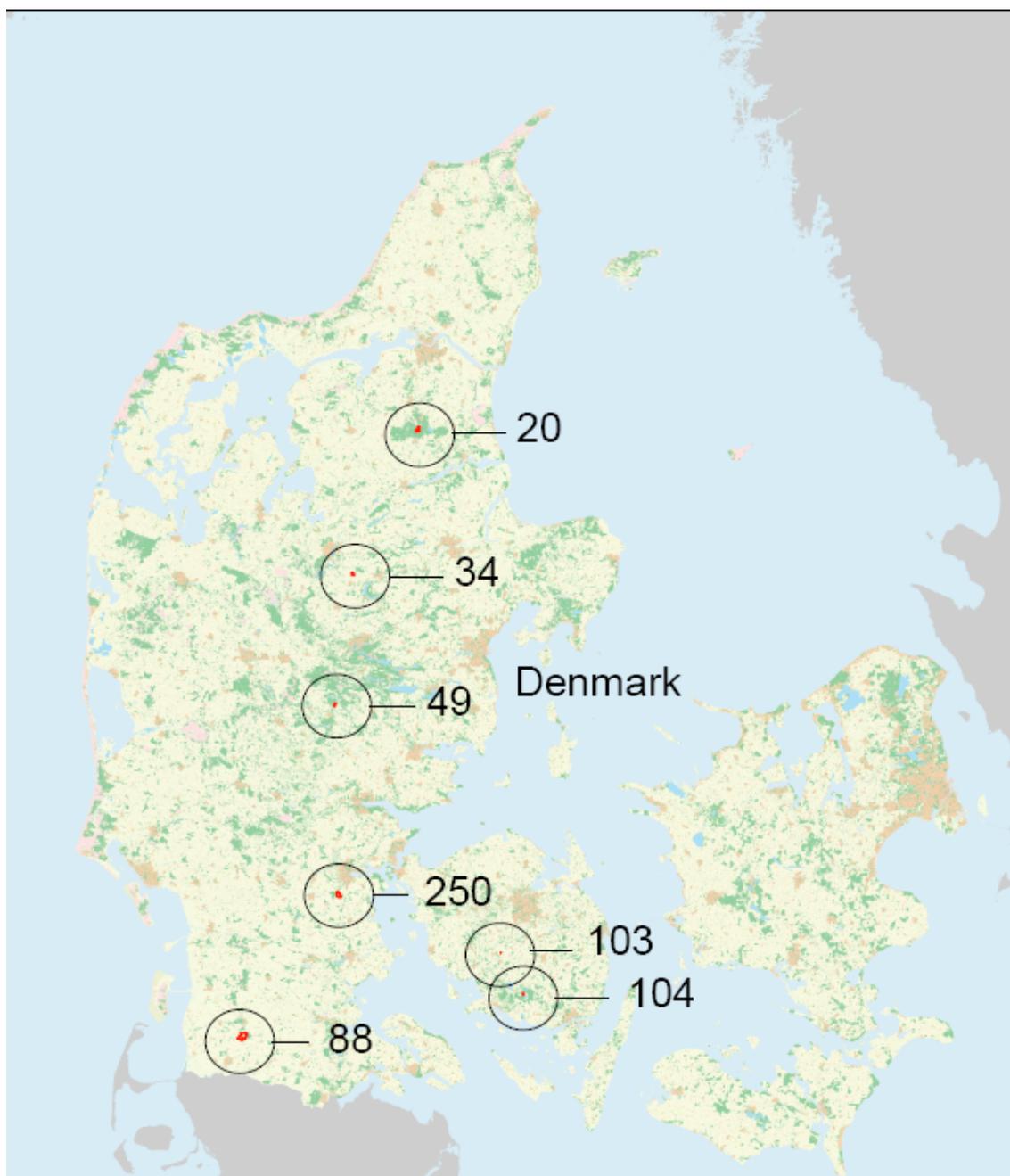
Secondly the project develop the capacity in Denmark to restore bogs especially raised bogs by developing and disseminating restoration methodology for use in this project and more importantly for use in the present planning and future management of all pSCI with active raised bog habitat.

4.3. Project sites and habitat types targeted:

The project will restore and maintain a favourable conservation status for 7110 Active Raised bog at 7 project sites, which cover the variation of 7110 *Active raised bogs and 7120 Degraded raised bogs present in Denmark. The sites are selected both to include some of sites with major areas of the habitat types and to cover most of the geographic range in Denmark, and are also selected due to differences in size, surrounding landscape and the history of their management due to. In this perspective is not included the exceptionally large site Lille Vildmose (2547 ha of 7110).

Besides conserving the present areas of Annex II habitat types within the project sites the aim is also to restore the sites to allow for an increase of the area 7110 *Active raised bog with 398 ha. This corresponds to a 77% increase of the area of 7110 *Active raised bog in Denmark (outside Lille Vildmose) thus significantly contributing to restoring a favourable conservation status for this habitat type in Denmark.

Please refer to the following figure with a map of habitat area and project sites.



Habitat area and project sites.

| No | Name | No | Name |
|----|--|-----|---|
| 20 | Rold Skov, Lindenberg Ådal og Madum Sø. (Store Økssø) | 103 | Storelung (Storelung) |
| 34 | Brandstrup Mose (Brandstrup Mose) | 104 | Skove og søer syd for Brahetrolleborg (Nybo Mose) |
| 49 | Sepstrup Sande, Vrads Sande, Velling Skov og Palsgård Skov (Boestmose) | 250 | Svanemose (Svanemose) |
| 88 | Kongens Mose og Draved Skov (Kongens Mose) | | |

4.4. Expected results.

- Restoration of the hydrology of 361 ha of bog habitats
- Establishment of conditions for 398 ha of active raised bog to develop from degraded raised bog.
- Clearing of 270,7 ha of overgrowth with trees and scrubs.
- Reduction of the negative impact from nutrient enrichment by elimination of dry deposition of atmospheric N at trees and scrubs through clearing of 270,7 ha
- Raising the public awareness of the values in NATURA 2000 and in particular raised bogs for biodiversity conservation by establishment of information boards, homepage and guided tours.
- Development of cost efficient and adequate methodology for restoration of raised bogs in Denmark.
- Dissemination of the results and knowledge on best management methods and practices gained in this and other projects to all professional staff responsible for management of raised bogs of Denmark.

5. LIFE-project framework.

5.1. Working method

The project includes sites and activities, which are scattered throughout the country, and involved initially 4 forest districts (now DFNA Regional office) and 4 counties. From 1st January 2007 solely 6 DFNA regional offices carry out the activities. Each regional office has its own administration, supervisors and skilled workers.

Staff in different job position is involved in different activities and actions. The biologists, graduate technician and forest graduates are primarily concerned with the overall project management and planning. They also do some of the follow-up on the actions while these are performed. Secretaries will be keeping the accounts for the project.

The forest and landscape engineers (rangers) will also be involved in the project management and planning, but their main effort will be as supervisors for the contractors and skilled workers, when the actions are implemented and carried out. This category is responsible for the day-to-day business with actions. The actual works in the field are done by skilled workers and contractors.

The project actions are all presented schematically below:

| | |
|---|--|
| A. Preparatory actions, elaboration of management plans and/or of action plans | |
| A.1 | Kick-off workshop |
| A.2 | Hydrological investigations |
| A.3 | Development of improved restoration methodology |
| A.4 | Introduction and testing of active re-vegetation methods |
| B. Purchase/lease of land and/or rights | |
| B.1 | Purchase/lease of land and/or rights |
| C. Non-recurring management | |
| C1 | Restoration of hydrology |
| C2 | Clearing of trees and scrubs |
| D. Recurring management | |
| D1 | Clearing of re-growth |
| E. Public awareness and dissemination of results | |
| E1 | Mounting of map tables / information boards |



| | |
|--|---|
| E2 | Co-operation with local communities, landowners and interest groups |
| E3 | Facilities for visitors including boardwalks |
| E4 | Best management guidelines for Danish bogs |
| E5 | Seminar on improved methods for raised bog restoration |
| E6 | Production of a layman's report |
| E7 | Project website |
| F. Overall project operation and monitoring | |
| F.1 | Project management and coordination |
| F.2 | Effect Monitoring |
| F.3 | Participation in international workshops and int. Networking |
| F.4 | After-LIFE Conservation Plan |

5.2. Beneficiary, partners and project-organisation

Beneficiary

The Danish Forest and Nature Agency (DFNA) is an agency within the Danish Ministry of Environment. English web site: <http://www.skovognatur.dk/English/>.

The main focuses of the DFNA are on ensuring opportunities for nature recreation, and to develop, establish and restore nature and to undertake practical management measures for wild flora and fauna. In addition to the efforts for nature on state land, the Danish Forest and Nature Agency will engage in green partnership arrangements with i.a. local authorities, aiming at nature management and awareness rising. The agency is managing the State forest areas and other publicly owned nature areas in total around 185.000 ha.

DFNA includes a central office in Copenhagen with the board of directors and 3 divisions, and 19 regional offices (designation changed from State forest districts as per January 1st 2008).

Management of the project on the restoration of raised bogs in Denmark is placed at the Regional Office Kronjylland) (former Fussingø State Forest District). It shall coordinate project implementation and monitor project progress.

As a result of the decommissioning of the Counties from 31st December 2006, DFNA on behalf of the Ministry of Environment has taken over responsibilities of the Counties in a number of projects; among those is the RERABOG project.

Partners

The counties of Viborg, Vejle, Sønderjylland and Fyn were partners in the project from project start to 31st December 2006, when they were decommissioned as a result of a structural reform in Denmark. The following is a general description of the counties, as the situation was until 31st December 2006.

The counties in Denmark are independent democratically constituted units. The main tasks for the counties are health care (hospitals, medicine...), education (high schools, adult education), social problems (special institutions), roads, environment including nature conservation and physical planning.

The counties are the regional bodies responsible for the protection of nature and the environment. Planning of land use, protection, monitoring and management of the natural environment in all of these fields, the counties administer under acts passed by the Danish Parliament. The most important acts are the Planning Act, the Environmental Protection Act and the Nature Protection Act.

The counties are responsible for the management of large nature areas in private ownership protected by conservation orders, for mapping and monitoring biological conditions of the nature, designating areas requiring special protection and identifying areas suit-

able for conservation, and to implement measures for the protection, use and management of areas of outstanding nature value.

5.3. Project modifications.

New reporting dates:

In a letter from 17/11/2005 the EU-Commission was requested to change the reporting dates as indicated in the table below. This was granted by the Commission in a letter 30/11/2005.

| Activity report | Deadline | New Deadline |
|------------------------|-----------------|---------------------|
| Progress Report | 15/03-2006 | 15/04-2006 |
| Progress Report | 15/03-2007 | 15/04-2007 |
| Interim Report | 15/03-2008 | 15/04-2008 |
| Progress Report | 15/03-2009 | 15/04-2009 |
| Final Report | 01/03-2010 | 31/03-2010 |

Table 1 new reporting dates.

Project modification concerning partnership and budget.

In project modification request dated 27 September 2006, the Danish Forest and Nature Agency asked for a modification containing the removal of all the present partners in the project, leaving DFNA as the only beneficiary and responsible for implementing the RERABOG-project.

The sole reason for the modification of the partnership was a structural reform in Denmark resulting in a decommissioning of the Counties as from 31st December 2006.

At the same time some minor change in deadlines was requested:

| Activity and action | Deadline | New Deadline |
|---|-----------------|---------------------|
| Text for information boards E.1 | 30/05/2006 | 30/05/2007 |
| Information Boards erected E.1 | 30/06/2006 | 30/06/2007 |
| Hydrological investigations completed A.2 | 31/12/2006 | 30/06/2007 |
| Report on testing of active re-vegetation methods A.4 | 31/03/2007 | 31/08/2008 |

The EU-Commission approved this in accordance with the 1st AMENDMENT, November 15th 2006. The overall project objectives, activities and key deliverables will not be affected by that project modification.

Change of date for seminar – Action E.5

In May 2007 The Commission was requested to accept a change of date for which action E5 (Seminar on improved methods for raised bog restoration) is to be held. Instead of holding the seminar in late September 2008 it was proposed to postpone it to late September 2009. The EU-Commission accepted the request in a letter dated 10th July 2007. It is not mentioned specific in the letter, but the seminar report is postponed corresponding to that.



6. Progress, Results.

The project has progresses mostly as stipulated, especially on the sites owned by the Danish State. The activities on those sites are at – or ahead of - schedule.

The decommissioning of the partner Counties has on the other hand slowed the momentum in the project, especially on the private owned land. That's apply to the purchase of land and rights, and to the specific problems on site 34 mentioned below.

On site 34 a technical/legal problem concerning a high volt power line, has been solved in 2007.

But another problem arisen in 2007 with one private owner has turned out to be inextricable, as it has not been possible to acquire permission to let a closed pipeline cross his property. That has made it necessary make new investigations in order to redesign part of the project, especially action C.1. As soon as the revised actions (in C.1) has been clarified, and thereby the impact from those actions on action C.2 we will inform the Commission and provide the fully revised maps shoving all the actions C.1 and C.2 on site 34. The redesign will aim to keep with in the budget and the final objective for the site. But it will take time, and at the end of the day, this can result in an application for a postponement of the end date for the whole project, but at the present we are still optimistic, and hope to stay within schedule.

A. Preparatory actions/management plan preparation.

Action A.1. Kick off workshop.

The stipulated Kick – off workshop was held December 8. 2005.

The main target group for the workshop was local site managers and workers involved in the project. 33 persons participated in the workshop. Please refer to Annex A, for the agenda of the workshop, a list of the participants and a detailed report on the workshop.

Evaluation of the workshop.

Participation.

The participation from the project beneficiaries and partners was high, with the expected amount of different professions represented.

Local landowners and interest groups from the different sites targeted in the project had also been invited, but none of these had the interest or time to participate in this special workshop.

There are probably three reasons for that:

1. The workshop took place far away from 6 of the 7 project areas.
2. It was on a weekday.
3. The topics were of a more general character, and not directed towards the specific type of problems that tends to be of interest to landowners.

It is expected that the smaller local meetings arranged under action E2 (Co-operation with local communities, landowners and interest groups) would have much more interest for the local stakeholders.



Comments.

It is the general impression that the seminar did fulfil its purpose. The participants got a better understanding and motivation for the project.

The importance of peat-producing vegetation in restoring raised bogs as functional ecosystems was made clear.

Several practical management advises was demonstrated and discussed.

For instance closing of drain systems, to remove or not remove encroachment from raised bog, the possibility of leaving branches in deep peat pits to advance the growth of Sphagnum, and the necessity of facilities for the public in some areas. All in all the main topics in the premises for the seminar became the objects of some very rewarding discussions.

The most important result of the seminar was for the different participants to meet and start forming a network.

Action A.2: Hydrological investigations.

Investigation has been carried out at site 20, 34, 88, 103, 104 and 250.

At site 49 the local knowledge of the area and good maps of the old drainage system, has made an investigation unnecessary.

Site 20:

At site 20 there has been taken samples of the water entering the hydrological system, to be sure that no negative effects was forced onto the area. The samples were evaluated by a consultant, and the conclusion was that the water does not affect the system substantially.

Site 34:

The Danish consulting group COWI has carried out a series of investigations during the early spring of 2005, resulting in the report you can find in Annex B.

The rapport draws these primary conclusions:

- It is possible to raise the water level to the vertical contour of 49.7 m (DVR90 Danish Vertical Reference 1990). But in the short run it is only recommended to raise the level to 49.5 m. For two main reasons: not to get too deep water, which would slow down regeneration of sphagnum, and not to reach a water level when nutritious (or perhaps even calcareous) ground water seeps into the bog.
- A rise to level 49.5 m (and even just a rise to level 49.0) will affect the surrounding agricultural areas, more than anticipated in the original project, which is based on a preliminary investigation. Therefore the report contains suggestion for solutions to prevent impact on the surrounding areas.
- Those solutions involve new initiatives in the form of construction of a low dam (135 m. long) towards west of the area, a diffuser for the outfall and a new closed tube for drainage water around the north west of the habitat area.

Due to the failure to make an agreement with one private owner, this part of the project has been redesigned. The low dam has to be relocated some 25 meters to the east, and the closed tube, preventing nutritious drainage water to enter the bog, has to be lead through the bog.



The redesigned project will be part of a management plan for the area that is under preparation by the municipality of Viborg. This plan will contain the project and be the legal document formally informing all the owners about the details in the project.

Site 88:

The investigations by Sønderjyllands County in co-operation with the Danish independent research and consultancy organisation DHI Water & Environment, was finished during the spring of 2006. The resulting integrated groundwater model was presented in June 2006. The report from DHI (*Integreret hydrologisk model af Kongens Mose-Draved Mose*) is enclosed with the progress report (Annex C). The report has an English abstract on one of the first pages.

The model has (Spring 2008) been updated with new data, and corrected for some minor, but influential false assumptions. As a result of this a redesign of the project are under consideration. This will be addressed further in section B. (Purchase/lease of land and/or rights).

Site 103 and 104:

A laser scanning of site 103 has been made without co-financing from the Commission. A similar scanning was made of site 104 during the spring of 2006.

Site 250:

A levelling measurement has been made in 2006, and this will be the foundation for planning the raise of the water level.

Comments.

Even if the action are reported completed, experience until now has shown that there is a possibility that need for new investigations can arise, as you get more into the detailed planning an a site.

Action A.3: Development of improved restoration methodology.

A contract was signed with Forest & Landscape Denmark (an independent centre at the Royal Veterinary and Agricultural University of Denmark (From 1. January 2007 part of the University of Copenhagen - designated the faculty of Life Science)) to carry out this action.

As it turned out there was a need not only to develop new methodology, but also to collect and make a comprehensive analysis of methodologies and experiences already gained in other projects in Europe.

This has been done in the report that was finished early in 2008, just slight behind schedule (31. December 2007). The report, in Danish with an English summary is enclosed in Annex D.

The information analysed in the report revolves around systems used in the initial clearing of tree vegetation on bogs, as well as the clearing of natural regeneration on both mires and wetlands.

It has not been possible to develop satisfactory economic models on the operations involving initial clearing, due to the significant variation in terrain and standing volume per hectare on the studied sites. Conventional methods of clearing the vegetation are discussed and an entirely new system developed by a major Danish contractor HedeDan-



mark, which includes an excavator operating from an island of steel plates, is described. This system has shown some promising results, being highly effective while only inflicting minimal impacts on the vegetation.

In the procedure evaluating the technical equipment, a number of options for reducing the static ground pressure and / or stabilising the substrate are suggested.

With regard to the clearing of regeneration, several methods and their economic parameters are discussed. Special emphasis has been placed on mechanised solutions with tracked machines and low ground pressure. Their ability to operate intensively on sites that have recently been cleared of tree growth is crucially to ensure a fast follow up on vegetation control. Chipping on the bog with specially developed, tracked chippers, is not considered feasible given the high investment cost and modest performance of these machines.

On bogs where only sparse or scattered islands of vegetation need to be controlled, conventional methods using small machines are recommended – possibly with the assistance of larger, specialised forwarders fitted with appropriate wheel tracks in cases where the material should be removed from the site.

Finally, a number of recommendations are made on the initial clearing of vegetation and the clearing of regeneration on bogs in general.

Action A.4: Introduction and testing of active re-vegetation methods.

A contract was made in 2006 with RisagerConsult to carry out this action.

The action was started in May 2006, with establishment of a series of small test areas with different methods of re-vegetation trial areas on site 20.

A report on this is enclosed in Annex E. As the report first will be finished when the testing has ended and been evaluated, a map of the test areas are enclosed in Annex F.

The end of the action was originally stipulated to be at March 31. 2007, but as approved in the project modification of September 2006 it was postponed to 31/8 2008 in order to get valid conclusions from the test, to use at the end project seminar.

Since then the end project seminar has been postponed from autumn 2008 until autumn 2009, therefore will we in this connection like to ask for permission to move the deadline of the report from august 2008 to august 2009. As with all trials of this kind, other things being equal, one gets more valid results with a longer test period. So with the seminar postponed it has good sense to make the trials run one year longer.

B Purchase/lease of land and/or rights.

In 2005 The Land Consolidation Division of the Directorate for Food, Fisheries and Agri Business (within The Ministry of Food, Agriculture and Fisheries) completed a preliminary investigation of property, ownership and attitude to the project among the owners who could be involved in a land consolidation.

Here there was an individual contact to all the owners of property in the potential area for a land consolidation. At the time two main conclusions as a result of the investigation was reached:

- A land consolidation supporting the LIFE project will have good possibilities for success, as the owners are positive.
- The price of land in the area has been raised dramatically since the start of the project, in October 2004 the price was 90.000 DKr (12.000 €) per hectare, in 2007 it has risen to 140.000 DKr (18.700 €) per hectare.



The hydrological investigations carried out under action A2 revealed that the need to buy land to secure a correct water level within the high priority private owned areas in the pSCI was 50 % lesser than foreseen in the application. That means that there was only need to buy or make contracts on 26 hectares in stead of 40 ha. Therefore it was estimated in 2007 that the cost of this action could be kept within the limits in the budget.

In the spring of 2008 an offer has been send to the private owners in concern.

There has been no final response from the owners, but there is indications that their demands will be considerably higher than 18.700 €per hectare, figures around 30.000 € per hectare has been mentioned.

If that's the fact, there is a strong reason to redefine the project, especially as the updated hydrological model (see section A.1 above) indicates some additional and greater benefits in trying to raise the water level in the north-east part of the site.

We will address this question as soon as possible, presumably within the next two months, and will inform the Commission as soon as we know more.

C Non-recurring biotope management.

Action C.1: Restoration of hydrology.

Status in meter drain or ditch blocked.

| Site | Expected Result | Status | Proportion |
|---------|-----------------|----------|------------|
| 20 | 12.360 m | 12.360 m | 100 % |
| 34 | 2.690 m | 0 | 0 |
| 49 | 3.604 m | 4.424 m | 123 % |
| 88 | 17.000 m | 11.040 m | 65 % |
| 103 | 2.448 m | 0 | 0 |
| 104 | 1.109 m | 1.109 m | 100 % |
| 250 | 3.359 m | 412 m | 12 % |
| Totally | 42.576 m | 29.345 m | 69 % |

Site 20 (St. Økssø):

Here the hydrology of the whole target area of 31.2 hectares has been restored.

That has been done by blocking 12.360 m of ditches using approximately 600 small dams of plywood and by digging a new outlet from the Lake Økssø to the bog area north of the lake. In reality this has raised the level of water on just about 40 hectares of bog and 30 hectares of lake. It is to be noticed that the water in Lake Økssø is very clean and low on nutrients.

See the map in Annex G.



Site 34 (Brandstrup Mose):

The planned and revised action described under action A.2 will not take place before 2008-2009.

Site 49 (Boestmose):

In the spring of 2006 a part of the intended clearing of forest was made, and the clearing of the rest of the plantation was done in 2007.

In all 4.424 m of ditches has been blocked. Originally there was expected to be 3,600 m of ditches to be blocked. But it is clear that the information about ditches and drains, which often are rather old, not always are precise or complete.

The main efforts on the site are now complete, with only recurring management and monitoring remaining.

See the map in Annex H.

Site 88 (Kongens Mose):

All the clearings planned for the area owned by the State as been completed a total of 100,5 hectare.

The clearing has been followed by blocking 11.040 m. drains and ditches out of the planned 17.000 m.

See the map in Annex I.

Several different techniques have been used on the site. Digging and cutting drainpipes under ground, totally filling up open ditches with earth and blocking open ditches with plastic piling. This plastic piling was a new kind of material for making blocks in the ditches and has been purchased for testing on this site. It was not profiled, and more like the dams of plywood used on other sites. They were tried because but they were lighter and could be delivered in larger sizes. Unfortunately they were more flexible and therefore unstable to handle. As it turned out, they were not suitable for the intended use.

For blocking the large and wide canals on the site, traditional profiled iron piling has been used complemented with dams of peat. The result with those methods has been very satisfying for the time being. See photo on the next page:



Site 103 (Storelung):
No activities in the report period.

Site 104 (Nybo mose):
All the planned 1.105 m of ditches has been blocked, and the main efforts on the site are completed, with only recurring management and monitoring remaining.
See the map in Annex J.

Site 250 (Svanemosen):
The first steps of the hydrological restoration have been done by placing 4 weirs in the main ditches in the late autumn of 2006. All in all 3.365 m ditches were planned to be blocked on the site. During the clearing of plantation in 2007 an unknown dense system of small ditches appeared in one of the plantations. It is very similar to the systems at site 20, covers an area of about 9 hectares and has an estimated length of 8.000 m. This system will be blocked within the frame of the project as well; economical this will be managed by reordering priorities of tasks within the project.
See the map in Annex K.

Comments.

In spite of the fact that the action still hasn't started on two of the sites, it is satisfying to have managed to have completed almost 70 % of the action within 3 or the 5 years project period.

Action C.2: Clearing of trees and shrubs.

Status in hectares cleared.



| Site | Expected Result | Status | Proportion |
|---------|-----------------|----------|------------|
| 20* | 31 ha | 31 ha | 100 % |
| 34 | 24 ha | 0 | 0 |
| 49 | 25 ha | 25 ha | 100 % |
| 88 | 113 ha | 100,5 ha | 89 % |
| 103 | 12 ha | 0 | 0 |
| 104 | 3,9 ha | 3,9 ha | 100 % |
| 250 | 62 ha | 64 ha | 103 % |
| Totally | 270,9 ha | 224,4 ha | 83 % |

* Outside the project frame.

Site 20 (St. Økssø):

Clearing of the plantation at this site a done outside the frame of the project, but is still an important condition to complete the project. And all the necessary clearing (31 ha) has been done at this point. See the map in Annex G.

Site 34 (Brandstrup Mose):

No activities in the report period.

As mention in the start of section 6 the project at site 34 is under redesign. As soon as the revised actions (in C.1) have been clarified and thereby the impact from those actions on action C.2, we will inform the Commission and provide the fully revised maps shoving all the C.2 actions on site 34. As it looks now the extent of C.2 will not be lesser after the redesign, but the details and the clearing methods will change.

Site 49 (Boestmose):

Here tree and scrub encroachment and regular plantations have been removed on 25,48 hectares Original target area was 24.9 hectares. With that the main effort on the site is finished and only recurring management and monitoring remains.

See the map in Annex H.

Site 88 (Kongens Mose):

All the clearings planned for the area owned by the State as been completed a total of 100,5 hectare. Totally it is planned to clear 113 ha. on the site.

See the map in Annex I.

Site 103 (Storelung):

No activities in the report period.

Site 104 (Nybo mose):

On this site action C2 is fulfilled with the clearing of 3,9 ha. in the autumn of 2006. It is worth to notice that the cost of this clearing has exceeded the calculated budget with 67.000 DKK (9.000 €) even after a second bidding round. The extra cost was financed by the late partner of Fyns County.

See the map in Annex J.

Site 250 (Svanemosen):

A total of 64 hectares of plantation and shrubs has been cleared (target 62,19 ha) and that action is now finished at this site.

The work on that side has faced an unfortunate concatenation of circumstances causing the expenses for the clearing to run out of the scale.

First of all a method who depended on fairly dry conditions was chosen, and then the summer was one of the 3 wettest ever recorded by the Danish Meteorological Institute and the region a precipitation of 282 mm in June - July (normally it is 134 mm (1961-90)).

Next it was decided to keep the delivery of iron plates for stabilisation of transportation paths, out of the bidding. That was of course based on the assumption, that there was an economic benefit to gain in doing so. Unfortunately reality turned out different.

A memorandum has been made in Danish, to sum up the experience gain in the process; it will be incorporated in the best practice manual, to prevent similar mistakes in the future.

See the map in Annex K.

Comments.

In spite of the fact that the action still hasn't started on two of the sites, it is satisfying to have managed to have completed more than 80 % of the action within 3 or the 5 years project period. And at the same time have collected valuable experience to use in similar Danish project in the future.

D Recurring biotope management.

Action D.1: Clearing of re-growth.

Clearing of re-growth are not planned beforehand, but depends on the actually situation on the areas which has been cleared of trees under action C.2.

In the report period clearing of re-growth has been done at site 20, 49 and 250 according to the figure below.

| Site | Clearing of re-growth |
|------|-----------------------|
| 20 | 11,9 ha |
| 49 | 23,2 ha |
| 250 | 2,5 ha |

At site 20 it is planned to test grazing with sheep as a method to control the encroaching, especially with birch. The grazing will be followed closely, and monitored by experts from DFNA, to ensure that the grazing does not inflict any damage on the bog vegetation.

See the maps in Annexes G, H and K. for the extent of the recurring management.



E Public awareness and dissemination of information.

Action E.1: Mounting of map tables / information boards.

The end of the action was originally stipulated to be at June 2006, but as approved in the project modification of September 2006 it was postponed to June 2007.

Unfortunately we have not been able to keep that deadline (partly due to a reorganisation of the DFNA during 2007). The information boards on site 49, 88 and 250 have been sat up during the autumn and winter 2007-08.

Reduced copies of the boards can be seen in Annex L.

At side 20 there is a special situation. It is a very well visited area, and we want to integrate the information of the project with the information about the other activities on the site – thus having one large board in stead of two smaller. This take a longer time to finish but we expect the board to be set up in the summer this year.

As a compensation a temporary board has been sat up during summer of 2007 explaining specific about the LIFE project activities (see Annex M)

Action E.2: Governance: Co-operation with local communities, landowners and interest groups.

Site 20:

The site is a very well visited area with around 75.000 visitors per year. There are regularly guides tours (5-7 a year) for the public, where the project is presented among other topics of the area. Since start of the project there have been 16 tours with 519 participants. The regional TV station TV 2/NORD has had 4 broadcastings about the site: In June 14'th 2005, November 27'th and 28'th 2007 and finally in December 10'th 2007. A document with links to the broadcasts is placed on the CD-Rom enclosed with the report.

Site 34:

There has been established a special board to follow the project, the board consists of members elected among individuals who own land within the project area. There have been two meetings with this board one in January 2005 and one in September 2007.

Since 2006 there has been direct contact to a number of neighbours to the pSCI area, in order to establish a closed tube leading drainage water from the fields north of the area round the pSCI area. Those negotiations have ended negatively as described under action A.2.

At the present there have been no guided tours on the site. It is the intention that the management plan mentioned under action A.2 shall be presented for the local community at an open meeting, and closely after this meeting there will be a guide tour on the site.

Site 49:

In connection with the clearing of encroachment and to the blocking of ditches, there

has been held 2 guided tours of the area with 56 participants. There have been contacts to the local press, resulting in 2 articles.

Site 88:

The owners of the private property within the project has been approached several times, first by the late partner (county of Sønderjylland), and latest by the DFNA local office with an offer for compensation for loss of rights, as mentioned under action B.

As the area is closed for the public in the breeding time of the birds, the possibilities for guided tours are limited. In spite of that there have been a few guided tours on the area. A one in 2006 with 3 participants, one in 2007 with 5 participants, and one with greater success in February 2008 with 30 participants.

The regional TV station TV 2/SYD have had a short broadcast about the restoration of the site at November 26'th 2007, showing the work with the large iron piling. A copy of the footage is available on the CD-Rom

Site 103:

The first approach to the more than 50 owners was made by the late partner of Fyns County, when they send a letter to all owners, explaining that the responsibility for the project would be transferred to the DNFA represented by the State Forest District of Fyn, effective from January 1'st 2007.

Site 104:

There has been close contact between the sole owner of the site (Brahetrolleborg Estate) and the County of Fyn during the period, where the clearing has been going on. As there are no public access to the area, and as the owner are not interested in presenting the area to the public, there has not, and will not be held any guided tours on this site, nor will there be made or erected any information board. The only information and dissemination on this site will be through the project homepage.

Site 250:

March 15th 2006 the State Forrest District of Haderslev and the County of Vejle held a public meeting to inform about the project. 30 local citizens participated in the meeting, and the attitude towards the project was positive, with some good input and questions to the project.

The State Forrest District of Haderslev held one guided tour on the site in the spring of 2006, telling the public about the LIFE project.

The local TV station (TV Kolding) had a 10 min news item from the tour. The project has a copy of the broadcast on DVD – it will not be put on the homepage, as the royalties to the TV station are consider to be too high compared with the quality of the broadcast.

A local Newspaper has held a voting between their readers, to point out the 10 most interesting cultural sites, divided in 4 categories (Called a cultural canon for Kolding).

Site 250 (Svanemosen) was voted within the 3 most important sites in the category nature and landscape.

A local society of nature lovers “Skovtrolden” <http://www.skovtrolden-vamdrup.dk> are frequently arranging guided tours on the site, both for the general public and after order from special groups. In addition to this they hold lectures about the area and the restoration project. (11 lectures have been held in the period, with 191 participants).

This group and DFNA, Trekantsområdet has together held 22 guided tours with 424 participants from 2005- 2007.

In Annex N there is a table summarising the guided tours held on the different sites, and in Annex O there is a collection of the articles there has been in the press.

Comments.

All in all there have been held 47 guided tours with participation of 1062 participants, which are satisfying especially considering that some of the sites, are situated rather remote. The mention in the newspapers and other media has been brief, and not as wide as we have hoped for.

Action E.3: Facilities for visitors including boardwalks.

Site 20:

A path existing before the raise in the water level has been restored and reinforced for a length of 1.700 meters including a 6 meter long bridge/boardwalk across the new outlet from the Lake Økssø. An Australian system to provide footings suitable for lightweight structures has been used with success in the construction of the bridge. Read more about the system at <http://www.mega-anchor.com.au> . Photos can be seen at the CD-Rom.

Site 88:

No activities in the report period.

Construction of a nature trail, a parking area and a tower for bird watching are planned for 2009.

Site 250:

There have been no activities in the report period.

Construction of boardwalks and a tower for bird watching are planned.

Action E.4: Best management guidelines for Danish bogs

No actions planned in this report period.

Action E.5: Seminar on improved methods for raised bog restoration.

No actions planned in this report period.

The seminar has been postponed to autumn 2009.

Action E.6: Production of a layman's report.

No actions planned in this report period.

Action E.7: Project web site.

The homepage of the project are up and are regularly updated.

The page is placed as a part of the DFNA homepage, but has both a Danish and an English URL: www.hoejmoseprojektet.dk and www.raisedbogs.dk .

F Overall project management.

Action F.1: Project management and co-ordination.

Due to the decommissioning of the counties and their ceasing of being partners, the organisation was revised in the approved project modification of September 2006.

In 2006 the DFNA decided to close down the State Forrest District of Haderslev. The responsibility for the project at site 250 was transferred to the State Forrest District of Randbøl, and so was the local project leader. The local project leader at Lindet State Forest District was changed in 2007, she is now on maternity leave, and is temporarily replaced by the former local project leader.

Effective from January 1st 2008 the DFNA has implemented new designations and names for the State Forrest Districts. The change does not affect the tasks of the regional offices.

Name changes per January 1st 2008.

| Former name | New name |
|------------------------------------|---|
| Buderupholm State Forrest District | Danish Forest and Nature Agency – Regional Office - Himmerland |
| Fussingø State Forrest District | Danish Forest and Nature Agency – Regional Office - Kronjylland |
| Feldborg State Forrest District | Danish Forest and Nature Agency – Regional Office - Mid Jutland |
| Randbøl State Forrest District | Danish Forest and Nature Agency – Regional Office - Trekantsområdet |
| State Forrest District of Funen | Danish Forest and Nature Agency – Regional Office - Funen |
| Lindet State Forrest District | Danish Forest and Nature Agency – Regional Office - Wadden Sea |

Organigram valid January 1st 2008.

| | | |
|--|--|------|
| Danish Forest and Nature Agency | Project Management | |
| | Danish Forest and Nature Agency | |
| | Project manager: Jesper Stenild M.Sc. in Forestry (Regional Office Kronjylland (Site 34, Brandstrup Mose)). | |
| Project working group | | |
| | Organisation | Name |



| | | |
|--|---|---|
| | Regional Office Wadden Sea (Site 88, Kongens Mose) | Anne Jul Kristensen M.Sc. in Biology. Local Project leader. At the moment she is on maternity leave, and temporarily replaced by: Helle Kold Jespersen M.Sc. in Forestry. |
| | Regional Office Trekantsområdet (Site 250, Svanemosen) | Claus Simonsen Forest Engineer. Local Project leader. |
| | Regional Office Mid Jutland (Site 49, Ndr. og Sdr. Boestmose) | Otto Buus. Forest Engineer. Local Project leader. |
| | Regional Office Himmerland (Site 20, St. Økssø) | Søren Kjær. M.Sc. in Forestry. Local Project leader. |
| | Regional Office Funen (Site 103 Storelung and Site 104 Nybo Mose) | Annita Svendsen M.Sc. in Biology. Local Project leader. |

Operational level: Danish Forest and Nature Agency, Regional Offices.

Project manager.

To avoid any confusion it can be stated that the project manager was employed by Viborg County as a local project leader, until he was hired for the project by the Danish Forest and Nature Agency.

Reports delivered since the start of the project.

January 2006:

Report from the Kick-off workshop (Annex A)

April 2006:

The first progress report.

June 2006:

Integrated hydrological model for Kongens Mose-Draved Mose

(*Integreret hydrologisk model af Kongens Mose-Draved Mose*) (Annex C)

November 2006:

Preliminary report on the establishment of trial sites for testing of active re-vegetation methods. (Annex E)

April 2007:

Second progress report

December 2007:

A study on equipment most suited for restoration of raised bogs.

(Analyse af det bedst egnede eksisterende udstyr til brug for restaureringsopgaver på højmoser. (Annex D)

Action F.2: Effect Monitoring.

16 automatic water level loggers have been installed on the sites managed by the former counties (34, 88, 103, 104 and 250). At the present there are no results from this monitoring. And besides that there have been some minor problems in handing over this monitoring task from the counties to the Environment Centres under the Danish Minis-

try of the Environment. But those problems are expected soon to be solved. The project has no start-monitoring programme built-in, as it was expected that the national monitoring programme NOVANA, could fulfil that need. Since the project was approved DFNA has realised that NOVANA are not adjusted well to the need of the project.

For that reason the DNFA financed a simple monitoring of all the sites in the early summer of 2006. Three (some times four) transects (lines) was marked in the field on each site and also recorded on map with a GPS.

For each meter of the transects they were monitored if *Sphagnum sp.* was present and if any of the “trouble” plant species (e.g. *Molinia*, *Pragmites*, *Vaccinium uliginosum* etc.) was present.

The plan is to repeat this monitoring as a part of action F.2. under the project frame.

This will together with the data from the water level loggers, and the NOVANA programme, supply an adequate and satisfying assessment of the effects of the project.

Action F.3: Participation in international workshops and international networking.

In March 23-24 the project manager participated in an expert meeting and workshop arranged by the county of Northern Jutland (at that time responsible for the conservation of the largest raised bog in Denmark – Lille Vildmose).

The meeting purpose was to implement the PROMME decision system from the LIFE project: LIFE Co-op: bogs and dunes on the effort to protect Lille Vildmose.

In April 19 - 21 2006 the project manager participated in a conference on Wetland restoration and management arranged by the county of Fyn.

From October 3 - 6 the project manager has participated in a visit to the LIFE project at Großen Torfmoor bog and another LIFE project of re-wetting of the western Dümmersee fen area. The tour also included visits to the BUND-project Diepholzer Moorniederung, where the bogs Neustädter Moor and Rehdener Geestmoor were visited.

The purpose of the visits was to exchange information and gain experiences from other projects.

The visit was also arranged by the county of Northern Jutland.

On the way back to Denmark he visited an old bog restoration project at Dosenmoor together with Mr. Hauke Drews from Stiftung Naturschutz Schleswig-Holstein.

An abstract of the visit was presented to the other members of the project in the internal newsletter of the project.

In September 16th – 19th the State Forrest Districts of Fussingø and Buderupholm visited Ireland on an educational field trip. The project manager participated and visited as a part of the trip the Irish LIFE project “Restoring Raised Bog in Ireland” (LIFE 04 NAT/IE/00121) – With this trip was also the staff and workmen who works on the project at site 20 (St. Økssø). The trip was solely financed by DFNA.

In October 2007 (4th & 5th) the project manager attended the End of Project Conference for the LIFE project “Restoring active blanket bog in Ireland” (Life 02 Nat/Irl/8490).



Comments:

The international networking has without doubt had a great positive impact on the development of the project. The uses of the experience from other project have in several cases caused a refinement in the methods applied. As examples can be mentioned the preferred use of peat dams in stead of plywood or plastic piling, and the introduction of the “pistenraupe” (pistenbully) as a machine suitable for wet areas.

Action F.4: After-LIFE Conservation Plan.

No actions planned in this report period.

7. Evaluation and conclusions.

7.1. The process

The process of implementing the project has been a challenge. The project includes sites and activities, which are scattered throughout the western part of Denmark, involving first 4 now 6 Regional Offices and until 2007 4 counties. Each Regional Office has an independent administration, supervisors and workmen. Motivation and information to the participating partners to increase the quality of there work and methods have been crucial.

The project is mowing steadily forward, but the decommissioning of the counties has had an impact on the momentum.

7.2. The project management.

The project had run almost for a year, without a dedicated project manager before the present was engaged almost 1 year after the start of the project, so there was a lot of catching up is the beginning. But fortunately he was allocated almost full time at the project. The people involved in the project management from the counties, and the DFNA Regional Offices have been working part time on the project. That means, that every person involved in the project have had obligations outside the project. This combined with the restructuring of the public sector and change off staff has influenced the way the project has been managed. The local staff involved in the project has been under a great deal of stress. It has been hard to keep a constant high level of motivation and drive. That counts especially for the employees at the counties during the last year of existence (2006). And the period after the new project-organisation where the Danish Forest and Nature Agency is the sole responsible of implementing the project, has been challenging, as the project manager now has to act as local project leader too.

Bringing employees from different legal authorities and from different places together in a project like this project has been very inspiring, and have created a good exchange of opinions and dissemination of ideas and methods.

7.3. Success and problems.

The actions conducted so far have been very successful. Especially on the 3 large sites St. Økssø (20), Kongens Mose (88) and Svanemosen (250) are the impact of the project impressing. In the large scale are the landscape changed to the much more open type who is connected to a bog landscape. And the small scale there has been an immediately physical result on the sites where then hydrology has been restored – the sites are simply extremely wet. We just need to see if the situation is stable and has the expected result

on the nature types. The cost-efficiency of the different actions varies a great deal, depending on the site, the season and methodology. The experiences gained with the use of different methods are passed on to the other participants to be utilized further in the project.

Problems encountered.

At site 34:

As mentioned in the first two progress reports a serious problem emerged in 2005. A high voltage cable on wooden masts crosses the site. Normally this should not have caused any problems, as the site is protected by a conservation order from 1984, which should have secured all parts with economical interests in the area a proper compensation. But the power company (hereafter EnergiMidt) claims that they never has been informed about the conservation order, and never had got any compensation. This disagreement could lead to the project falling behind schedule, to increased costs and in the uttermost worst case that the project on site 34 cannot be completed.

During 2006 there was an intern clarification about the legal issues of this disagreement. On that background the county of Viborg and the project manager together began negotiations with the power company in the spring. It was agreed that a technical report on the ways of securing the masts has to be done. The county of Viborg agreed to pay for this report. The report was finished in September and was the basis for a meeting with EnergiMidt, November 10. At that meeting it was clear that the costs of securing the masts could be very close to the cost of making an underground cable leading the power line south of the Natura 2000 area. It was therefore decided that the consultant should present at estimating of the costs for such a project. This estimate was expected to be finished in December 2006, but was first ready at the end of January 2007.

The DFNA succeeded in finding financing to secure the masts inside the Natura 2000 area – the cost was estimated to 1 mill. DKK (135.000 €). In the spring 2007 DFNA offered this sum as a grant for EnergiMidt, if they preferred to establish a new underground cable round past the Natura 2000 area. This offer was accepted by EnergiMidt, who are at the moment are making the preparations for that work, which - if it stays on schedule - will be finished during this year (2008). It must be mentioned that the total cost of this underground cable are estimated to 2½- 3 mill DKK (335.000 – 400.000 €).

The decommissioning of the counties has caused another problem at site 34.

Outside the project, it was a precondition that there should be established a closed drainage tube north of the site, to prevent any negative impact on the surrounding fields, due to the raise of the water level of the site. The county of Viborg worked with that topic most of 2006. But the work bogged down (pardon the expression) because of stiff resistance from two of the landowners. As a result Viborg County didn't manage to finish this part of the work before it was decommissioned. The work was continued by DFNA by the project manager at Fussingø State Forrest District. The negotiations, especially with one key owner of land, took place over a prolonged time, but ended early in 2008 with a negative result. And as it turned out, there is at the present not any obvious legal procedure (who not takes several years) to force the landowner to participate.

For that reason a redesign of some part of the project are being done as mentioned earlier. At the present we still hope to keep the project within schedule, planning to do the clearings and restoration work in late winter 2008 or spring 2009, knowing well that there will be no significant impact on the site to report within the project period..

But as it is a very close schedule, it can result in an application for a postponement of the end date for the whole project, in case something goes astray. We will inform the Commission as soon as we know more of this situation, hopefully not later than august 2008.

In action B.

As stated under the action on page 15 the price of land has raised in the area. The cost of the planned action has therefore also been raised from 2.9 mill DKr (395.000 €) to 4.7 mill DKr (630.000 €).

As stated earlier too, has the hydrological investigations under action A.2 revealed that the need to buy land to secure a correct water level within the high priority areas in the pSCI is 50 % lesser than foreseen in the budget. That means that there is only need to buy or make contracts on 26 hectares in stead of 40 ha. Due to this result it will be possible to keep the cost of this action within the limits in the budget.

Due to the decommission of the counties the negotiation with the owners of selling or making contracts for accepting a higher water level was very much behind schedule. Unfortunately the DFNA regional office was not able to proceed until winter 2007-08, and an offer has been send to the private owners in concern, in the early spring.

There has been no final response from the owners, but there is indications that their demands will be considerably higher than 18.700 €per hectare, figures around 30.000 € per hectare has been mentioned.

If that's the fact, there is a strong reason to redefine the project, especially as the updated hydrological model (see section A.1) indicates some additional and greater benefits in trying to raise the water level in the north-east part of the site.

We will address this question as soon as possible, presumably within the next two months, and will inform the Commission as soon as we know more.

7.4. Comparison against the project-objectives.

The main objective of the project is to contribute significantly to upholding of the coherence of the network of Danish NATURA 2000 sites with 7110 *Active raised bogs. This has to be done by restoration of the hydrology of bog habitats and establish conditions for active raised bog to develop from de-graded raised bog. All the main actions executed in the project until now has contributed directly to the overall objective.

7.5. Innovation, demonstration value.

The methodology of many of the actions initiated in the project is well known and to a certain extent quite traditional – either outside Denmark or in use for other kind of sites. But many of the methods used in this project are tried in a new context.

That counts especially for the use of special methods/machinery for clearing of over-growth on very wet areas. These results will have not only use for bog restoration, but also for the large areas of wet fens, mires and meadow who are threatened by encroachment in Denmark.

In St. Økssø the project tries for the first time in Denmark to restore raised bogs on an afforested area, which has been plantation for 50 years. The preliminary results are so promising, that the DFNA most probably this year will begin a similar project on a 30 ha afforested raised bog just a few miles away from another project site (34 Brandstrup).

As there are significant numbers of such plantations on former bogs in the country, the demonstration value are very high, especially if the project manages to give a cheap method to control the encroachment with trees on areas like that.

The dissemination of a method first used by one of our contractors (described in annex D) has a great demonstration value, and has already been employed by other contractors. In 2006 the project wanted to test the ““pistenraupe””, but it was not possible as no contractor had one for use. But in 2007 one of the contractors used by the project acquired one. Maybe it's a coincidence and can not be credited to the project, but the machine will now be tested in the project, both in controlling encroachment with Birch (*Betula*) and control of *Molinia*.

The project as such has a good demonstrating value, mostly regional/national in relation to site managers, advisers, teachers and others involved in management bogs and other wet areas. Also the exposure of the project through the media has brought some attention to raised bogs as threatened and vulnerable habitat types, nature restoration, Natura2000 and the EU/LIFE funding programmes.

7.6. Socio-economic effects.

The social and economical benefits from the project is mainly positive due to the employment effects of the actions implemented, the production of timber and chips for heating, besides enhancement of the nature values. Raised awareness of and easy access to the Natura2000 sites may lead to more activities (tours/events) to some of the sites prepared by local people, municipalities or nature centres.

7.7. The future.

The actions on the State property are passing off smoothly. But on the sites on private property the co-operation with the landowners and the local authorities will be a demanding task for the rest of the project period. It is absolutely vital in favour of implementing the remaining actions on the privately own land, that the co-operation with the landowners and municipalities works out well and is a success. The project manager will give priority to this in the coming period.

7.8. Long term indicators of the project success.

The most important long term indicator of the project's success is:

- an achievement of a favourable conservation status for the priority habitat type 7110* (Active raised bogs)
- that the areas with 7120 degraded raised bogs still capable of natural regeneration affected by the projects actions, actually begins a regeneration.

The Ministry of Environment are through the regional Environment Centres of its Agency for Spatial and Environmental Planning responsible for the plans for all the Natura 2000 Sites and to follow the conservation status of habitat types and species covered by the Habitats and Bird Directive (The NOVANA programme). The centres will monitor the structure and function as well as the characteristic species of habitat types at some of the sites in the project.

And it is the intention that the water level loggers will be managed by the regional Environment Centres in the future, and that the After LIFE action plan, shall include a replicate of the transect type described under action F.2 on page 26 after at suitable period of time.



8. Planned project progress

The tables below summaries the expected progress for deliverable products, activity reports and project milestones.

| Deliverable products and activity reports | Number of the associated action | Deadline |
|---|---------------------------------|------------|
| Final report on testing of active re-vegetation methods | A.4 | 31/08/2009 |
| Seminar report | E.5 | 30/11/2009 |
| Monitoring report | F.2 | 31/10/2009 |
| Best management guidelines for Danish bogs | E.4 | 31/10/2009 |
| Monitoring Report | F.2 | 30/11/2009 |
| Layman's report | E.6 | 31/12-2009 |
| After-LIFE Conservation Plan | F.4 | 01/03-2010 |
| Progress Report 3 | F.1 | 15/04-2009 |
| Final Report | F.1 | 31/03-2010 |

| Milestone | Number of the associated action | Deadline |
|---------------------------------------|---------------------------------|------------|
| The last text for information boards | E.1 | 30/05/2009 |
| Last information Boards erected | E.1 | 30/06/2009 |
| Last Guided tours held | E.2 | 30/09/2009 |
| Last meeting with landowners held | E.2 | 31/10/2009 |
| Purchase and compensation completed | B.1 | 31/12/2008 |
| Seminar | E.5 | 30/09/2009 |
| Restored hydrology completed | C.1 | 31/10/2009 |
| All Areas cleared of shrubs and trees | C.2 | 31/10/2009 |
| Clearing of regrowth completed | D.1 | 31/10/2009 |
| All visitor facilities established | E.3 | 30/11/2009 |

9. Comments on financial report

The financial expenditure at the end the interim reporting period is summarized in the table below.

| Budget category | Total cost according to the Commission's decision* | Total costs incurred from the start date to 31. December 2007 | % |
|--------------------------------|--|---|-------------|
| Personnel | € 859.509 | € 343.156 | 40 % |
| Travel | € 36.923 | € 6.672 | 18 % |
| External assistance | € 1.032.057 | € 575.348 | 56 % |
| Durable goods - Infrastructure | € 26.919 | € 11.089 | 41 % |
| Durable goods - Equipment | € 36.474 | € 14.765 | 40 % |
| Durables goods - Prototypes | € - | € - | 0 % |
| Land/rights purchase/lease | € 398.708 | € - | 0 % |
| Consumable material | € 370.099 | € 101.875 | 28 % |
| Other direct costs | € 22.746 | € 3.999 | 18 % |
| Overheads | € 164.047 | € 73.988 | 45 % |
| TOTAL | € 2.947.471 | € 1.131.893 | 38 % |
| Direct revenues | € 132.316 | € 115.537 | 87 % |

* In accordance with the 1st AMENDMENT, November 15th 2006

As the decommissioning of the Danish counties was effective from January 1, 2007, an audit has been made for each of the former partner's involvement in the project. This audit is done according to principles in the standard audit report in the LIFE toolbox. The audit reports are not included in this report, but can be forwarded if the Commission wants it.

Personnel

The total expenditure for both administrative and field staff amounts to 343.227 € or 40 % of the revised budget. The total expenditure for personnel is more or less as expected after the revision. The employment situation in the public sector in Denmark is under pressure at the moment. The DNFA is administrating a no new hiring policy, which implies the staff - both administrative and field – is heavily engaged in ordinary business operations leaving no or little time to project activities. Furthermore decommission of the Danish Counties and their closure as partners have consequences for the use of personnel, especially for the manual work in the project. The project actions are therefore mainly carried out by external assistances. It is very unlikely that this situation changes in the project period.

Travel

The total cost for travel amounts to 6.672 € or 18 % of the budget. The cost is transportation expenses of administrative personnel in relation to supervise project activities and

recording of results, and for international networking. Travel expenses are at the present less than expected. This will probably change during the rest of the project period, as we at the present are trying to plan for a visit with the project working group to an international site of relevance for the project. The objective will be exchange of experience and international networking.

Travel costs are charged in accordance with the internal rules of the Ministry of Environment which is subject to the rules of the Ministry of Finance, and the Central Customs and Tax Administration.

External assistance

The total consumption of external assistance is 575.348 €(56 %) of the revised budget, and almost 51 % of the consumption until 31/12 2007.

External assistance has been used primary for two types of purposes:

- Hiring consultancies to perform hydrological investigations and draw up plans for the hydrological restoration at the individual sites.
- Hiring contractors for executing clearing, removing of trees, chipping and blocking drains and ditches.

The high percentages of external assistance are partly explained under personnel (decommission of the counties). But other reasons play a part too.

Some machinery used for the work is highly specialized (that counts especially for clearing and removing trees) and only contractors are running it. So therefore many of the clearing/removing activities are done mechanically by external assistance.

And even if not all the machinery for blocking drains and ditches are specialized, they are of a nature that the DFNA (having machinery mostly forestry) do not own. So this kind of equipment has to be hired from contractors too.

As the project sites are scattered geographical, this has to some extent the effect both of disseminate the knowledge of the methods used in the project and the experience in using them among the contractors.

This can be a benefit for the local authorities who also work with nature restoration of wetlands.

Taking the coming tasks of the project in consideration, it is very likely that many of the remaining activities will be carried out by external assistance.

Selection of contractors.

The selections of subcontractors are based on the general rules applying to Government/public institutions in general and the more specific rules by the Danish Ministry of Environment. The most cost efficient contractors should always be selected. Large tasks estimated to cost more than 100.000 DKK are subject to public invitations to tender.

Medium sized tasks estimated to cost between 25.000 DKK and 100.000 DKK.

At least two written offers should be obtained. In some cases you can depart from this, but that requires a notification in the files. Small tasks estimated to cost less than 25.000 DKK. No specific rules. Selecting of the contractor is based on a variety of criteria; previous experience, good results and fair prices.

Durable goods – Infrastructure.

Expenses are here 11.089 €(41 %), and concerns mainly the strengthening of a road used to extract the chips from site 250 (Svanemosen). For extracting use only the carrier layer of the road has been build at the moment. As soon as we get dry conditions the surface layer of the road will be established.

Durable goods – Equipment.

Expenses on durable goods has been 14.765 €(40 %), and lower than expected, as there is no plan for purchase of durable goods in larger scale for the rest of the project period.

Land and land rights; purchase or lease.

There has not been any expenditure on this category yet. Negotiations with the land-owners at site 88 (Kongens Mose) are still in progress at the moment.

Consumables

Expenses on consumables have been rather low 101.875 €(28 %) until now.

The reason is a development in the methods used for blocking ditches, in the original budget a considerable amount has been reserved for purchase of sheet piling. And even if piling has been used, it has turned out that the use of turf (peat) dams in stead of sheet piling was much more feasible on several sites. So less piling than expected has been purchased. This situation has contributed to the higher use of external assistance.

The activities on site 34 and 103 (Brandstup Mose and Storelung), and the establishment of visitor facilities on several sites will be carried out in the remaining project period, and will very likely rise the use of consumables to a level near the expected.

Other costs

The total amount use at other costs is 3.999 €corresponding to 18 % of the budget. A good part of the budget was reserved for audit of the project partners' part of the project. Due to the decommission of the Danish counties, this audit has taken place, but to a lower cost than expected for two reasons;

1. Due to the ending of the partnerships at an early stage of the project, the accounts have been relatively simple and such easier to audit.
2. Some of the late partners have not – even if they where entitled to it - asked for co-financing of the audit of their accounts.

Overhead

The overhead amounts 73.988 € (45 %). As overhead in 2005 LIFE projects are 7 % flat rate, and in that way directly related to the economic flow of the project the level are as expected.

Direct revenues:

The realized revenues from selling timber and chips amounts to 115.537 €which is 87 % of the budget. This is expected considering the large share of action C2 completed. Most likely the revenues will exceeds the expected, this due to a combination of a better price for chips, clearing of larger areas than stipulated and the fact that estimating the amount of standing volume per hectare has been difficult due to the significant variation in terrain and growth density and age on the different sites.

Budget Summary

In total the eligible expenditure amounts to 1.131.964 € or 38 % of the budget. This is almost as expected at this time in the project, especially taking in consideration, that the purchase of land rights (13 % of the budget) are still in progress. See more details in the technical part of the report above, especially purchase of land rights are mentioned on page 15, action B.

On the surface the project seems to progress financial as expected.

On the other hand are the project management seriously aware of the delays the counties decommission has cost the project. As mentioned in the technical report, the development in purchase of land rights, and the planning for the actions at site 34 (Brandstrup) over the next 4 month will determine if it will be possible to keep the project within schedule.

Should it turn out that the schedule cannot be observed, the project management will take the initiative to approach the Commission with a request for a project modification for prolongation and/or abandon parts of the project.

Explanatory notes:

Explanation of the calculation of “Maskinomkostninger” in the spreadsheet in Annex P *MaskinomkostningerLIFEHøjmoser 2005-07.xls*

The DFNA owns various machines used for different management tasks. All expenses generated by a machine within a financial year are kept in a machine-expense account. The account is subdivided into a number of different expense categories with relation to:

- Depreciation/payment of interest. The depreciation is calculated using depreciation percentage of 20% pro anno. Payment of interest is 5 % pro anno.
- Operation expenses. - All running costs. Diesel oil, petrol, services etc.
- Maintenance expenses. All cost related to maintenance and repair.

All machine activity is registered in the machine account according to timesheets for the machine. On the basis of this information it is possible to calculate an hourly rate for each machine.

As only operation expenses are considered eligible for this project, just those are recorded and are placed as consumables in category 6.

The time used by the driver of the machinery is recorded on timesheets, and are reported under personnel.

10. Annexes

- Annex A: Report on Kick-off work-shop.
- Annex B: Report on hydrological investigations at site 34.
- Annex C: Report on hydrological investigations at site 88.
- Annex D: Report on equipment most suited for restoration of raised bogs.
- Annex E: Report on testing of active re-vegetation methods.
- Annex F: Maps of the re-vegetation test areas.
- Annex G: Map from activities on site 20.
- Annex H: Map from activities on site 49.
- Annex I: Map from activities on site 88.
- Annex J: Map from activities on site 104.
- Annex K: Map from activities on site 250.
- Annex L: Information boards (Reduced in size).
- Annex M: Temporary information board (site 20)
- Annex N: List of guided tours.
- Annex O: Newspaper articles concerning the project.
- Annex P: Spreadsheet that explains “Maskinomkostninger”