



LIFE Project Number  
**LIFE05 NAT/DK/000150**

**PROGRESS REPORT No. 2**  
**Covering the project activities from 01.01.2006 to 31.12.2006**

Reporting Date  
**13 April 2007**

LIFE PROJECT NAME

**Restoration of raised bogs in Denmark with new methods Data Pro-  
ject**

<b>Project location</b>	7 different NATURA 2000 areas in Denmark
<b>Project start date:</b>	10/01/2005
<b>Project end date:</b>	31/12/2009
<b>Total Project duration (in months)</b>	60 months
<b>Total budget</b>	€ 2.947.471
<b>EC contribution:</b>	€ 1.407.578
<b>(%) of total costs</b>	
<b>(%) of eligible costs</b>	
	Data Beneficiary
<b>Name Beneficiary</b>	Danish Forest and Nature Agency
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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**

### **Section 4: Technical development.**

#### 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 5: Problems encountered.**

### **Section 6: Financial issues.**

### **Section 7: Planned project progress**

### **Section 8: Annexes.**

Annex A: Report on hydrological investigations at site 88.

Annex B: Report on introduction and testing of active re-vegetation methods

Annex C: Maps of the re-vegetation test areas.

Annex D: Map from activities on site 20.

Annex E: Map from activities on site 49.

Annex F: Map from activities on site 88.

Annex G: Map from activities on site 104.

Annex H: Map from activities on site 250.

Annex I: Information board for site 250 (Reduced in size).

Annex J: Newspaper articles concerning the project.

## **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.

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.

Dissemination of methodology and results of the project.

List of key deliverables and outputs during the report period.

<i>Product/milestone</i>	<i>Action n<sup>o</sup></i>	<i>Deadline</i>	<i>Date of completion</i>
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	31/12/2006

Summary of section 4 – 7:

#### Section 4: Technical development.

The project progresses mostly as stipulated the second year still marked by investigations, preparations and negotiations with private owners. The activities on the sites have had a good start with two of the sites expected to be finished in 2007, and only recurring management and monitoring remaining. The decommissioning of the partner Counties has on the other hand slowed the momentum in the project. That's apply to the purchase of land and rights, and to the specific problems on site 34 mentioned below.

#### Section 5: Problems encountered.

On site 34 a technical/legal problem concerning a high volt power line, are still being addressed, with a solution expected in 2007. In addition to this problem, a new one have risen, as some of the private owner are reluctant to let a drainage tube cross their property. And at the end of the day, it can result in an application for a postponement of the end date for the whole project.

Section 6: Financial issues.

There is nothing special to comment on the financial situation.

Section 7: Planned project progress.

Except for the problems mentioned above, the project are expected to progress as planned.

#### **4. Technical development.**

##### **A. Preparatory actions/management plan preparation.**

###### Action A.1. Kick off workshop.

This action was finished in 2005

###### Action A.2: Hydrological investigations.

In this period investigation has been finished at site 88, 103, 104 and 250.

Site 20:

No activities in the report period.

Site 34:

Investigations was finished in 2005

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 A). The report has an English abstract on one of the first pages.

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.

###### Action A.3: Development of improved restoration methodology.

A contract has been made 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.

It is planned that the action will result in a report not later than 31. December 2007.

In 2006 a special crane with a long reach arm has been tested (on site 88) in moving the felled trees out the area. The idea was that the damage to the ground and vegetation could be minimized in that way.



*Testing the long reach crane.*

The method will be accessed closer in the further work, but the first impression is that the method needs to be developed more to be feasible, as it turned out that the cost on the trial area, has been considerable over the estimated costs (17.000 DKK per hectare versus 10.000 DKK). Concerning the damage on the ground and vegetation, the test was successful as the damage was kept on a minimum.

#### 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 B. As the report is not fully finished yet, and lack a few maps, a map of the test areas are enclosed in Annex C.

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 is postponed to 31/8 2008 in order to get valid conclusions from the test.

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

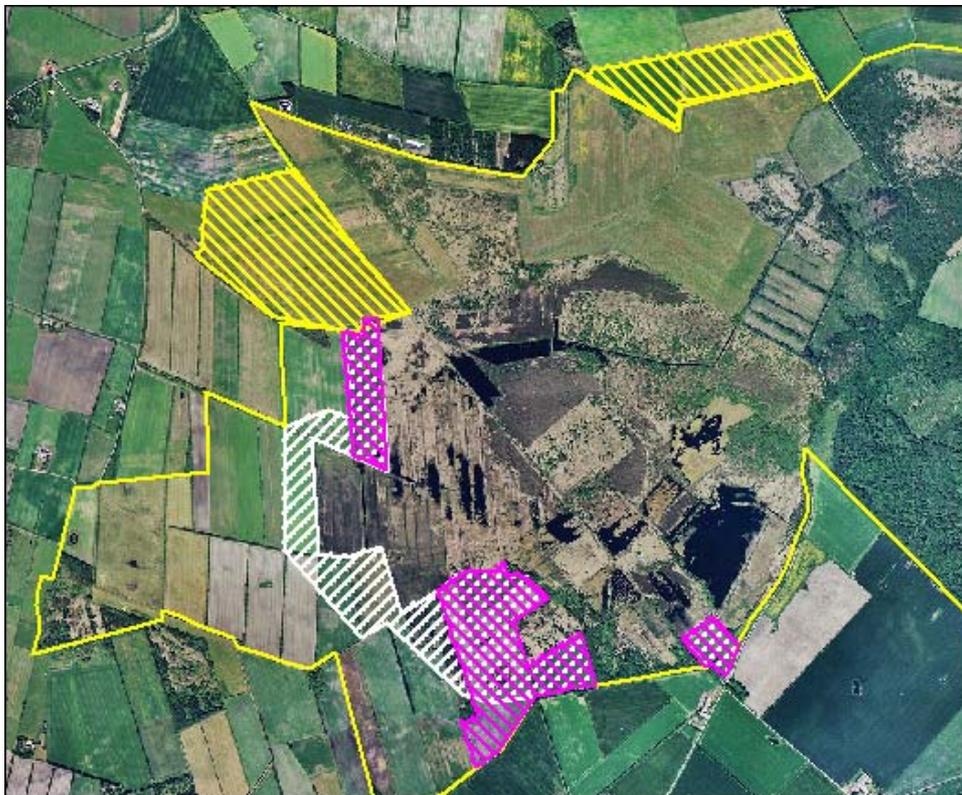
The Land Consolidation Division of the Directorate for Food, Fisheries and Agri Business (within The Ministry of Food, Agriculture and Fisheries) has completed a preliminary investigation of property, ownership and attitude to the project among the owners who could be involved in a land consolidation.

Here there has been an individual contact to all the owners of property in the potential area for a land consolidation. The investigation was presented in the first progress report. There are two main conclusions as a result of the investigation:

- 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 during the last 1½ year, in October 2004 the price was 90.000 DKr (12.000 €) per hectare, at the present the price is 140.000 DKr (18.700 €) per hectare.

Fortunately has 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 areas in the pSCI is 50 % lesser than foreseen in the application. That means that there is only need to buy or make contracts on 26 hectares in stead of 40 ha. Therefore it is estimated that the cost of this action can be kept within the limits in the budget.

This map illustrate the changes, the white hatching shows the expected areas as described in the original project. The pink hatching is the revised areas. The yellow hatching is areas outside the pSCI bought by the Danish Forest and Nature Agency to support the project.



## **C Non-recurring biotope management.**

### Action C.1: Restoration of hydrology.

Site 20 (St. Økssø):

No activities in the report period.

Site 34 (Brandstrup Mose):

The planned and revised action will not take place before 2008.

Site 49 (Boestmose):

In the spring of 2006 a part of the intended clearing of forest was made. A planned clearing of the rest of the plantation in the autumn has to be postponed to 2007.

For that reason a small part of the restoration of the hydrology are not yet finished.

In 2006 4.000 m of ditches has been blocked, and there are only 450 m left to be 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.

It is expected that the main effort on the site will be finished in 2007, with only recurring management and monitoring remaining.

See the map in Annex E.

Site 88 (Kongens Mose):

An area in the north part of the bog has been cleared under action A.3 and C.1.

The clearing was followed by blocking of some of the drains and ditches. The work was done late in the year, and the result was a so fast raise in the water level, that blocking on the rest of the ditches on the area, has to wait for dryer conditions.

There is planned for the blocking of 17.000 m ditches, so the 1.500 m blocked in 2006 are only a minor part.

Three 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 is a new kind of material for making blocks in the ditches and has been purchased for testing on this site. It is not profiled, and is more like the dams of plywood used on other sites, but they are lighter and can be delivered in larger sizes. On the other hand they are more flexible and therefore unstable to handle. At the moment there is no final conclusion for or against their use a blocking devices.

See the map in Annex F.

Site 103 (Storelung):

No activities in the report period.

Site 104 (Nybo mose):

In 2006 775 m of ditches has been blocked, there are still 330 m left to be blocked.

It is expected that the main effort on the site will be finished in 2007, with only recurring management and monitoring remaining.

See the map in Annex G.

Site 250 (Svanemosen):

The first small steps of the restoration took place, when 2 weirs were placed in the main ditches in the late autumn of 2006. All in all 3.365 m ditches are planned to be blocked on the site.

See the map in Annex H.

All sites:

The activities under this action in the coming year will be an even mixture of investigation, preparation and execution of the plans.

Action C.2: Clearing of trees and shrubs.

There has been activity in the field within this action on several of the sites:

Site 20 (St. Økssø):

No activities in the report period.

Site 34 (Brandstrup Mose):

No activities in the report period.

Site 49 (Boestmose):

Here tree and scrub encroachment and regular plantations have been removed on 8,3 hectares out of the target area of 24.9 hectares (14,8 ha were removed in 2005). The rest of the clearing (2,3 ha) is planned to take place in 2007. With that the main effort on the site is finished and only recurring management and monitoring remains.

See the map in Annex E

Site 88 (Kongens Mose):

A clearing of 16 ha. has been made in the late summer of 2006. It was a part of action A.3 to test a special crane with a long reach arm (see A.3). Totally it is planned to clear 113 ha. on the site.

See the map in Annex F.

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 has been financed by the partner of Fyns County.

See the map in Annex G.

Site 250 (Svanemosen):

A small clearing of 1 ha. has been made, with the purpose of testing the planned methods to be used in large scale on the site. In connection with this work, a part of the planned reinforcement on the tracks on the area has been done.

See the map in Annex H.

Special comments:

Site 34:

The following from progress report 1 is still valid:

The maps (B2/1 and B2/2) enclosed with the final application and in the grand agreement are not correct concerning the actions of site 34. Apparently the maps for the application from 2004, wasn't changed during the revised application for 2005. All the descriptions, area sizes and financial issues are correct, it is just the map that does not show the correct disposition of the action.

As soon as the revised actions in action C.1 has been clarified, and thereby the impact from those actions on action C.2 we will provide the Commission with fully revised maps showing all the actions C.1 and C.2 on site 34.

#### **D Recurring biotope management.**

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

This action is a follow up on action C.2, and has in the report period been used only at site 20, where 9,8 hectare has been cleared.

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.

See the map in Annex D.

#### **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 is postponed to June 2007.

The information board for site 250 has been finished, but not erected yet. But it will be the model for the rest of the boards. It is enclosed in reduced size in Annex I.

##### **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.

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 has been no contact with the board in 2006

In 2006 there has been direct contact to a number of neighbours to the pSCI area, in order to establish a drainage tube leading drainage water from the fields north of the area round the pSCI area. Negotiations are still going on.

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, and there has been contacts to the local press, resulting in articles in Annex J.

Site 88:

The main activities on this site have been the preliminary investigation for a land consolidation, which are mentioned under action B. Besides that the partner (county of Sønderjylland) has held a single guided tour on the area. (The area is closed for the public in the breeding time of the birds)

November 1<sup>st</sup> there has been a meeting with 15 of the private owners of land within the project area.

Site 103:

The first approach to the more than 50 owners has been made by the partner of Fyens County, by sending a letter to all owners, explaining that the responsibility for the project will be transferred to the DNFA represented by the State Forest District of Fyn, effective from January 1<sup>st</sup> 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 15 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.

In Annex J there is a collection of the articles there has been in the press.

Action E.3: Facilities for visitors including boardwalks.

No actions in this report period.

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.

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. As the action in the field begins to take place, the updates will be more frequently.

**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.

Since then the DFNA has decided to close down the State Forrest District of Haderslev per February 1'st 2007. The responsibility for the project at site 250 is transferred to the State Forrest District of Randbøl, and so is the local project leader, so there will be no personnel changes. The local project leader at Lindet State Forest District has been changed.

**Organigram valid march 1'st 2007.**

Danish Forest and Nature Agency	<b>Project Management</b>	
	<b>Danish Forest and Nature Agency</b>	
	Project manager: Jesper Stenild M.Sc. in Forestry (Fussingø State forest district (Site 34, Brandstrup Mose)).	
	<b>Project working group</b>	
	Organisation	Name
	Lindet State Forest District (Site 88, Kongens Mose)	Helle Kold Jespersen M.Sc. in Forestry. Local Project leader.
	Randbøl State Forest District (Site 250, Svanemosen)	Claus Simonsen Forest Engineer. Local Project leader.
Feldborg State Forest District (Site 49, Ndr. og Sdr. Boestmose)	Otto Buus. Forest Engineer. Local Project leader.	
Buderupholm State Forest District (Site 20, St. Økssø)	Søren Kjær. M.Sc. in Forestry. Local Project leader.	
Fyns State Forest District (Site 103 Storelung and Site 104 Nybo Mose)	Annita Svendsen M.Sc. in Biology. Local Project leader.	
<b>Operational level: Forest districts</b>		

The project working group has had one meeting in 2007. Due to the decommission of the counties it has not been feasible to have a meeting in the autumn

Reports delivered since the start of the project.

January 2006:

Report from the Kick- off workshop

April 2006:

The first progress report.

November 2006:

Report on the establishment of trial sites for testing of active re-vegetation methods.  
(Annex C)

#### 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).

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

In March 23-24 the project leader 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 leader participated in a conference on Wetland restoration and management arranged by the county of Fyn.

From October 3 - 6 the project leader 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.

#### Action F.4: After-LIFE Conservation Plan.

No actions planned in this report period.

## 5. Problems encountered

- Site 34.

As mentioned in the former progress report a serious problem has emerged. 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 has been 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.

On the base of that estimate the DFNA are now trying to find financing to secure the masts inside the Natura 2000 area – the cost are estimated to 1 mill. DKK (135.000 €).

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 drainage line 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 has worked with that topic most of 2006. But the work had 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 will be continued by DFNA by the project leader at Fussingø State Forrest District. It will have a high priority, but as it involves a legal procedure to force the landowners to participate, it will take some time.

Due to these two issues it is not realistic that any action will take place at the site in 2007. (Save from any work with the power line)

And at the end of the day, it can result in an application for a postponement of the end date for the whole project.

We will inform the Commission as soon as we know more of this situation.

- Action B.

As stated under the action on page 6 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 instead 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 decommissioning of the counties the negotiation with the owners of selling or making contracts for accepting a higher water level are very much behind schedule. Therefore Lindet State Forest District has appointed Ms. Helle Kold Jespersen to be responsible for intensive negotiations in the spring of 2007. She was until spring 2006 the local project leader for the County, and has deep knowledge of the project and the local community. Hopefully the negotiations can be finished before summer, so a land consolidation can be initiated, and fulfilled within the year (2007).

## 6. Financial issues

### Project Costs Incurred

Cost category	Total cost according to the Commission's decision*	Total costs incurred from the start date to 31. December 2006	%**
1. Personnel	1.090.054,67 €	150.318,28 €	13,79 %
2. Travel	36.913,46 €	3.008,12 €	8,15 %
3. Outside assistance	801.510,90 €	196.320,57 €	24,49 %
4.1 Durable goods Infrastructure	26.917,90 €	0,00 €	0,00 %
4.2 Durable goods Equipment	36.473,76 €	15.730,91 €	43,13 %
5. Land purchase	398.708,21 €	0,00 €	0,00 %
6. Consumables	370.099,06 €	41.717,83 €	11,27 %
7. Other costs	22.745,63 €	2.900,74 €	12,75 %
8. Overheads	164.047,17 €	28.243,47 €	17,22 %
<b>SUM TOTAL</b>	<b>2.947.470,75 €</b>	<b>438.239,92 €</b>	<b>14,87 %</b>

There is nothing special to comment on the budget posts, the use of 43 % of Durable goods Equipment is natural, as those expenses has to fall in the start of a project..

There has been an income of 40.766,85 € from sale of timber and chips from action C.2 during the period.

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.

## 7. Planned project progress

The activities planned until the next reporting date of the project are for this report mentioned under each action.

## **8. Annexes**

- Annex A: Report on hydrological investigations at site 88.
- Annex B: Report on introduction and testing of active re-vegetation methods
- Annex C: Maps of the re-vegetation test areas.
- Annex D: Map from activities on site 20.
- Annex E: Map from activities on site 49.
- Annex F: Map from activities on site 88.
- Annex G: Map from activities on site 104.
- Annex H: Map from activities on site 250.
- Annex I: Information board for site 250 (Reduced in size).
- Annex J: Newspaper article concerning the project.