

Restoration of Dune Habitats along the Danish West Coast

LIFE02/NAT/DK/8584



MID-TERM REPORT WITH PAYMENT REQUEST

Covering the period
1 November 2002 – 31 October 2003

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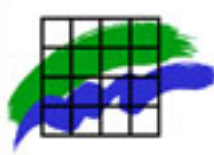


TABLE OF CONTENTS

Section 1: Introduction	2
1.1 Background	2
1.2 Overall and specific objectives	2
Section 2: Summary	3
2.1 General remarks on project progress	3
2.2 Summary of activities during the reporting periodcorrected	3
2.3 Amendments to the projectcorrected	6
Section 3: Detailed report of activities	10
Progress on preparatory actions	10
Action A1 Restoration of natural hydrology at Lyngbo Hede, preparatory project.....	10
Action A 2 Kick-off seminar and training of personnel involved in the project.....	10
Action A 3 Work plans for the management of herpetofauna	10
Action A 4 Training of project personnel on the management of herpetofauna habitats.....corrected	11
Progress on purchase of land	12
Action B 1 Land swaps on Rømø	12
Progress on non-recurring management	13
Action C 1 Conversion of non-indigenous conifer forest.....corrected.....	13
Action C 2 Clearing of dense overgrowth.....corrected	14
Action C 3 Removal of tree encroachment.....corrected.....	15
Action C 4 Restoration of natural hydrology at Lyngbo Hede.....	16
Action C 5 Restoration of natural hydrology – closing of drainage trenches	16
Action C 6 Restoration of breeding localities for herpetofauna.....corrected	16
Action C 7 Establishment of grazing.....corrected	18
Progress on recurring management	19
Action D 1 Mosaic burning.....corrected	19
Action D2 Cutting vegetation and removal of material.....corrected.....	20
Progress on public awareness and dissemination of results	21
Action E 1 Mounting of map tables/notice boards.....corrected	21
Action E 2 Production of video.....corrected	21
Action E 3 Dissemination and co-operation with local communities.....corrected	21
Action E 4 Workshop 2003.....corrected	22
Action E 5 Production of folders	22
Action E 6 Guided visits and events.....corrected	23
Action E 7 Production and maintenance of project web site	23
Action E 8 Production of layman’s report	23
Action E 9 Networking with other projects	24
Progress on overall project operation and monitoring	25
Action F 1 Monitoring of coastal dune heaths (extensive monitoring).....	25
Action F 2 Monitoring of coastal dune heaths (intensive monitoring) and preparation of Best Management Practice Guidelines.....	25
Action F 3 Evaluation of management of herpetofauna breeding localities and elaboration of guidelines for future management.....	26
Action F 4 Project management and co-ordination.....corrected	26

ANNEXES

E	Revised timetable.....corrected
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1.1 Background

In Denmark and in the rest of Europe, dunes and coastal dune heaths are considered threatened and vulnerable habitats. The first monitoring of the Danish coastal priority habitats has shown that the conservation status of these habitats is not favourable. This project aims at rehabilitating and improving the conservation status of coastal dune habitats. 11 Sites of Community Interest, covering more than 24000 ha within the Natura 2000 network, are included in this project. The sites have mainly been selected for the presence of the priority habitat types 2130* (Fixed grey dunes) and 2140* (Decalcified fixed dunes with *Empetrum nigrum*).

The three general threats identified are:

1. Invasion of non-native species, particularly *Pinus mugo* and *Pinus contorta*
2. Lack of natural dynamic processes (over-stabilisation of dunes)
3. Ammonium deposition/eutrophication.

The threat from overgrowth has been divided into 5 categories (from over-stabilised dunes to different percentages of overgrowth). Overgrowth by trees may change the ecology of the dune heaths completely, in particular due to the shadowing effect of the tree canopy and forest climate induced changes of nutrient circulation and microclimatic conditions.

Furthermore, site specific threats have been identified, such as drainage, pressure from tourism, and land-ownership related barriers to habitat management.

1.2 Overall and specific objectives

The overall objective of the project is **to regain a more favourable conservation status of the Danish dune habitats**. The 11 sites included in the project represent 65% of the total sand dunes FFH resources in Denmark.

The specific objectives of the project, as outlined in the project document, are:

- Restoration of 264 ha of dune heath habitats, i.e. conversion (by clearing) of non-indigenous conifer forest to priority habitat types 2130* (Fixed coastal dunes with herbaceous vegetation, “grey dunes”) and 2140* (Decalcified fixed dunes with *Empetrum nigrum*). These are categorised as overgrowth degree IV-V
- Clearing of 542 ha of dense overgrowth (overgrowth degree III)
- Removal of tree encroachment on 3452 ha (overgrowth degree II)
- Management activities on more than 2800 ha in order to counter threats from nutrient enrichment and lack of natural dynamic processes (overgrowth degree I)
- Restoration of natural hydrology on sites 72 (Lyngbos Hede) and 78 (Fanø), and restoration of dune heath on site 184 (Stenbjerg)
- Performance of land swaps on roughly 36 ha, in order to remove land-ownership related barriers to habitat management on site 78 (Rømø)
- Securing of viable populations of amphibians, primarily *Bufo calamita* and *Rana arvalis*, in the project areas containing decalcified fixed dunes with a mosaic of humid dune slacks.

The exact number of hectares managed under each category has changed a bit during the first two project years, with no implications for the overall costs of the project.

2.1 General remarks on project progress

The area related management activities are generally progressing well. Unfortunately, on site 78 (Rømø) management efforts by the county have been halted by complaints filed by the owners of nearby summer cottages. At the same time, the county is experiencing increasing unwillingness by private owners to engage in grazing schemes and other habitat management agreements under the project, as the subsidies obtainable under the EU Land District Programme are much more attractive economically. The general uncertainty currently surrounding the reforms of the Common Agricultural Policy is also causing some delays in the implementation of management efforts on the privately owned part of some of the sites. Some of the areas managed by mosaic burning were too wet to burn during the first and second season. The restoration of natural hydrology on Lyngbos Hede (site 72) has been delayed due to various circumstances, but the preparatory project will be ready in the first half of 2004, and the construction activities should be finished by the end of the year. The production of an information folder about the project has been delayed a bit, but it will be distributed in the beginning of 2004.

The project holder, Danish Forest and Nature Agency, has experienced a lot of challenges during the first two project years. General budget cuts have resulted in staff reductions, both among the forest workers and the other staff. All forest workers were temporarily discharged for 6 weeks in the summer and early fall of 2002, which caused some delays in the implementation of the project. These delays have however largely been made up for. Furthermore, two new computer-based systems, a new economy-system and a new system for registration of working hours, have been introduced during 2003. As it is usually the case when new systems are implemented, various unforeseen problems with the systems have taken up a lot of time. Extracting the necessary data for reporting purposes from the systems proved more difficult than initially foreseen. Therefore, the project holder applied the Commission for a 3-month extension of the deadline for handing in the mid-term report, which was granted.

As a consequence of the new systems, some categories of expenses are calculated in a slightly different manner in the second project year as compared to the first project year. Furthermore, the forest workers were paid by the hour until January 1 2003, but are now paid a monthly salary, which has also influenced the calculations of the expenses under Personnel.

2.2 Summary of activities during the reporting period

Table 1: Actions (area related management) per site (ha) to date (including minor changes in areas as outlined in the first progress report and approved by the Commission). A couple of mistakes in the first report are corrected. Additional areas already managed are also included.

Action Site	C.1		C.2		C.3		C.7		D.1		D.2	
	Target	To date	Target	To date	Target	To date	Target	To date	Target	To date	Target	To date
78	66,4	20,5	28,3	4,0	33,0	0,0	265,6	43,4	79,8	2,0	270,3	15,0
73	1,4	1,4	259,1	32,7	1062,8	490,0			1293,2	167,5		
72					237,8	241,6			237,8	114,0		
184	93,3	89,5	20,3	13,8	567,9	120,7	22,9	11,4	278,5	189,8	0,9	10,6
26	7,2	2,1	17,5	0,0	164,1	79,4	5,1	41,1	14,0	57,3	0,4	34,5
185	5,5	0,0			7,7	262,69	30,1	0,0	60,1	0,0	102,1	40,0
16	6,0	3,0	23,6	74,3	192,2	311,0	38,3	19,8	42,3	22,1	30,7	14,5
13			16,9	3,7			6,8	18,5			94,5	3,2
193					1000,8	77,2				63,2		
2	65,2	31,5	116,9	60,3	336,3	150,7						
10	22,3	14,4	7,1	3,2	26,7	0,0						
Total	268,6	162,4	489,7	192,0	3629,3	1906,7	368,8	134,5	2005,7	615,9	498,9	117,8
%	100	60,5	100	39,2	100	52,5	100	36,5	100	30,7	100	23,6

In general, area related management is progressing well, and for most of the actions more than 30% of the planned management efforts have been completed. Out of the original 7261 ha, 3129,3 ha have been managed so far, which corresponds to 43,1 %.

Table 2: Milestones during reporting period (including suggested adjustments, please also see Annex E)

Product/milestone	Action no.	Deadline	Date of completion
International workshop	E.4	01.10.2003	11.09.2003
Workshop report	E.4	31.12.2003	17.11.2003
Preparatory project "Restoration of natural hydrology at Lyngbo Hede"	A.1	31.10.2002	01.06.2004
Folders describing the dune habitats (flora and fauna) and the restoration project	E.5	01.06.03	01.01.2004
Tender: "Restoration of natural hydrology at Lyngbo Hede"	C.4	31.01.2003	01.08.2004
Land swaps on Rømø	B.1	31.06.2003	24.09.2003
Finalised "Restoration of natural hydrology at Lyngbo Hede"	C.4	31.12.2003	31.12.2004

Table 3: Statement of expenditure (overview). For details, please see the Financial Report.

Budget item	Accepted budget (first progress report)		Costs to date (01.11.2001 – 31.10.2003)		
	EURO	DKK	EURO	DKK	% of budget
1. Personnel	2.294.547	17.098.276	1.035.243	7.714.319	45,1
2. Travel	77.176	575.092	24.286	180.974	31,5
3. External assistance	844.875	6.295.755	172.748	1.287.264	20,4
4. Durable goods	39.651	295.467	21.472	160.000	54,2
5. Land purchase/lease	94.677	705.505	0	0	0,0
6. Consumable material	1.010.376	7.529.019	235.790	1.757.036	23,3
7. Other costs	12.352	92.044	4.174	31.103	33,8
8. Overheads	302.143	2.251.479	39.793	296.522	13,2
TOTAL	4.675.797	34.842.637	1.533.505	11.427.218	32,8

Exchange rate: 1 EURO = 7,4517 DKK (1. March 2004)

The total project income for the first two project years amounts to 31.061,15 Euro (not included in tables. For details, please see the Financial Report)

Table 4: Statement of expenditure per action (for details, please see the Financial Report)

Action	Accepted budget (first progress report)		Costs to date (01.11.2001 – 31.10.2003)		
	EURO	DKK	EURO	DKK	% of budget
A.1	8.065	60.098	0	0	0,0
A.2	8.724	65.009	8.776	65.397	100,6
A.3	16.510	123.028	16.453	122.600	99,7
A.4	3.616	26.946	3.617	26.954	100,0
B.1	94.677	705.505	0	0	0
C.1	613.048	4.568.250	413.797	3.083.492	67,5
C.2	967.886	7.212.396	172.974	1.288.952	17,9
C.3	1.633.200	12.170.116	568.860	4.238.973	34,8
C.4	67.204	500.784	0	0	0,0
C.5	2.742	20.433	0	0	0,0
C.6	22.848	170.257	720	5.367	3,2
C.7	98.257	732.182	17.934	133.642	18,3
D.1	277.785	2.069.971	85.583	637.737	30,1
D.2	56.243	419.106	32.638	243.212	58,0
E.1	67.204	500.784	42.616	317.564	63,4
E.2	40.000	298.068	946	7.052	2,4
E.3	33.602	250.392	13.092	97.555	39,0
E.4	22.245	165.763	10.933	81.473	49,1
E.5	8.065	60.098	0	0	0,0
E.6	3.360	25.038	658	4.906	19,6
E.7	1.344	10.015	77	571	5,7
E.8	5.824	43.399	0	0	0,0
E.9	3.360	25.038	0	0	0,0
F.1	135.662	1.010.913	54.076	402.957	39,9
F.2	119.086	887.393	49.175	366.438	41,3
F.3	23.790	177.276	0	0	0,0
F.4	341.448	2.544.368	40.590	302.464	11,9
TOTAL	4.675.797	34.842.637	1.533.517	11.427.306	32,8

Exchange rate: 1 Euro = 7,4517 DKK (1. March 2004)

The small difference between the totals in Table 3 and Table 4 is due to the changes in the way salaries are calculated for the staff of the project holder from project year 1 to project year 2.

2.3 Amendments to the project

Modifications of the budget

Action C 3

One of the partners, Nordjylland County, has decided not to buy a personnel wagon, but to rent one instead. The money thus saved on Durable Goods (category 4) (DKK 145.000, Euro 19.489) is proposed transferred to Personnel (category 1). The background for this is that removal of tree encroachment on site 2 (Råbjerg Mile) has proved to be least damaging to these sometimes very wet areas when it is performed by hand and with small machines. This method is however also more time-consuming and therefore slightly more costly per hectare.

Table 5: Suggested modifications to the budget of Action C3

TYPES OF MEASURES	CATEGORIES OF EXPENDITURES		Original budget (Euro) (DKK)	Requested revised budget (Euro) (DKK)
C. Non recurring biotope management	C.1	Works undertaken by external firms (hydraulic, landscaping, clearance/afforestation)		
	C.2	Infrastructures (dikes, sea or wind barriers, etc...)		
	C.3	Equipment (pumps, etc....)	39.651 295.467	20.162 150.241
	C.4	Personnel	917.886 6.839.811	937.375 6.985.037
	C.5	Other expenses (specify)		
		Sub-total		957.537 7.135.278

Exchange rate: 1 Euro = 7,4517 DKK (1. March 2004)

C3	Original budget		Requested new budget	
	Euro	DKK	Euro	DKK
Budget item				
1. Personnel	917.886	6.839.811	937.375	6.985.037
2. Travel	0	0	0	0
3. External assistance	119.546	890.821	119.546	890.821
4. Durable goods	39.651	295.467	20.162	150.241
5. Land purchase/lease	0	0	0	0
6. Consumable material	488.940	3.643.434	488.940	3.643.434
7. Other costs	0	0	0	0
8. Overheads	67.177	500.583	67.177	500.583
Total costs	1.633.200	12.170.116	1.633.200	12.170.116

Exchange rate: 1 Euro = 7.4517 DKK (1. March 2004)

Action C6

On site 16, a private landowner has expressed a wish to rehabilitate a breeding pond for amphibians. At the same time, it has proved difficult to locate suitable locations for successful rehabilitation of breeding areas on the state-owned part of the site. Therefore, it is proposed to transfer Euro 1.342 (DKK 10.000) to Viborg County from the budget of C6 for this purpose. The total costs of the action will remain unchanged.

Table 6: Summary of suggested budget modifications

Budget item	Original budget ¹ (Euro)	Revised budget ² (Euro)	Proposed new budget (Euro)
1. Personnel	2.286.045 (48,9%)	2.294.547 (49,1%)	2.314.036 (49,5%)
2. Travel	77.990 (1,7%)	77.176 (1,6%)	77.176 (1,6%)
3. External assistance	854.199 (18,3%)	844.875 (18,1%)	844.875 (18,1%)
4. Durable goods	39.651 (0,8%)	39.651 (0,8%)	20.162 (0,4%)
5. Land purchase/lease	94.677 (2,0%)	94.677 (2,0%)	94.677 (2,0%)
6. Consumable material	1.007.487 (21,5%)	1.010.376 (21,6%)	1.010.376 (21,6%)
7. Other costs	12.352 (0,3%)	12.352 (0,3%)	12.352 (0,3%)
8. Overheads	303.396 (6,5%)	302.143 (6,5%)	302.143 (6,5%)
TOTAL	4.675.797 (100%)	4.675.797 (100%)	4.675.797 (100%)

¹ As in the original project document

² Adjusted according to changes approved in the 1st progress report

Changes in areas managed

At the time of the first progress report, a few changes in the areas managed were suggested and accepted by the Commission. Again, some adjustments in the area managed under different actions are being suggested.

Due to difficulties in obtaining agreements with the private landowners in Ribe County, some areas have to be withdrawn. The management methods initially suggested for particularly some of the very large area units need to be more differentiated, and some are therefore suggested split into smaller fractions. In some cases, a specific area will be managed under more than one action. At site 193, it has proved practically impossible to implement management efforts on all the 1000,8 ha, and to compensate for this, additional hectares on site 185 are suggested included in the project. A number of area units are suggested to be slightly enlarged in order to round off the managed areas and create a larger degree of coherence. A few mistakes in the first progress report are also corrected.

Except for the withdrawal of areas in Ribe County, which mean a reduction in the budget, these changes are cost neutral. All additional areas are within the Natura 2000 sites. The adjustments are outlined in detail in Annex A, and summary tables are provided below. The total number of hectares managed under the project is thus increased, at no additional costs.

Tables 7 and 8: Adjustments in ha per action and per site

Adjustments (ha) per action			
Action	Reduction (ha)	Addition (ha)	Total (ha)
C1	-	17,8	17,8
C2	59,4	91,7	32,3
C3	418,0	684,6	266,6
C7	10,1	96,3	86,2
D1	76,9	431,3	354,4
D2	134,5	44,9	-89,6
Total	698,9	1366,6	667,7

Adjustments (ha) per site			
Site	Reduction (ha)	Addition (ha)	Total (ha)
2	3,2	-	-3,2
13	107,7	116,1	8,4
16	40,8	228,0	187,2
26	14,8	378,1	363,3
73	92,4	30,0	-62,4
78	-	156,6	156,6
184	-	66,8	66,8
185	40,0	322,9	282,9
193	400,0	68,1	-331,9
Total	698,9	1366,6	667,7

New project manager in 2003

The first project manager, Mr Søren Korsholm, was asked to take up a position in the Division of Economics of the Danish Forest and Nature Agency as of March 1, 2003. A new project manager,

Ms Hanne Stadsgaard Jensen, was appointed and took up the position as of April 1, 2003. The Commission was informed by letter of April 4, 2003 about the change in project manager.

Administrative changes in 2004

As a consequence of a restructuring of the forest districts of the project holder, Danish Forest and Nature Agency, one of the participating forest districts (Hanherred) will be split into two and merged with two other districts participating in the project, Thy District and Nordjylland District, respectively. The 3 former districts will continue keeping separate accounts until December 31, 2004. The merge only affects the internal organisation of the beneficiary, and is not expected to have any effects on the implementation of the project. Most of the actions in the areas under the previous Hanherred District (sites 185, 16, 13 and 193) are furthermore expected to be finalised by the end of 2004.

Timetable revision

As a consequence of unforeseen difficulties, some delays in the implementation of various project actions are unfortunately necessary. The suggested modifications to the original timetable and deadlines for deliverable products (application forms 22 and 23, respectively) are outlined in Annex E.



Photos 1 and 2: Højsande , Læsø (site 10). View from the observation tower facing north. September 2002 (before clearing) and October 2003 (after clearing). (Photo: Thomas Retsloff)

Progress on preparatory actions

Action A1 Restoration of natural hydrology at Lyngbo Hede, preparatory project

The preparatory project for the restoration of natural hydrology at Lyngbo Hede (site 72) was delayed already by the time of first progress report. The original plan was to find the most efficient way for countering the effect of a 1 km long and up to 3 m deep drainage trench, which was dug out across the heath around 40 years ago and significantly dries out the adjacent humid dune heath habitats. Possible negative effects on an upstream holiday cottage area were seen as the main potential obstacle for restoration of the natural hydrology at the site. Measurements of basic data, in particular the groundwater level at the site, were however still missing.

The project outline for laying out drainage pipes produced by Ribe County in 2002 showed construction costs considerably higher than budgeted. The pipes would drain the holiday cottage area, but not the heath. Groundwater measurements needed in order to give a firm background for deciding on which method would be the most appropriate were however still missing.

Meetings have been held between Oxbøl State Forest District, Ribe County, Blaabjerg Municipality, the local representative of The Danish Society for the Conservation of Nature and the project manager in order to discuss the way forward. It has been agreed to finalise the preparatory project, mainly as a desk study based on the knowledge gathered so far and with additional measurements in the field. Oxbøl State Forest District has assumed the responsibility for finalising the preparatory project through an external consulting company and with inputs from Ribe County, the local landowners association and Blaabjerg Municipality. This preparatory project will be ready by the middle of 2004 and constitute the basis for a final decision on how to proceed.

No costs have been incurred during the first two project years.

Action A 2 Kick-off seminar and training of personnel involved in the project

This activity took place in the first project year (May 2, 2002).

The action has been finalised with a total cost substantially less than budgeted. The surplus initially calculated (7.404 Euro) was in the first progress report requested allocated to Action C 6 (Restoration of breeding localities for herpetofauna), which was approved by the Commission on 20. February 2003 in connection with the approval of the first progress report. As the new methods for calculating project staff salaries for the project holder means that costs may be even lower, the surplus may eventually be even higher than initially reported.

Action A 3 Work plans for the management of herpetofauna

The purpose of the work plan was to select and prioritise suitable areas for management of breeding habitats for *Bufo calamita*, *Pelobates fuscus*, *Rana arvalis* and *Triturus cristatus*.

The general work plans for management of herpetofauna was finalised by December 2002, and detailed plans for site 73, 184, 26 and 2 were finalised by April 2003. The general work plan was not included in the project account for the first project year.

The contractor Amphi Consult agreed to allocate consultant hours from this action to perform on-site advice in connection with action C6 (Restoration of breeding localities for herpetofauna), and

the corresponding budgetary changes have been approved by the Commission 20 February 2003 in connection with the first progress report.

The action has been finalised with a total cost of 16.453 Euro (122.602 DKK).

Action A 4 Training of project personnel on the management of herpetofauna habitats

Training of project personnel in the management of herpetofauna habitats and wet biotopes was conducted in connection with the kick-off seminar May 2, 2002.

The action has been finalised with a total cost of Euro 3.617 (26.954 DKK).

Progress on purchase of land

Action B 1 Land swaps on Rømø

The action involves land swaps of long and narrow land lots owned by 20 different private owners, in order to remove barriers to coherent management of the dune heath areas. The main outside player is the Directorate for Food, Fisheries and Agricultural Business (DFFE) under the Ministry of Food, Agriculture and Fisheries, which has holdings on the island outside the SCI and had agreed to acquire the private lots as part of a land consolidation scheme.

Due to the complexity of the action and the many stakeholders involved, the action has been delayed. But during the summer of 2003, agreements were reached, and the new title deeds were registered 24. September, 2003. A total of 172,6 ha were acquired or swapped. During the spring of 2004, a management plan for the newly acquired areas will be developed by Lindet State Forest District, including a hearing phase where local stakeholders will be invited to comment. As around 1,9 mio people visit the nearby beach every year, it is expected that the management activities in the area will attract a lot of attention and increase public awareness of the importance and dynamics of the dune heath.

The action has been finalised, but the accounts were not yet settled by the end of the second project year. Only a few expenses are still outstanding, and a surplus of around 30.000 Euro is expected to remain unspent. At present it seems highly likely that the costs of action C4, restoring natural hydrology at Lyngbos Hede (site 72), will be somewhat higher than expected, and it is proposed to keep in mind that the surplus from this action may be transferred to action C4 at a later stage.

No costs have been incurred under this action during the first two project years.

Progress on non-recurring management

Action C 1 Conversion of non-indigenous conifer forest

A total of 268,6 ha of woodlands and forest stands (overgrowth degree IV-V) have been selected for conversion through felling, chipping and removal of the material. This is done as part of an overall strategy to gradually increase the area of priority dune habitats where it is socio-economically feasible and where the multiple uses of these areas permit such actions.

Table 9: Summary of actions to date under action C1 on the various project sites.

Action	Organisation	C 1			Comments
		Project target ¹ (ha)	Mid-term target ² (ha)	Complete to date (ha)	
78	SNS	66,4	20,7	20,5	
	SJA	0,0	0,0	0,0	
73	SNS	1,4	1,4	1,4	
	OKS	0,0	0,0	0,0	
	RIA	0,0	0,0	0,0	
72	SNS	0,0	0,0	0,0	
184	SNS	93,3	83,1	88,2	Additional areas (see Annex A)
	VIA	1,3	0,0	1,3	
26	SNS	1,7	1,7	2,1	Additional areas (see Annex A)
	VIA	5,5	0,0	0,0	
185	SNS	5,5	0,0	0,0	
	VIA	0,0	0,0	0,0	
16	SNS	6,0	2,6	3,0	
	VIA	0,0	0,0	0,0	
13	SNS	0,0	0,0	0,0	
193	SNS	0,0	0,0	0,0	
2	SNS	40,7	0,0	16,2	
	NJA	24,5	15,3	15,3	
10	SNS	22,3	0,0	14,4	
Total		268,6	124,8	162,4	

¹ Adjusted according to changes approved in 1st progress report

² According to provisional progress planning in application

Calculated costs after the first 2 project years amount to a total of Euro 413.797 (3.083.492 DKK).

Action C 2 Clearing of dense overgrowth

This is categorised as an emergency action to clear areas subject to severe encroachment, in particular by non-indigenous conifer species (up to 50 years). It comprises clearing of 489,7 ha of dense overgrowth (self-sown thickets).

Table 10: Summary of activities to date under Action C2 on the various project sites

Action	Organisation	C 2			Comments
		Project target ¹ (ha)	Mid-term target ² (ha)	Complete to date (ha)	
78	SNS	18,3	7,3	4,0	
	SJA	10,0	10,0	0,0	Landowners prefer other subsidies
73	SNS	133,5	103,7	25,7	
	OKS	16,0	16,0	7,0	
	RIA	109,6	89,2	0,0	Areas withdrawn by private owner
72	SNS	0,0	0,0	0,0	
184	SNS	0,0	0,0	0,0	
	VIA	20,3	20,3	13,8	
26	SNS	0,0	0,0	0,0	
	VIA	17,5	0,0	0,0	
185	SNS	0,0	0,0	0,0	
	VIA	0,0	0,0	0,0	
16	SNS	23,6	5,7	74,3	Redefinition of action types and additional areas (see Annex A)
	VIA	0,0	0,0	0,0	
13	SNS	16,9	16,9	3,7	Redefinition of action types (see Annex A)
193	SNS	0,0	0,0	4,9	Redefinition of action types (see Annex A)
2	SNS	40,8	10,2	16,5	
	NJA	76,1	67,2	43,8	Access to areas difficult
10	SNS	7,1	3,9	3,2	
Total		489,7	350,4	196,9	

¹ Adjusted according to changes approved in 1st progress report

² According to provisional progress planning in application

Calculated costs after the first two project years amount to a total of 172.974 Euro (1.288.952 DKK).

Action C 3 Removal of tree encroachment

This action involves the motor-manual felling of pines encroaching on the dune heath landscape on more than 3500 ha. In places where the pines grow in pockets, they are collected and extracted from the area. Alternatively, in areas where the trees grow singly, they are collected in heaps and burned. On flat areas allowing passage by vehicles, a tractor-mounted mulcher is used to remove patches of re-growth. As project implementation is progressing, additional areas are suggested for inclusion in this action, within the budget.

Table 11: Summary of activities to date on the various project sites under Action C3

Action	Organisation	C 3			Comments
		Project target ¹ (ha)	Mid-term target ² (ha)	Complete to date (ha)	
78	SNS	8,2	8,2	0,0	
	SJA	24,8	0,0	0,0	
73	SNS	236,1	212,5	202,0	
	OKS	456,2	206,2	288,0	
	RIA	370,5	315,2	0,0	Consent of owner delayed
72	SNS	237,8	237,8	241,6	
184	SNS	515,1	398,3	172,2	
	VIA	52,8	34,1	42,5	
26	SNS	91,7	91,7	64,2	Redefinition of action types, see Annex A
	VIA	72,4	0,0	0,0	
185	SNS	3,6	0,0	262,9	Redefinition of action types and additional areas, see Annex A
	VIA	4,1	0,0	0,0	
16	SNS	176,0	38,5	311,0	Redefinition of action types and additional areas, see Annex 4
	VIA	16,2	0,0	0,0	
13	SNS	0,0	0,0	94,4	Redefinition of action types, see Annex A
193	SNS	1000,8	0,0	77,2	Redefinition of action types and reduction of area, see Annex A
2	SNS	150,2	63,5	62,6	
	NJA	186,1	112,3	88,1	Access to areas difficult
10	SNS	26,7	0,0	0,0	
Total		3629,3	1718,3	1906,7	

¹ Adjusted according to changes approved in 1st progress report

² According to provisional progress planning in application

The original number of hectares under this action has been increased, primarily due to a redefinition of action C 2 and action C 3- areas in the western part of site 16.

The calculated costs of this action after the first two project years amount to 568.860 Euro (4.238.973 DKK).

Action C 4 Restoration of natural hydrology at Lyngbo Hede

This action, which involves the filling of a long drainage trench through the heath, has been delayed due to unforeseen circumstances. However, the preparatory project will be ready during the first half of 2004, and constitute the basis for a final decision on how to proceed (see also Action A1). Once a decision on the methods to be used has been taken, the tender and actual implementation in the field will be relatively straightforward and is not expected to take a long time. It is therefore still possible to complete this action within the project period, though no restoration actions in the field have taken place yet.

The Nature Conservation Board of Ribe County has not yet come to a final decision regarding the legal status of the drainage trench. There is however no indications that the Board will oppose the filling of the trench, provided the preparatory project demonstrates that the filling will be beneficial to the ecological status of the heath.

No costs have been incurred under this action during the first two project years.

Action C 5 Restoration of natural hydrology – closing of drainage trenches

No activities under this action planned during the first two project years.

Action C 6 Restoration of breeding localities for herpetofauna

This action is the practical implementation of the work outlined in the management plans under action A 3. There are two elements: a) restoration of breeding localities for herpetofauna, and b) on-site advice from herpetologists on the practical management of existing breeding localities and/or the creation of new breeding localities. A total of 32 sites have so far been selected for restoration and management activities. See also Action A 3.

The budget for this action was increased using surplus and savings from Action A2 and A3 in connection with the first progress report.

On site 16, a private owner has expressed a wish to be included in the management. Originally, all management of breeding sites for herpetofauna was planned to take place on state-owned land. But as it has proved more difficult than initially foreseen to find good locations on the state owned land on site 16, it is proposed to transfer Euro 1.342 (DKK 10,000) from the Danish Forest and Nature Agency to Viborg County. The County will then undertake management works on the private land, guided by advice from the external consultants. The total costs of the action will remain unchanged.

Table 12: Overview of status of amphibian habitat restoration activities

Site	Action planned ¹	Action completed	Comments
78	<i>Scraping (2 areas, Rømø)</i>		<i>No detailed management plan</i>
73	Scraping (8 sites, 9700m ²), vegetation cutting (2 sites, 5300m ²), digging (1 area, 300m ²)		All necessary permissions in place, work to start in 3 rd project year
72	None		
184	Scraping (1 site, 90m ²), vegetation cutting (7 sites, 15.210m ²), burning (3 sites, 29.000m ²)	Scraping or vegetation cutting has been performed on 9 sites (2,15 ha)	
26	Scraping (2 sites, 2400m ²), grazing (1 site, 3.7 ha), vegetation cutting (2 sites, 3400 m ²)	Vegetation cutting on 1 site completed	
185	<i>Grazing (1 area), mowing (1 area)</i>		<i>No detailed management plan</i>
16	<i>Scraping (2 areas), grazing (1 area)</i>		Scraping on privately owned land proposed (3 areas)
13	<i>Scraping (2 areas)</i>		<i>No detailed management plan</i>
193	<i>Scraping (4 areas), vegetation cutting (4 areas)</i>		<i>No detailed management plan</i>
2	Clearing (1 area, 4500m ²), digging (4 areas, 1900m ²)		Awaiting permission from the county
10	None		

¹As outlined in management plans developed by external contractor Amphi Consult. Many of the suggested actions are in line with activities under other actions in the project on the same sites. Some of the suggested sites are outside the original project area, but within the SCI.

The costs of these actions after the first two project years amount to Euro 720 (5.367 DKK). Only specific restoration activities such as scraping and digging are included, as other activities fall under other actions.



Photos 3 and 4: Scraping at Ålvand Klithede (site 26), before and after (Photo: Henrik Kristensen)

Action C 7 Establishment of grazing

This action involves establishment of grazing on some of the project sites, the majority on the island of Rømø (site 78). The current uncertainty surrounding the subsidy schemes for permanent grazing areas within the EU Common Agricultural Policy is making some farmers reluctant to enter into grazing agreements. Therefore, some delays can be seen.

Table 13: Summary of activities to date on the various project sites under Action C7

Action	Organisation	C 7			Comments
		Project target (ha)	Mid-term target ¹ (ha)	Complete to date (ha)	
78	SNS	115,6	115,6	40,0	
	SJA	150,0	150,0	3,4	Delays due to complaints on Rømø
73	SNS	0,0	0,0	0,0	
	OKS	0,0	0,0	0,0	
	RIA	0,0	0,0	0,0	
72	SNS	0,0	0,0	0,0	
184	SNS	0,0	0,0	11,4	Additional areas
	VIA	22,9	22,9	0,0	
26	SNS	0,0	0,0	41,4	Redefinition of action types, see Annex A
	VIA	5,1	5,1	0,0	
185	SNS	26,0	0,0	0,0	
	VIA	4,1	0,0	0,0	
16	SNS	29,9	29,9	19,8	
	VIA	8,4	0,0	0,0	
13	SNS	6,8	0,0	18,5	Redefinition of action types, see Annex A
193	SNS	0,0	0,0	0,0	
2	SNS	0,0	0,0	0,0	
	NJA	0,0	0,0	0,0	
10	SNS	0,0	0,0	0,0	
Total		368,8	323,5	134,5	

¹According to provisional progress planning in application

The total costs of this action during the first two project years amount to a total of Euro 17.934 (133.642 DKK).



Photo 5: Sheep grazing at Ålvand Klithede (Site 26) (Photo: Henrik S. Kristensen)

Progress on recurring management

Action D 1 Mosaic burning

This action involves prescribed burning on small areas (from around 20m x 20m to 50m x 50m). In general, difficult weather conditions during the burning season have caused some delays. The organisations have generally only reported the number of hectares directly treated, and as it is only expected that around 20% of the areas will be burned off, the actual number of hectares where treatment has been completed is considerably higher. It is however very difficult at the present stage to define the exact level of completion.

Table 14: Summary of activities to date on the various project sites under Action D1

Action		D 1			
Site	Organisation	Project target ¹ (ha)	Mid-term target ² (ha)	Complete to date (ha)	Comments
78	SNS	34,2	34,2	2,0	Difficult weather conditions
	SJA	45,6	26,0	0,0	Difficult weather conditions
73	SNS	340,9	192,1	73,5	Difficult weather conditions
	OKS	472,2	178,2	94,0	Difficult weather conditions
	RIA	480,1	97,3	0,0	Areas withdrawn by private owner
72	SNS	237,8	237,8	114,0	Difficult weather conditions
184	SNS	273,5	214,2	184,8	Additional areas, see Annex A
	VIA	5,0	5,0	5,0	
26	SNS	14,0	14,0	57,3	Additional areas and redefinition of action types (see Annex A)
	VIA	0,0	0,0	0,0	
185	SNS	60,1	36,4	0,0	Redefinition of action types, see Annex A
	VIA	0,0	0,0	0,0	
16	SNS	42,3	42,2	22,1	
	VIA	0,0	0,0	0,0	
13	SNS	0,0	0,0	0,0	
193	SNS	0,0	0,0	63,2	Redefinition of action types, see Annex A
2	SNS	0,0	0,0	0,0	
	NJA	0,0	0,0	0,0	
10	SNS	0,0	0,0	0,0	
Total		2005,7	1077,5	615,9	

¹ Adjusted according to changes approved in 1st progress report

² According to provisional progress planning in application

The total costs of this action in the first two project years amount to Euro 85.583 (637.737 DKK).



Photo 6: Burning dune heath (Kallemærks Hede, site 73) (Photo: Ole Knudsen)

Action D2 Cutting vegetation and removal of material

This action involves cutting vegetation and removing the material by a tractor mounted harvester, mainly on the island of Rømø (site 78). It has however proved more difficult than initially foreseen to enter into agreements with private landowners, and the activities are therefore somewhat delayed.

Table 15: Summary of activities so far on the various project sites under Action D2

Action	Organisation	D 2			Comments
		Project target (ha)	Mid-term target ¹ (ha)	Complete to date (ha)	
78	SNS	70,3	70,3	0,0	
	SJA	200,0	191,9	15,0	Landowners prefer other subsidies
73	SNS	0,0	0,0	0,0	
	OKS	0,0	0,0	0,0	
	RIA	0,0	0,0	0,0	
72	SNS	0,0	0,0	0,0	
184	SNS	0,0	0,0	9,7	Redefinition of action types, see Annex A
	VIA	0,9	0,9	0,9	
26	SNS	0,4	0,4	34,5	Redefinition of action types and additional areas, see Annex A
	VIA	0,0	0,0	0,0	
185	SNS	102,1	0,0	40,0	
	VIA	0,0	0,0	0,0	
16	SNS	30,7	30,7	14,5	
	VIA	0,0	0,0	0,0	
13	SNS	94,5	0,0	3,2	
193	SNS	0,0	0,0	0,0	
2	SNS	0,0	0,0	0,0	
	NJA	0,0	0,0	0,0	
10	SNS	0,0	0,0	0,0	
Total		498,9	294,2	117,8	

¹According to provisional progress planning in application

The total costs of this action during the first two project years amount to a total of Euro 32.638 (243.212 DKK).

Progress on public awareness and dissemination of results

Action E 1 Mounting of map tables/notice boards

The activity includes mounting of information boards on 30 key localities at the 11 sites. The action comprised graphic work and drawing, printing of 60 tables, production of 40 table standards, translation work, text writing and mounting of map tables. This has taken place in close co-operation between the counties and the state forest districts involved.

The boards were mounted in the early spring of 2003. Copies of all the boards can be found in Annex B.

The total costs of this action amount to Euro 42.616 (317.564 DKK).



Photo 7: Setting up an information board (Photo: Henrik S. Kristensen)

Action E 2 Production of video

The purpose of this action is to disseminate the project objectives and results to a wide target group. In December 2002, a contract was signed with the regional TV station TV/Midt-Vest, which is a self-governing institution broadcasting regionally on the TV2-Danmark frequency. The station has a wide audience, and is well known for its high-quality nature and environment programmes.

During the second project year, TV/Midt-Vest made a number of takes of flora, fauna and the dune heath dynamics. These include mating calls by Natterjack toad, a story about the ant lion larvae, takes of geese, cranes and red deer, and a description of the dynamics of shifting sand dunes.

Total costs of this action during the first two years amount to Euro 946 (7.052 DKK).

Action E 3 Dissemination and co-operation with local communities

Co-operation with local communities and dissemination of information about the project objectives and results is seen as a crucial means to achieve the overall objectives of the project.

Press contacts

On various occasions, the press has been invited to participate in guided visits or other events, and several articles have been produced. A selection can be found in Annex H.

Information campaign and guided visits

A number of guided visits to the project areas have been conducted. For further details, see under action E6. The visits have been announced in the local press and in the leaflets listing all guided nature visits in each county.

Travelling project exhibition

The travelling project exhibition, which was produced during the first project year, has been displayed in the central department of the Danish Forest and Nature Agency in Copenhagen, and was also used during the project workshop in September 2003.

Total cost under this action during the first two project years amount to 13.092 Euro (97.555 DKK).

Action E 4 Workshop 2003

The workshop took place 8-11 September 2003. 40 people, including both scientists and practitioners, participated. The participants came from Denmark, England, Holland, Germany and Latvia. A total of 13 participants were from other countries. Unfortunately, the Commission was not able to participate. Many of the participants were involved in other LIFE funded dune habitat projects. The workshop included plenary as well as group discussions, a short excursion to an amphibian habitat, and a full day excursion to various dune heath sites. Exchange of knowledge and discussions of best practices were very useful to all participants, and the networking possibilities were very valuable. The workshop report is attached as Annex D. The report is also posted on the project web site, and a collection of photos from the event can also be found there.

The total costs of this activity amount to Euro 10.933 (81.473 DKK).



Photo 8: Workshop participants watching a wood chipping machine at work at Lodbjerg (site 184). The hill in the background has been cleared as part of the project activities. (Photo: Henrik S. Kristensen)

Action E 5 Production of folders

Folders describing the dune habitats and the restoration actions in the project were planned to be ready by the end of June 2003. Unfortunately, the action has been somewhat delayed. At a project group meeting in October 2003, it was decided not to produce 5 regional folders as originally

planned, but only 1 folder covering the whole project area. This decision is based on the wish to reach as many people as possible. As the budget did not allow for the printing of more than a maximum of 6,000 copies of each of the 5 regional folders, it was decided to produce many copies of a single folder (30,000, with a possibility for a reprint). These will hopefully last through the remaining project period. According to the experience of particularly the state forest districts, which produce folders for all their nature areas, the folders placed at map tables are very popular among the interested public.

The folder was produced in close co-operation with the participating forest districts and counties, uses many of the features from the map tables (Action E1). The text is written in Danish and English, also in line with the map tables. In order to reduce costs, the text was written by project staff, and only the layout and printing done by external contractors. The folders will be printed and distributed in January 2004, and placed in a waterproof box at each map table.

A copy of the folder can be found in Annex C.

No costs have been incurred under this action during the first two project years.

Action E 6 Guided visits and events

Guided tours will be performed continuously during the project period. In the first project year, 7 guided tours were performed in the context of the promotion of the project, with a total of 222 participants. During the second project year, 15 guided tours were carried out, with a total of 451 participants. A summary table is provided below. Pictures and other materials from the events can be found in Annex I.

Table 15: Summary of guided visits and other events during the second project year

Forest district/county	Number of tours	Number of participants
Nordjylland District	3	54
Hanherred District	3	29
Oxbøl District	3	230
Thy District	3	100
Lindet district	3	38
Total	15	451

Total costs of this action during the first two project years amount to Euro 658 (4.906 DKK).

Action E 7 Production and maintenance of project web site

The project web site has been further developed and updated during the second project year. It is still situated at the main web site of the Danish Forest and Nature Agency (<http://www.skovognatur.dk/foralle/projekter/klithede/>). News and video spots have regularly been placed on the web site. The programme for the international workshop in September 2003 was also announced there, which resulted in several people expressing their interest in participating. The workshop report and photos from the event is also posted on the web site.

The total costs of this activity during the first two project years amount to Euro 77 (571 DKK).

Action E 8 Production of layman's report

No activities under this action planned during the first two project years.

Action E 9 Networking with other projects

The project is included in a LIFE CO-OP project proposal submitted to the Commission in August 2003. The title of the project is: “Dissemination of ecological knowledge and practical experiences for sound planning and management in raised bogs and sea dunes”, and includes projects in Estonia, Ireland, Latvia, the Netherlands, Denmark, United Kingdom and Germany. The project applicant is Stichting Katholieke Universiteit Nijmegen, the Netherlands. The CO-OP project was approved by the Commission in January 2004, with a starting date of April 1, 2004. It is expected that the dune heath project will participate in various workshops and meetings.

The international workshop in September 2003 also provided very good opportunities for co-operation and experience sharing with other projects, which will be of great value to the project participants.

No costs have been incurred under this action during the first two project years.

Progress on overall project operation and monitoring

Action F 1 Monitoring of coastal dune heaths (extensive monitoring)

This action is undertaken by the Danish National Environmental Research Institute, Department of Terrestrial Ecology. The purpose of the extensive monitoring is to:

- give a status of selected project areas
- test and evaluate the suggested parameters defining “favourable conservation status” for the coastal habitats included in the project
- investigate whether the proposed conservation objectives for the coastal habitat types is or will be fulfilled
- develop, test and evaluate a common standard for monitoring.

In the first project year, extensive monitoring was performed on site 184 (Lodbjerg/Stenbjerg) and site 78 (Fanø/Rømø). In the second project year, the monitoring was continued on the same sites, and some preliminary results are now beginning to appear (see Interim report, Annex F). Clearly the investigated sites are different with respect to lichen/moss ratio and to some degree also the species composition of the higher plants.

The total costs of this action during the first two project years amount to a total of Euro 54.076 (402.958 DKK).

Action F 2 Monitoring of coastal dune heaths (intensive monitoring) and preparation of Best Management Practice Guidelines

This action is undertaken by the University of Copenhagen, Botanical Institute, Department of Physiological Ecology. The purpose of the intensive monitoring is to:

- gather and optimise the use of botanical experience in relation to management of coastal heaths in Denmark (Best Practise Characterisation)
- provide an overview of acceptable management methods seen from a plant ecological standpoint
- clearly define the rationale behind the choice of management methods
- clarify plant ecological demands to the practical implementation of management methods, i. e. their time pattern, frequency and subsequent follow-up measures.

In the first project year, botanical inventories were made in order to be able to set up the permanent plots representing the different management methods in the most representative way, and 14 permanent plots were established. In the second project year, almost all the remaining permanent plots have been established (see Interim Report, Annex G), and preliminary analysis of the data has been carried out. Even at this early stage, it is already clear that regeneration of the dune heath after clear-felling and other management actions is relatively rapid in areas where intact dune heath vegetation occurs nearby. The impact on the succession from external factors, in particular nutrient overload, is however still a big question.

The total costs of this action during the first two project years amount to a total of Euro 49.175 (366.438 DKK).

Action F 3 Evaluation of management of herpetofauna breeding localities and elaboration of guidelines for future management

No activities under this action planned during the first two project years.

Action F 4 Project management and co-ordination

Two project group meetings have been held during the second project year, one in February 2003 and one in October 2003. Furthermore, the project participants met at the international workshop in September 2003.

The information officer, Mr Troels R. Pedersen, ended his employment on February 1, 2003.

The first project manager, Mr Søren Korsholm, was asked to take up a position in the Division of Economics of the Danish Forest and Nature Agency as of March 1, 2003. A new project manager, Ms Hanne Stadsgaard Jensen, was appointed, and took up the position on April 1 2003. The Commission was informed about the change in project manager by letter of April 4, 2003.

By mid-April 2004, the project manager will be going on maternity leave for a minimum of 6 months. The substitute will be Ms Lena Bau. Ms Jensen will however continue to follow the project implementation during her leave.

The total costs of project management during the first two project years amount to a total of Euro 40.590 (302.464 DKK).