

Restoration of Dune Habitats along the Danish West Coast

LIFE02/NAT/DK/8584



FIRST PROGRESS REPORT WITHOUT PAYMENT REQUEST

Covering period
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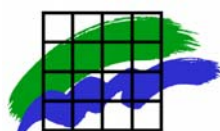


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Background

In Denmark and in the rest of Europe dunes and coastal dune heathlands are considered to be threatened and vulnerable habitats. The first monitoring of the Danish coastal priority habitats has shown that the conservation status is not favourable. 11 Sites of Community Interest covering a project site surface of more than 24000 ha within the Natura2000 network are included in this project. The sites are mainly selected for the priority habitat types fixed grey dunes (2130*) and decalcified fixed dunes with *Empetrum nigrum* (2140*).

Three general threats are identified as follows:

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

The threat from overgrowth is within the framework of this project categorised in five degrees (from over-stabilized dunes to different percentage of tree cover). Tree growth may change the dune heathland ecosystem completely, due to the shadowing effect of the canopy and forest induced changes of nutrient circulation and microclimate.

Further site specific threats concerning drainage, pressure from tourism, and barriers to habitat management due to land ownership are identified.

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 represent 65 % of total sand dunes FFH resource in Denmark.

The main objectives of the project are:

- Restoration of 264 ha of dune heath habitats, i.e. conversion (clearing) of non-indigenous conifer forest to priority habitat types fixed coastal dunes with herbaceous vegetation ('grey dunes') (2130*) and decalcified fixed dunes with *Empetrum nigrum* (2140*). Overgrowth degree IV-V.
- Clearing of 542 ha with 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 deal with threats of nutrient enrichment and lack of natural dynamic processes. Overgrowth degree I.
- Restoration of natural hydrology (hydrology project on Lyngbo Hede and closing of drainage trenches on Fanø (site 78) and dune heath at Stenbjerg, Thy (site 184))
- Perform land swaps concerning roughly 36 ha in order to remove barriers to habitat management due to land ownership on Rømø
- To secure viable populations of primarily *Bufo calamita* and *Rana arvalis* along the Danish west coast in the project area containing decalcified fixed dunes with mosaic of humid dune slacks

General project progress remarks

With reference to area related management two thirds¹ of the overall first year target was finalised. This corresponds to an overall project target fulfilment of 20%.

Due to budget cuts the Danish Forest and Nature Agency was forced to temporarily discharge all forest workers for 6 weeks. The discharge was executed during the summer and early fall of 2002. This resulted in a general delay of the LIFE project. However no problems in making up for the delay are foreseen. Furthermore no future use of this budget tool within the project period is expected.

On Rømø (site 78) management actions awaits the ongoing task with action B1 (land swaps). The land swaps are expected to be finalised by end summer 2003.

Summary of activities during report period

Overview table of actions (area related management) per site (ha)

Action Site	C.1		C.2		C.3		C.7		D.1		D.2	
	Project target	Complete to date	Project target	Complete to date	Project target	Complete to date	Project target	Complete to date	Project target	Complete to date	Project target	Complete to date
78	66,4	4,0	28,3	3,0	33,0	0,0	265,6	0,0	79,8	0,4	270,3	0,0
73	0,8	1,4	266,0	25,7	1.055,6	137,1			1.292,9	50,3		
72					237,8	237,8			237,8	0,0		
184	96,5	64,7	20,3	0,0	550,2	96,9	22,9	0,0	278,5	43,3	0,9	0,0
26	7,2	1,7	17,5	0,0	164,1	63,0	5,1	0,0	14,0	3,0	0,4	0,0
185	5,5	0,0			7,7	0,0	30,1	0,0	60,1	0,0	102,1	0,0
16			66,4	15,0	54,7	36,0	38,3	27,0	42,3	19,0	30,7	15,0
13			16,9	0,0			6,8	0,0			94,5	50,0
193					1.000,8	40,0						
2	65,6	22,5	119,9	3,3	321,6	23,0						
10	22,3	3,5	7,1	0,0	26,7	0,0						
Total	264,3	97,8	542,4	47,0	3.452,2	633,8	368,8	27,0	2.005,4	116,0	498,9	65,0

Milestones during report period

Checklist of identifiable products

Product/milestone	Action n°	Deadline	Date of completion
Kick-off seminar including training of nature management staff on management of breeding localities for <i>Bufo calamita</i>	A.2, A.4	01.06.2002	02.05.2002
Press releases about the LIFE nature project	E.3	30.06.2002	09.07.2002
Tender: Production of video	E.2	01.08.2002	Sep 2002
Detailed work plans for management of breeding localities for <i>Bufo calamita</i>	A.3	31.08.2002	20.12.2002
Advertising campaign in local news papers	E.3	31.08.2002	Oct 2002
Project proposal "Restoration of natural hydrology at Lyngbo Hede"	A.1	31.10.2002	Preparatory data collection in progress

¹ An overall cost weighted target fulfilment percentage has been estimated on the basis of actions C1, C2, C3, C7, D1 and D2.

Possible problems

Restoration of natural hydrology at Lyngbo Hede (action C4) is not likely to be finalised before 31 December 2003 as stated in the application. The preparatory action A1 (project proposal) is delayed. Considerations so far suggest that the costs may be significantly higher than budget. The willingness of different stakeholders to co-finance are being examined. From the project management point of view it is critical to establish a basis for a decision by the end of the second project year.

Statement of expenditure

Budget item	Accepted budget (project proposal)		Costs first project year (01.11.2001 - 31.10.2002)	
	EURO	DKK	DKK	% of budget
1 Personnel	2.286.045	16.976.627	3.286.858	19%
2 Travel	77.990	579.169	78.431	14%
3 External assistance	854.199	6.343.453	152.637	2%
4 Durable goods	39.651	294.456	0	0%
5 Land purchase/lease	94.677	703.090	0	0%
6 Consumable material	1.007.487	7.481.800	543.472	7%
7 Other costs	12.352	91.728	0	0%
8 Overheads	303.396	2.253.079	225.007	10%
TOTAL	4.675.797	34.723.404	4.286.406	12%

Exchange rate 1 EURO = 7,4262 DKK

First year total project income amounts to 93.561,60 DKK (not included in tables).

Action	Accepted budget (project proposal)		Costs first project year (01.11.2001 - 31.10.2002)	
	EURO	DKK	DKK	% of budget
A2	16.128	119.770	64.785	54%
A4	3.616	26.853	26.900	100%
C1	613.048	4.552.617	1.479.545	32%
C2	967.886	7.187.715	465.690	6%
C3	1.633.200	12.128.470	1.358.910	11%
C7	98.257	729.676	59.259	8%
D1	277.785	2.062.887	174.669	8%
D2	56.243	417.672	39.834	10%
E1	67.204	499.070	29.749	6%
E2	40.000	297.048	143	0%
E3	33.602	249.535	56.500	23%
E6	3.360	24.952	2.718	11%
E7	1.344	9.981	571	6%
F1	135.662	1.007.453	216.930	22%
F2	119.086	884.356	93.245	11%
F4	341.448	2.535.661	216.957	9%
	4.407.869	32.733.717	4.286.406	13%

Exchange rate 1 EURO = 7,4262 DKK

Amendment to the project

Modifications of budget

Action A2

The action (kick-off seminar) has been finalised at a total cost of 8.724 EURO. The 7.404 EURO less than budget is requested to be allocated to action C6 Restoration of breeding localities for herpetofauna which with reference to the prepared work plans (A3) is expected to result in higher costs.

A2		Requested new budget	
		Costs	
Budget item		DKK	EURO
1	Personnel	38.940	5.244
2	Travel	6.490	874
3	External assistance	13.051	1.757
4	Durable goods	0	0
5	Land purchase/lease	0	0
6	Consumable material	6.304	849
7	Other costs	0	0
8	Overheads	0	0
Total costs		64.785	8.724

Action A3

The contractor Amphi Consult has agreed to allocate hours from the preparation of work plans for restoration of breeding localities for herpetofauna to on-site advice in connection with action C6 Restoration of breeding localities for herpetofauna. Consultant hours amounting to 3.194 EURO is allocated to action C6.

A3		Accepted budget (project proposal)	Requested new budget
		EURO	EURO
Budget item			
1	Personnel		
2	Travel		
3	External assistance	19.704	16.510
4	Durable goods		
5	Land purchase/lease		
6	Consumable material		
7	Other costs		
8	Overheads		
Total costs		19.704	16.510

Action C6

With reference to the prepared work plans (action A3) and the savings described above the Commission is requested to accept a new budget for action C6 Restoration of breeding localities for herpetofauna as stated below. 10.598 EURO is allocated from actions A2 and A3 to C6.

C6	Accepted budget (project proposal)	Requested new budget
	EURO	EURO
Budget item		
1 Personnel	6.645	7.000
2 Travel		
3 External assistance	4.435	14.548
4 Durable goods		
5 Land purchase/lease		
6 Consumable material	960	1.000
7 Other costs		
8 Overheads	210	300
Total costs	12.250	22.848

Action E3

It is assessed that the best value-for-money-effect in the dissemination of information on the project is achieved using personnel of the Danish Forest and Nature Agency as co-ordinators. Consequently the budget is requested modified as stated below.

E3	Accepted budget (project proposal)	Requested new budget
	EURO	EURO
Budget item		
1 Personnel		15.000
2 Travel		1.000
3 External assistance	33.602	15.602
4 Durable goods		
5 Land purchase/lease		
6 Consumable material		2.000
7 Other costs		
8 Overheads		
Total costs	33.602	33.602

No other modifications of budget (including categories of expenditure) are suggested at this point.

Minor changes in area

An account for a package adjustment of action areas is given in annex B. The primary part of the adjustment is a redefinition of some C2 action areas in the western part of site 16. The C2 areas left out are still going to be cleared of three encroachment but as part of a much bigger C3 area.

Sum table area adjustments (ha)			
Action	Reductions	Additions	Total
C1	4,3	8,6	4,3
C2	63,3	10,6	-52,7
C3	5,0	182,1	177,1
D1	6,9	7,2	0,3
Total	79,5	208,5	129,0

Although a net area of 129 ha is added the area adjustment is almost cost neutral. The minor increase in expenses due to the area adjustment will not be subject to requests on alterations of the project budget.

New project manager in 2003

The present project manager Søren Korsholm has been asked to take up a position in the Division of Economics of the Danish Forest and Nature Agency from March 2003. Until a new project manager has been appointed Søren Korsholm will maintain the project manager function. The Danish Forest and Nature Agency will inform the Commission as soon as the new project manager is appointed.

Action E3 *Dissemination and co-operation with the local communities* is ongoing during project period

The Commission is requested to accept that action E3 is ongoing continuously during the whole project period.

The application mistakenly primarily focused on the preliminary campaign. It has however become clear that there is a need to continuously disseminate information. Management actions start locally at different points and some latitude to react on potentially negative events is essential.

Progress on preparatory actions

Action A1 Restoration of natural hydrology at Lyngbo

The preparatory project for the hydrology restoration project concerns the restoration of natural hydrology at the dune heath of Lyngbo Hede (site 72). A forty-year-old big drainage trench (up to 3 meters depth and width) cuts through Lyngbo Hede for approximately 1 kilometre and causes significantly drying out of the adjacent humid dune heath habitats. The project proposal will pinpoint the most efficient way to assure a restoration of the natural hydrology of the area. The project proposal will describe the likely effects of the hydrology project and provide the operational guidelines of how to achieve the objectives.

Timetable

The preparatory project was to be launched in November 2001. However there has been delays in the preparation of the preparatory project. Thus measurement of ground water levels, which is seen, as a crucial part of the preparatory project, has not yet been conducted.

The delay is not significant in the sense, that the preparatory project and the construction activities at Lyngbos Hede still can be implemented within the time frame of the project. However 1 November 2003 is seen as the critical date. Thus all necessary information including the measurement of ground water levels and the preparatory project must be in place at this point.

The preparatory project is expected to show that the activity can be implemented without negative effects for the upstream holiday cottage area. However, if this is not the case, or if the preparatory project is not in place by the critical date mentioned above, alternative activities concerning restoration of natural hydrology within the project area will be proposed to LIFE.

No costs has been recorded in the first project year.

Action A2 Kick-off seminar / Training of personnel involved in project

A kick-off seminar / training day for the project personnel was completed 2 May 2002 with the objective to give an introduction to the goals of the project and to create a better understanding and motivation. The main target group where local site managers and forest workers / nature conservation workers. Round 80 participated. The location of the training day was Kallesmærsk Hede, Kærgaard plantage and Filsø Hede (all site 73).

After a joint session for all participants with introduction to project objectives and management of dune heathland two groups in turn completed field sessions in management of dry habitats and management of wet habitats. The latter is separately described under action A.4.



PHOTO 1: Professor Ib Johnsen showing different lichen species in the session concerning management of dry habitats.

The action has been finalised with a total cost of 64.785 DKK.

Action A3 Work plans for the management of herpetofauna

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

Bufo calamita was only found in bigger populations at two sites (site 13 and 2). The southernmost is located close to Grønnestrånd, where the anthropogenic pressure due to digging of sand and grazing has created reasonable breeding and foraging possibilities for the toad. The northernmost locality is on the other hand the natural dynamical landscape near the dynamic parabola dune Råbjerg Mile, where the wind caused sand drift creates open and stressed wet as dry areas which are perfect as breeding and foraging habitats for *B. calamita*. In this area the population is considered to be viable on long term. In all other areas within the project, the natural dynamic is not longer sufficient to maintain the required biotops for *B. calamita*, which make management needed.

Rana arvalis, which is less dependent on a dynamical landscape, have been sparsely found along the whole Danish West Coast. In general the species will benefit of management activities undertaken for *Bufo calamita*.

Please refer to the enclosed work plan (*in Danish but with English summary*).

(The action has been finalised December 2002 with a total cost of 122.600 DKK. Notice: The cost is not part of the first project year account ! The contractor Amphi Consult has agreed to allocate hours from the preparation of work plans for restoration of breeding localities for herpetofauna to on-site advice in connection with action C6 Restoration of breeding localities for herpetofauna. Consultant hours amounting to 3.194 EURO is allocated to action C6.)

Action A4 Training of project personnel in the management of herpetofauna habitats

As part of the kick-off seminar (action A2) training of project personnel in the management of herpetofauna habitats / wet biotops was completed 2 May 2002.

Basic knowledge concerning the herpetofauna targeted by the project was initially promoted through handouts and showing a video on the ecology of *Bufo calamita*. Afterwards different wet biotopes was demonstrated in the field and management initiatives discussed.



PHOTO 2: Lars Briggs from Amphi Consult demonstrating wet biotop fauna.



PHOTO 3 & 4: Participants examines wet biotop fauna.

The action has been finalised with a total cost of 26.900 DKK.

Progress on purchase of land

Action B1 Land swaps on Rømø

The action involves land swaps of small (long and thin) land lots owned by different private owners in order to remove barriers to a coherent management. The action is ongoing with the Directorate for Food, Fisheries and Agri Business (DFFE) under the Danish Ministry of Food, Agriculture and Fisheries as the main player.

Please refer to annex A for a land lot by land lot owner status.

The action is expected to be finalised medio 2003. Delay is due to the complexity of the action with many stakeholders involved.

No costs has been recorded in the first project year.



PHOTO 5: Southwest perspective on an East – West going private land lot on Rømø.

Progress on non-recurring management

Action C1 Conversion of non-indigenous conifer forest

The action aims at extending the area with priority dune habitats through conversion of forest stands and woodlands, i.e. felling, chipping and removal. The action contributes to the implementation of an overall strategy to gradually extend the area with dune heath where possible considering socio-economic factors and the multiple-use of these areas.

Action	Site	Org.	C.1 (ha)		Comments	
			Project target	First year target*		Complete to date
78	SNS		66,4	37,8	4,0	
	SJA		0,0	-	-	
73	SNS		0,8	0,0	1,4	Please refer to annex B
	OKS		0,0	-	-	
	RIA		0,0	-	-	
72	SNS		0,0	-	-	
184	SNS		95,2	73,5	63,4	Only felling completed
	VIA		1,3	0,0	1,3	
26	SNS		1,7	0,0	1,7	
	VIA		5,5	0,0	0,0	
185	SNS		5,5	0,0	0,0	
	VIA		0,0	-	-	
16	SNS		0,0	-	-	
	VIA		0,0	-	-	
13	SNS		0,0	-	-	
193	SNS		0,0	-	-	
2	SNS		41,1	18,6	7,2	Burning of some wood debris remains
	NJA		24,5	0,0	15,3	Only felling completed
10	SNS		22,3	0,0	3,5	
Total			264,3	129,9	97,8	

* : according to provisional progress planning in application

The project target of 264,3 ha will be increased (net) to 268,6 ha as part of a package adjustment of action areas. Please refer to annex B.

Please also refer to general project progress remarks in section 2.

First year costs amounts to a total of 1.479.545 DKK.

Action C2 Clearing of dense overgrowth

Emergency action in order to clear areas subjected to encroachment over a longer period of time (up to 50 years). Clearing of 542 ha with dense overgrowth (self-sown thickets).

Action		C.2	(ha)		
Site	Org.	Project target	First year target*	Complete to date	Comments
78	SNS	18,3	6,4	3,0	
	SJA	10,0	10,0	0,0	Management agreements awaits outcome on action B1 (land swaps)
73	SNS	140,4	34,4	16,7	
	OKS	16,0	11,0	9,0	
	RIA	109,6	43,0	0,0	
72	SNS	0,0	-	-	
184	SNS	0,0	-	-	
	VIA	20,3	0,0	0,0	
26	SNS	0,0	-	-	
	VIA	17,5	0,0	0,0	
185	SNS	0,0	-	-	
	VIA	0,0	-	-	
16	SNS	66,4	19,6	15,0	
	VIA	0,0	-	-	
13	SNS	16,9	0,0	0,0	
193	SNS	0,0	-	-	
2	SNS	43,8	12,4	3,3	
	NJA	76,1	0,0	0,0	
10	SNS	7,1	3,9	0,0	
Total		542,4	140,7	47,0	

* : according to provisional progress planning in application

The project target of 542,4 ha will be decreased (net) to 489,7 ha as part of a package adjustment of action areas. The change in area is primarily due to redefinition of action C2 / action C3 – areas in the western part of site 16. The C2 areas left out are still going to be cleared of three encroachment but as part of a much bigger C3 area. Please refer to annex B.

Please also refer to general project progress remarks in section 2.

First year costs amounts to a total of 465.690 DKK.

Action C3 Removal of tree encroachment

This task involves the motor-manual felling of pines. Where trees have existed in pockets, they are collected and extracted from the area / alternatively the trees are burned in heaps. On flat areas otherwise allowing passage by wheeled vehicles, a tractor-mounted mulcher is used in the patches of re-growth.

Action	Site	Org.	C.3 (ha)		Comments	
			Project target	First year target*		Complete to date
78	SNS		8,2	0,0	0,0	Management awaits outcome on action B1
	SJA		24,8	24,8	0,0	Management agreements awaits outcome on action B1 (land swaps)
73	SNS		236,1	153,1	66,1	
	OKS		449,0	125,0	71,0	
	RIA		370,5	97,3	0,0	
72	SNS		237,8	237,8	237,8	
184	SNS		497,4	48,2	78,2	
	VIA		52,8	0,0	18,7	
26	SNS		91,7	0,0	63,0	
	VIA		72,4	0,0	0,0	
185	SNS		3,6	0,0	0,0	
	VIA		4,1	0,0	0,0	
16	SNS		38,5	6,1	36,0	
	VIA		16,2	0,0	0,0	
13	SNS		0,0	-	-	
193	SNS		1.000,8	0,0	40,0	
2	SNS		135,5	31,4	23,0	
	NJA		186,1	0,0	0,0	
10	SNS		26,7	7,8	0,0	
Total			3.452,2	731,5	633,8	

* : according to provisional progress planning in application

The project target of 3452,2 ha will be increased (net) to 3629,3 ha as part of a package adjustment of action areas. The change in area is primarily due to redefinition of action C2 / action C3 – areas in the western part of site 16. The C2 areas left out are still going to be cleared of three encroachment but as part of a much bigger C3 area. Please refer to annex B.

Please also refer to general project progress remarks in section 2.

First year costs amounts to a total of 1.358.910 DKK.

Action C4 Restoration of natural hydrology at Lyngbo Hede

Please refer to Action A1

Action C5 Restoration of natural hydrology – closing of drainage trenches

No activity planned first project year

Action C6 Restoration of breeding localities for herpetofauna

The practical implementation of the work suggested in action A.3 Elaboration of detailed work plans for the management of existing or creation of new breeding localities primarily for *Bufo calamita* involves two elements: A) Restoration of breeding localities and B) On site advice from herpetologist on the practical management of existing and/or the creation of new breeding localities.

Most of the suggested management will be carried out in 2003. A project working group meeting by end January 2003 will set out a more detailed timetable for the implementation.

No costs has been recorded in the first project year.

Action C7 Establishment of grazing

This action involves establishment of grazing at 6 project sites with the greater part on the island Rømø (site 78)

Action Site	Org.	C.7 (ha)			Comments
		Project target	First year target*	Complete to date	
78	SNS	115,6	115,6	0,0	Management awaits outcome on action B1
	SJA	150,0	0,0	0,0	
73	SNS	0,0	-	-	
	OKS	0,0	-	-	
	RIA	0,0	-	-	
72	SNS	0,0	-	-	
184	SNS	0,0	-	-	
	VIA	22,9	0,0	0,0	
26	SNS	0,0	-	-	
	VIA	5,1	0,0	0,0	
185	SNS	26,0	0,0	0,0	
	VIA	4,1	0,0	0,0	
16	SNS	29,9	18,0	27,0	
	VIA	8,4	0,0	0,0	
13	SNS	6,8	0,0	0,0	
193	SNS	0,0	-	-	
2	SNS	0,0	-	-	
	NJA	0,0	-	-	
10	SNS	0,0	-	-	
Total		368,8	133,6	27,0	

* : according to provisional progress planning in application

The establishment of grazing on Rømø awaits the outcome of action B1 which is expected to be finalised medio 2003.

Please also refer to general project progress remarks in section 2.

First year costs amounts to a total of 59.259 DKK.

Progress on recurring management

Action D1 Mosaic burning

This action involves burning of mosaics of small areas (from roughly 20 x 20 metre to 50 x 50 metre).

Action		D.1	(ha)		
Site	Org.	Project target	First year target*	Complete to date	Comments
78	SNS	34,2	0,0	0,4	Management awaits outcome on action B1
	SJA	45,6	19,6	0,0	Management agreements awaits outcome on action B1 (land swaps)
73	SNS	347,8	73,1	32,3	
	OKS	465,0	0,0	18,0	
	RIA	480,1	0,0	0,0	
72	SNS	237,8	237,8	0,0	Burning planned 2003
184	SNS	273,5	75,8	43,3	
	VIA	5,0	0,0	0,0	
26	SNS	14,0	0,0	3,0	
	VIA	0,0	-	-	
185	SNS	60,1	0,0	0,0	
	VIA	0,0	-	-	
16	SNS	42,3	9,0	19,0	
	VIA	0,0	-	-	
13	SNS	0,0	-	-	
193	SNS	0,0	-	-	
2	SNS	0,0	-	-	
	NJA	0,0	-	-	
10	SNS	0,0	-	-	
Total		2.005,4	415,3	116,0	

* : according to provisional progress planning in application

Please also refer to general project progress remarks in section 2.

First year costs amounts to a total of 174.669 DKK.

Action D2 Cutting vegetation and removal of material

This action involves cutting vegetation and removal of material by tractor mounted harvesters.

Action		D.2	(ha)		
Site	Org.	Project target	First year target*	Complete to date	Comments
78	SNS	70,3	54,7	0,0	Management awaits outcome on action B1
	SJA	200,0	0,0	0,0	
73	SNS	0,0	-	-	
	OKS	0,0	-	-	
	RIA	0,0	-	-	
72	SNS	0,0	-	-	
184	SNS	0,0	-	-	
	VIA	0,9	0,9	0,0	
26	SNS	0,4	0,0	0,0	
	VIA	0,0	-	-	
185	SNS	102,1	0,0	0,0	
	VIA	0,0	-	-	
16	SNS	30,7	30,7	15,0	
	VIA	0,0	-	-	
13	SNS	94,5	0,0	50,0	
193	SNS	0,0	-	-	
2	SNS	0,0	-	-	
	NJA	0,0	-	-	
10	SNS	0,0	-	-	
Total		498,9	86,3	65,0	

* : according to provisional progress planning in application

Please also refer to general project progress remarks in section 2.

First year costs amounts to a total of 39.834 DKK.

Progress on public awareness and dissemination of results

Action E1 Mounting of map tables / notice boards

The activity includes mounting of information boards on 30 key localities at the 11 sites. The action comprises graphic work and drawing for 11 sites, printing of 60 tables, production of 40 table standards, translation work, text writing and mounting map tables.

During the autumn of 2002 information boards for the project area has been prepared. Emphasis has been on involving the local forest districts and the counties.

The process was initiated by a visit from the project manager and staff to all involved districts in the late summer of 2002. General ideas of how to disseminate information was discussed including the use of information boards and suitable locations for these. Following an initial outline of the information board was send to all participating districts and counties with an encouragement to comment an propose improvements. Several constructive suggestions was proposed and incorporated. This step was iterated a number of times until the final layout was decided. Please refer to annex D.

At the present stage all boards have undergone final layout. The printing of the information boards will take place in the period from 6 January 2003 to 17 January 2003. Information boards along with frames and poles will be distributed to the local forest districts and subsequently situated in the field prior to 1 February 2003. Information boards were originally intended to be located in the field by 31 December 2002. The delay can mainly be attributed to the postponed confirmation regarding co-financing by LIFE. Because of the time-consuming process of gathering information from all relevant stakeholders, it has not been possible to make up for the lost time.

First year costs amounts to a total of 29.749 DKK.

Action E2 Production of video

The aim of the video production is to provide the target group with an understanding of the dune habitat, the threats against it and how the project addresses these threats.

A contract covering the Dune habitat video was formally signed early December 2002 with TV/Midt-Vest. TV/Midt-Vest is a self-governing institution broadcasting regionally at the TV2-Danmark frequency. TV/Midt-Vest produces a wide range of programs including daily news and nature/environment programs for the regions approximately 500.000 residents.

TV/Midt-Vest has on earlier occasions demonstrated high-quality coverage of nature subjects.

The choice of producer was made following an invitation of tender for the production.

During late August 2002 the market was screened for potential producers i.e. companies with former professional experience with nature film. 14 producers was invited to participate in the tender. Among the 14 suggestions 3 were invited for separate interviews.

TV/Midt-Vest was chosen weighing out a number of criteria such as story telling skill, acquaintance with broadcasting media and technical equipment. Overall it has been of the greatest importance that the video is produced to qualify for the widest possibly distribution to the target group.

In early December a contract including an outline of the main focus areas for the video was signed. The contract secures the right of The Danish Forest and Nature Agency for all non-commercial distribution of video material including sequences for display at the project web-site.

A promising spin-off effect of the association with TV/Midt-Vest is the anticipated high coverage the channel will give the project due to the video-production. Furthermore the regional TV channels in the project area have an extensive mutual exchange of material, which make above average coverage on local TV a likely outcome. In general regional tv-channels is an excellent means of reaching the local communities in the project area as well as other citizens in the area.

Another interesting possible spin-off effect of the co-operation with TV/Midt-Vest may be the development of a new digital material for education purposes based on the dune habitat video. The full potential for development of this idea will be examined at a meeting scheduled January 2003 with the publishing company "Lindhardt og Ringhoff", TV/Midt-Vest and the Danish Forest and Nature Agency.

First year costs amounts to a total of 143 DKK.

Action E3 Dissemination to and co-operation with the local communities

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

Press releases

The project was initially announced to the public through a press release early July 2002. The press release was sent to news agencies, selected newspapers, TV and Radio channels and published at the web site of the Danish Forest and Nature Agency.

As a result of the campaign 2 national- and 2 regional newspapers, 3 regional TV broadcasting companies and the national radio covered the EU/LIFE support to Danish nature restoration.

2 weeks later an article in the Danish Forest and Nature Agency newsletter "Skov og Natur" (Annex E) was distributed to news agencies, newspapers etc. The director general of the Danish Forest and Nature Agency was subsequently interviewed about the project on national radio. The chief forest officer of Thy State Forest district also gave interview on national- and a regional radio station. The story was furthermore covered on national broadcast television.

The Nature and Forest Directors meeting in early October 2002 was used as another opportunity to attract the general public's attention to the project. During the meeting the press was invited on a guided tour concerning dune restoration and management. Consequently national broadcast television and regional newspapers covered the project.

Information campaign and guided visits

It was decided to combine the general newspaper based information campaign with the execution of a number of guided visits mentioned under E6 (guided visits and events). Synergy between the two actions could be achieved since people would be more receptive to the advertising of the project when it contained an offer regarding a concrete arrangement. On the other hand more people were likely to join the guided tours when a thorough and enlightening written information was provided.

Information about the project was disseminated together with adverts for the guided tours in local newspapers (in colour print) at each forest district. Press releases about the project was distributed simultaneously which gave rise to a number of articles about the project (Annex E). In total 7 thematic tours about dune habitat management were carried out. The number of participants on the guided tours ranged between 30 and 60. See table below.

Information to local communities through newspapers and guided tours

Forest district	# Participants at guided tours	# tours	# Newspapers advertising for the project
Nordjylland	100	4	3
Hanherred	32	1	2
Thy	60	1	2
Oxbøl	30	1	2

Workshop for Rømø landowners

To facilitate the project in the Rømø area private landowners from within the project area was invited to a workshop at Oxbøl State Forest district. The aim of the workshop was to explain and – as far as possible to demonstrate - the means and objectives of the project. The daylong workshop included a broad introduction to dune habitat ecology and an in depth discussion of how the project may affect hunting opportunities. During a field visit mosaic burning as well as clearing of non-indigenous conifers was demonstrated. The workshop was planned and implemented in a joined effort by Sønderjyllands County and the Danish Forest and Nature Agency (Oxbøl State Forest district and Thy State Forest district). Sønderjyllands County was the official host of the workshop.

The workshop was held the 28 November 2002. 9 out of a total of 16 invited landowners from Rømø participated. The invited land-owners represent 2 groups: Those who the project would like to participate in land swaps as well as those who are likely to keep their land while accepting dune management conducted by the County. 2 representatives from the Directorate for Food, Fisheries and Agri business (DFFE) who are in charge of the land swap process at Rømø also participated. Since the land swap process has not yet been completed, it is too early to judge the success of the arrangement. However the county has expressed its impression, that earlier experienced concern of the landowners regarding the project has vanished.



PHOTO 6: Rømø land owners views the effects of mosaic burning.

Travelling project exhibition

A travelling project exhibition has been prepared. The exhibition consists of 11 posters in English which presents the dune habitat nature, the threats against it and the project means and objectives. Prints of the posters are attached to this activity report. Display opportunities include the Workshop (Action E4) scheduled for 2003 as well as other public meetings and the project web site (see below). The exhibition was used for the first time at a congress for European Nature and Forest directors in the early October 2002. Please refer to annex C.

Timetable

The advertising campaign was scheduled to 31 August 2002. The campaign was postponed to make the guided tours coincide with the fall school holiday, which falls in mid-October.

The advertising/guided tour campaign for Rømø was postponed with the intention to initially introduce local people to the project through the workshop.

The Commission is requested to accept that action E3 is ongoing continuously during the whole project period.

The application mistakenly primarily focused on the preliminary campaign. It has however become clear that there is a need to continuously disseminate information. Management actions start locally at different points and some latitude to react on potentially negative events is essential.

First year costs amounts to a total of 56.500 DKK.

Action E4 Workshop 2003

The workshop is planned to be held in week 37, 2003. Announcement will be made spring 2003. Invitations to the Commission will be forwarded directly.

Action E5 Production of folders

No activity planned first project year

Action E6 Guided visits and events

The project encompasses 25 guided visits in the sites. 7 guided tours were performed in the context of the promotion of the project (for further description see activity E3 above).

The remaining guided tours will be launched continuously during the project period.

First year costs amounts to a total of 2.718 DKK.

Action E7 Production and maintenance of project WEB site

A web site describing the project and facilitating the downloading of activity reports and other material was to be launched in 2002. The web site aims at providing the visitors with easy and quick access to information on the restoration project.

A project web site has been developed. The site is situated at the Danish Forest and Nature Agency's main web site. The exact address is: <http://www.skovognatur.dk/foralle/projekter/klithede>. The Dune Management Homepage contains the following sub-pages (in Danish): *Threats toward the dune habitat*, where you can read about overgrowth, lack of dynamic processes etc. *The dune habitat restoration project* explains the main features of the project, such as mosaic burning, clearing, establishment of grazing, etc. *The dune habitat nature* exhibits the characteristic species of the dune habitat and the harsh conditions, which prevails in the dune habitat. *The participants* give details on the organisation of the project. *The project area* provides the visitors with insights on where the project is situated and shows examples from the individual sites in the project area. Additionally the Natura 2000 concept is explained. At *Public events* guided tours and workshops are displayed. At *Download files* activity reports and other relevant material is made available. *LINKS* offer direct access to project partners homepages as well as to the homepages of LIFE, a Natura2000 web page etc. *Information in English* gives people from outside Denmark an opportunity to achieve a broad understanding of the project. Finally at a projected link, *Videospots*, short video cuts formatted for web display will be made available. The video producer TV/Midt-Vest mentioned under E1 will supply video cuts.

The WEB site for the Dune Habitat Project was developed within the published time frame. During the remaining time of the project the web site continuously will be updated and developed.

First year costs amounts to a total of 571 DKK.

Action E8 Production of layman's report

No activity planned first project year

Action E9 Networking with other project

A study tour was originally planned in the fall of 2002 but it was not feasible with regard to other activities.

A CO-OP bid was June 2002 launched together with two ongoing Estonian and one previous British LIFE nature projects with dune management elements ("Boreal Baltic Coastal Meadow Preservation in Estonia", "Häädemeeste Wetland Complex Restoration and Management" and "Sefton Coast LIFE Project"). Regrettably the bid was not accepted for financing in 2002. The projects mentioned are however believed to have collected a number interesting learning points to this project and further co-operation within the very limited budget will be pursued in the next months. Action E9 and E4 (workshop) are to be regarded in the same context.

Progress on overall project operation and monitoring

Action F1 Monitoring of coastal dune heaths (extensive-monitoring)

The action is carried out by the National Environmental Research Institute, Dept. of Terrestrial Ecology, Vejlsoevej 25, P.O.box 314, 8600 Silkeborg, Denmark.

Project participants:

Research scientist, Dr. Knud Erik Nielsen ken@dmu.dk, Dr. Krista Kathrine Bernth, Dr. Jesper L. Bak and Morten Strandberg, National Environmental Research Institute, Dept. of Terrestrial Ecology

Objectives of the monitoring

The overall purpose of the project is to obtain favourable conservation status on about 5000 hectares present and former existing coastal dune heaths.

The purpose of the extensive monitoring is to

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

Background

The following quotation comes from The Environment Directorate -General of the European Commission and has strongly influenced the monitoring concept in this project. "The conservation status of a habitat is the sum of the influences acting on a natural habitat and its typical species that may affect its long-term natural distribution, structure and functions as well as the long-term survival of its typical species. The monitoring should take into account all the influences of the environment (air, water, soil, territory) which act on the habitats and species present".

Thus the proposed elements of the conservation objectives for the coastal habitat types has to be seen in the light of the interpretation from the EU-commission. By combining indicators which give a good indication of the management and nitrogen status of the coastal habitats with changes in abundance's of key species the aim will be to assess the conservation status and set critical loads for coastal heaths.

The conservation status of coastal heaths in Denmark is largely unknown. It is, however, expected that the long-term maintenance is reliant upon management measures aimed at removing nutrients and preventing overgrowth of trees and bushes and the replacement of the heather species with grasses. Provided that the coastal heathlands are managed the most obvious threat is the increasing eutrophication from atmospheric deposition of nitrogen.

The monitoring network

The following monitoring areas have been monitored in 2002:
Lodbjerg/Stenbjerg (site 184), Fanø/Rømø (site 78).

1) Selection of monitoring points

These areas have been selected as monitoring stations because they contain most of the proposed management methods in the project, see table 1.

On each of the aerial photos from the monitoring areas an evenly grid net of 10x10 meter point were laid over the photos. From this grid-net a total of 40 to 50 points were selected randomly on each monitoring area. These points constitute the monitoring points of the extensive monitoring. The points were transferred to a GPS, which were used to relocate the monitoring point in the field.

A monitoring station contains 30 monitoring points and the additional points were only used if a point for various reasons was impossible to monitor. For example if a point hit a small plantation or a lake, stream etc the cover is noted on the data sheet for the monitoring point. The cover of trees or areas dominated by bushes or lakes visible on the photos will be calculated from the aerial photos.

2) The monitoring point

Arriving at a monitoring point a 10 m long transect were laid out in the north direction. In 0, 2,4,6,8 and 10-m data sampling were performed. The vegetation was analysed by the pinpoint method. A frame of 40x40 cm with a grid of a total of 16 points was used. A thin metal needle was successively placed vertically in every gridpoint and everything hitting the needle was registered – both the higher vegetation and the bottom layers of lichens and mosses, bare soil, water etc. A 10 m transect thus contains 0,96 m² and 96 points and the vegetation analysis of one monitoring station contains nearly 30 m² with a total of nearly 3000 registrations. To judge whether or not 30 monitoring point was enough for covering a large area as for example Lodbjerg the species/area ratio was tested regularly. After monitoring 22 point the species/area ratio flattens out and additional point did not improve the data quality much.

3) Characteristic species

As a starting point the characteristic non-dominating species are those that are mentioned in “the interpretation manual”. The characteristic species have been registered along the transects.

4) Analysis of vegetation and soil

Along the transect samples of the uppermost part of the soil, new shoots of the dominating dwarf scrubs were sampled for chemical analysis of pH, Nitrogen and Carbon. Pillows of lichens and mosses were sampled for nitrogen analysis. Only the upper living part of the cryptogams was used in the analysis. The nitrogen content of the new shoots of dwarf scrubs, lichens and mosses has been shown to reflect the atmospheric input of nitrogen. Especially lichens and mosses have proven to be efficient absorber of nitrogen compounds from the atmosphere. Leaf-chemical analysis will be the only parameter in the present monitoring program that will be able to react to year to year variations.

At each monitoring point the vegetation in the first of the six repetitions along the 10 m transect were sampled and dried to give an estimate of the weight of the biomass at the point.

Plans for the future

During the first half of 2003 all chemical analysis will be done including statistical analysis of the vegetation on the monitoring stations. Thereafter the data will be analysed for the 4 monitoring stations.

In august a test of the method will be done at Stenbjerg (site 184) in order to validate the robustness of the monitoring method. It is also expected to include Aalvand (site 26) as a monitoring station.

A presentation of the monitoring program and the first results will be presented on the coming workshop (action E4).

First year costs amounts to a total of 216.930 DKK.

Action F2 Monitoring of coastal dune heaths (intensive-monitoring) and preparation of Best Management Practise Guidelines

The action is carried out by the University of Copenhagen, Botanical Institute, Department of Physiological Ecology, Øster Farimagsgade 2D, DK-1353 Copenhagen K, Denmark

Project participants:

Professor Ib Johnsen, University of Copenhagen, Botanical Institute, Department of Physiological Ecology, Øster Farimagsgade 2D, DK-1353 Copenhagen K, Denmark; coworkers Mogens Ring Petersen (scientist), Steen N. Christensen (scientist) and Martin Johnsen (student).

Objectives of the monitoring

The overall purpose of the project is to

- obtain favourable conservation status on about 5000 hectares present and former existing coastal dune heaths.

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 Practice Characterization
- provide an overview of acceptable management methods seen from a plant ecological standpoint
- define clearly 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

Intensive monitoring 2002

As prerequisite for correct positioning of the permanent plots representing the different management methods, a number of botanical inventories were necessary. These inventories constituted a large part of the fieldwork during 2002 as opposed to the more time consuming detailed analyses of the permanent plots. Botanical inventories were done at 8 project sites, covering different percentages of the areas, reflecting time allotted and size of the site. Based on these inventories, a number of permanent plots were established and analysed in 2002, see table 1.

Table 1. Analyses within the F2 action during 2002

NATURA 2002 code	Project Site no.	Geographic Name	Botanical Inventory; Area covered (%) of site	Permanent plots; established and analysed
DK00FX005	2	South of Råbjerg Mile	25	0
DK00FX118	10	Højsande, Læsø	75	0
DK00FX121	13	Svinkløv	75	0
DK00AX172	72	Lyngbos Hede; Kærgård Plantage	75	2
DK00AX173	73	Kallesmærsk Hede; Grærup Hede	50	2
DK00AY176	78	Wadden Sea, Fanø	50	3
DK00AY176	78	Wadden Sea, Rømø	25	17
DK00EX265	184	Klitheder mellem Stenbjerg og Lodbjerg	15	0

The areas 78, 184 and 26 have been selected as main monitoring stations in connection with the two monitoring actions (F1 and F2), because they contain most of the proposed management methods in the project.

Botanical inventories

The botanical inventories were performed as E-W or N-S transect analyses with description of plant communities and their relative abundance along the lines, which were separated by about 50 m. The topography was reported, and digital pictures were taken from points with positions determined by GPS. Species occurrence in general, and occurrence of rare species as well as indicator species (i.e. species particularly characteristic for a certain plant community) was noted. The communities were also characterised in terms of relative cover between the groups: Dwarf shrubs, herbaceous plants, graminoids, epigeic lichens (mainly *Cladonia* spp.) and bryophytes. The area of gaps, mainly with biological crusts, in percentage of total for the plant community in question, was recorded.

Permanent Plots

The permanent plots were always placed as pairs (with one exception: Fanø) in order to describe a before/after situation. The 'before situation' is linked to a specific management action, and the 'after situation' refers to the original, more or less ideal state of the ecosystem at the specific part of the project site. The geographic position was measured for the marker placed in the middle of 4 rectangular shaped grids, each with 24 squares of 20*20 cm². For each square, the cover for all species was estimated in %. The total

number of squares per plot was thus 96. The analysis is quite time-consuming even with experienced personnel. The plots were photographed digitally.

The 2002 established permanent plots cover the following actions (see table 2): C2, C3, D1 & D2.

Data availability

The datafiles from 2002 are all saved on the server at Botanical Institute (BOTNT), folder name: klitLIFE.

Plans for the future

The data from the 2002 inventories, together with the remaining ones, shall further be used to establish permanent plots primarily at the sites 184 and 26. To cover the range of variation, a limited/additional number of permanent plots shall also be established 2003 at the sites 2, 10, 13, 72, 73 and 78.

A presentation of the monitoring program and the first results will be presented on the coming workshop (action E4).

First year costs amounts to a total of 93.245 DKK.

Action F3 Evaluation of management for herpetofauna breeding localities and elaboration of guidelines for the future management

No activity planned first project year

Action F4 Project management and co-ordination

Only one project working group meeting with all project partners was held end June 2002. A series of specific task related meetings were held during the first project year. 27 January 2003 a new project working group meeting with all project partners is planned. Here first year progress will be evaluated and planning for 2003 discussed.

During 2002 it was decided to employ an information officer. The information officer Troels Rolf Pedersen is to work full time on implementing information activities (the "E" activities) in the period from 1 October 2002 to 1 February 2003.

The present project manager Søren Korsholm has been asked to take up a position in the Division of Economics of the Danish Forest and Nature Agency from March 2003. Until a new project manager has been appointed Søren Korsholm will maintain the project manager function. The Danish Forest and Nature Agency will inform the Commission as soon as the new project manager is appointed.

First year costs amounts to a total of 216.957 DKK.