

PROJECT MODIFICATION REQUEST

Project Title/No: “Restoring Active Blanket Bog in Ireland”/LIFE02 NAT/IRL/8490

Duration: 1st July 2002 – 30th June 2006

Project Total Budget: €4,195,693

Community Contribution: €3,146,770

Admissibility of modification request

The Standard Administrative Provisions (Article 13.3) stipulate that any modification request should be transmitted at least 3 months prior to the project’s end. As this project is scheduled to end on 30th June 2006, this condition is being met.

Position from which modifications are being requested

It is important to state from the beginning that the purpose of the requested modifications is to exceed project objectives, not to change them. The project has now reached the end of its third year of implementation. Proposals to revise the physical achievement targets for certain project actions have already been submitted in Coillte’s letter of 16th April 2004 and were formally accepted in the Commission’s letter of 18th February 2005. Those revisions will now be included formally in this wider modification request. Progress on the ground has been excellent and well within overall budget. All the agreed revised targets for the main physical restoration actions (tree removal, drain blocking, fencing) are on target for completion by the scheduled end of the project. Accordingly, we are now in a position to have an accurate view of all the potential modifications required between now and the end of the project – principally

- the utilization of an underspend of some €1,004,889 for the restoration of up to 776.7 ha of extra blanket bog areas;
- a time extension from 30th June 2006 to 31st December 2007 to allow these extra areas be restored; and
- a re-allocation of the original budget to facilitate these proposed modifications.

If the project modification request is approved, the main project objective of restoring 1,212.3 ha of active blanket bog will be exceeded by up to 776.7 ha (64%) to give a total of up to 1,989.0 ha restored within the original approved budget. In fact, the new area to be cleared of trees (487.1 ha) is almost 100% of the corresponding area in the original project (495.17 ha). Detailed technical and financial justifications for the proposed project modifications are set out below. The relevant modified forms and maps, using the same format as in the original approved application, are provided at Annex 1 (including the appropriate replacement Forms 26(2) and 27 from the National Parks and Wildlife Service). A letter of support from the National Parks and Wildlife Service is also provided at Annex 2.

TECHNICAL JUSTIFICATION

Reasons for the requested modifications

The modifications are being requested due to major operational efficiencies resulting in significant financial savings of €1,004,889 during the implementation of the original approved project (including agreed revised targets). These efficiencies will enable the project objectives to be exceeded to a very considerable extent (up to 64%). Accordingly, there is a unique opportunity here to achieve very considerably greater value for money in respect of the Community contribution of €3,146,770 already approved for this project.

Due to the complex nature of the drain blocking action (C4), it has not proved possible to forecast the number of dams required per hectare before sites have been cleared of trees. As detailed drain survey data was not available when submitting the original proposal, the best estimates of research (Anderson, R., *Deforesting and Restoring Peat Bog, A Review, Forestry Commission Technical Paper 32*, Forestry Commission, Edinburgh, 2001) and practice from the UK LIFE-funded Border Mires project (LIFE98 NAT/UK/005432) were used for costing purposes. Over 75,000 plastic dams were programmed as a result. However, our own site management experience, including site discussions with Dr John Conaghan (Contract Project Ecologist), John Houston (External Team), the National Parks and Wildlife Service, and subsequent experience gained from networking with other projects (e.g. the Scottish Peatlands project, LIFE00/NAT/UK/007075), confirmed to us that the original estimate of 75,000 plastic dams was in fact overstated.

These issues have been notified to the Commission in our letter dated 16th April 2004 and in the Interim Report at the end of Year 2 (pages 12, 17 and 18). The Commission's letter of 18th February 2005 stated that the Commission would be willing to consider some variations in methodology, and the Commission's letter of 8th November 2004 indicated that Coillte would be welcome to submit a modification request at any time subject to the provision of the necessary supporting information.

The procedure developed on our project to date, to define the area to be blocked and to estimate the number of dams to be installed under action C4, is described below. On each project site, when the ground is cleared of trees, a site assessment is carried out to determine relevant site characteristics such as main water outflows, depths of peat, and steepness of site slopes. Only then can we determine the location and intensity of blocking required on the particular site.

These site characteristics are:

1. Elements of some sites are steep sloping and it is not necessary or practical to block drains on these areas.
2. On a number of sites where peat depths are less than 1 metre, it is not feasible to block drains on these areas.

3. Open drains in sections of some sites have blocked up naturally through recolonisation of *sphagnum spp* over time thus restoring hydrology and removing the need for drain blocking on these areas.
4. A number of sites had been tunnel ploughed for drainage during site preparation for afforestation in the past. This type of ploughing had the effect of creating an underground tunnel to channel water from the site. This subsequently drained the peat. On very wet sites, these tunnels blocked up naturally through the growth of *sphagnum* and other bog plants thus restoring hydrology and removing the need for drain blocking on these areas.
5. Following tree clearance on some sites, some areas were found which had not been drained initially for afforestation, hence, drain blocking was not required on these areas.

Resulting from these site characteristics, considerably less dams are being installed than originally envisaged and there is a major underspend on the durable goods budget for plastic piling and the associated labour costs.

In addition, from networking with other projects, consultation with National Parks and Wildlife Service staff, and our own project trials, a number of alternative methods in relation to drain blocking have been used during implementation of the project to date. This has also contributed to more efficient utilisation of the C4 budget. These alternative methods are detailed below:

- The Scottish project (LIFE00/NAT/UK/007075) had shown that in certain situations it is more appropriate to only block drains strategically, preferably at main points of outflow. This has been adopted on some of our project sites.
- Drain blocking with peat dams, installed by machines, was completed on a number of sites on a trial basis and proved to be substantially cheaper than blocking with plastic piling. Coillte are considering using this methodology on bog restoration work being carried out on a joint COFORD project, “Regeneration Options For Forests on Western Peatlands”.
- A number of sites have proved to be suitable for a combination of drain blocking methodologies, i.e. blocking some sections with plastic piling and some with peat dams using machines. This methodology has worked well on selected sites and John Houston (External Team) has seen at first hand these varying restoration techniques. It is proposed to use this methodology on the extra areas of blanket bog (up to 776.7 ha) now being proposed for inclusion in this project.

In conclusion, there is a saving on the original budget of €1,004,889. This saving occurs principally under the durable goods budget and associated labour costs in respect of plastic piling for drain blocking (Action C4 Install dams). The reduction in the number of dams installed, as outlined above, has in no way compromised the effective restoration of the hydrology of the project sites but is indicative of the cost efficient manner in which the project has been implemented to date, thus enabling up to 776.7 ha to be added for restoration under this modification request.

Details of the requested modifications – additional areas

It is proposed to utilise this forecasted saving on the restoration of up to 776.7 ha of additional blanket bog areas owned by the project beneficiary, Coillte Teoranta, as follows:

Project Site No.	Project Site Name	County	SAC Number	SAC in Original Project (Yes/No)	Project Site Total Area (Ha)
4(a)	Pollagoona	Clare	002126	Yes	38.9
14(a)	Carrick Barr	Donegal	001125	Yes	41.9
17	Corravokeen	Mayo	001922	Yes	89.7
18	Derry	Mayo	001922	Yes	196.6
19	Kingarrow	Donegal	002047 002301	No No	45.8
20	Cappaghoosh	Galway	002034	No	363.8
Total					776.7

Sites 4(a), 14(a), 17, and 18 are either partly in or adjoining existing SACs which were in the original approved project. Sites 19 and 20 are partly in/adjoining three existing SACs which were not in the original approved project but whose inclusion now will serve to expand the project impact on the Natura 2000 network. All of the additional areas were selected by the Project Management Group (including a representative of the National Parks and Wildlife Service) following on ecological surveys, commissioned and paid for by Coillte, of potentially suitable sites. A letter from the National Parks and Wildlife Service supporting the inclusion of these extra sites is attached at Annex 2.

Details of the proposed additional areas are as follows:

Project site 4(a) Pollagoona – 38.9 ha

This comprises two areas directly adjoining the Pollagoona Bog Special Area of Conservation (Natura 2000 Code IE 002126) which is already included in the original project (Project Site 4). Restoration work carried out until now has concentrated on enlargement of the central open bog area by felling areas of low-yielding conifers along the margins of the site. The additional areas are mostly dominated by Sitka spruce. In general the trees have grown poorly and have, in many places, failed to close canopy. As a result, a blanket bog flora is often still present beneath the trees. In common with most areas of blanket bog modified by drainage the dominant plant species on the ground is purple moor-grass (*Molinia caerulea*) with ling (*Calluna vulgaris*), cross-leaved heath (*Erica tetralix*), bog myrtle (*Myrica gale*) and the moss *Sphagnum capillifolium* also locally frequent. In the wetter areas, with deep quaking peat, a more diverse blanket bog flora is present supporting species more typical of wetter bog conditions such as bog rosemary (*Andromeda polifolia*), cranberry (*Vaccinium oxycoccus*) and white-beaked sedge (*Rhynchospora alba*). Bog restoration at this site will involve the felling of trees to waste with a chainsaw and the blocking of drains strategically.

Project site 14(a) Carrick Barr – 41.9 ha

This area lies along the southern margins of Lough Golagh and is partly in/adjoining the Dunragh Loughs/Pettigo Plateau Special Area of Conservation (Natura 2000 Code IE 001125) which is already included in the original project (Project Site 14). The majority of the selected restoration area is dominated by a conifer crop on sloping blanket bog. Conifer growth within this area has been locally poor and a blanket bog flora dominated by purple moor-grass (*Molinia caerulea*) and ling (*Calluna vulgaris*) still occurs. In addition, the locally rare plant species cranberry (*Vaccinium oxycoccus*) has been recently recorded in the vicinity of the restoration area. In addition to the main afforested area a number of small areas of intact blanket bog/wet heath and cutover blanket bog have been included within the restoration area. All of the conifers in this area will be felled to waste in order to regenerate a blanket bog flora. Any significant drains will also be blocked in order to raise the water levels in the peat.

Project site 17 Corravokeen – 89.7 ha

Corravokeen property lies along the eastern edge of the Bellacorick Bog Complex Special Area of Conservation (Natura 2000 Code IE 001922) which is already included in the original project (Project Sites 7, 8 and 11). This SAC is one of the largest blanket bog-dominated SACs in Ireland and thus is one of the most important blanket bog landscapes in Europe. The area proposed for restoration is comprised of some commercial conifer trees (which will be harvested by Coillte outside of the proposed extension), poorly growing conifers, and a small unafforested area. The poorly growing conifers will be felled to waste. Any significant drains will be blocked in order to raise the watertable within the project area. The largest area of open blanket bog habitat contains a number of floristically rich flushed areas which support rare plant species such as cranberry (*Vaccinium oxycoccus*) and the moss *Homalothecium nitens*. The main restoration measure in these areas involves the felling to waste of low-yielding conifers along with the blocking of any associated forestry drains.

Project site 18 Derry – 196.6 ha

Derry property lies along the southern margins of the Bellacorick Bog Complex Special Area of Conservation (Natura 2000 Code IE 001922) which is already included in the original project (Project Sites 7, 8 and 11). This SAC is one of the largest blanket bog-dominated SACs in the country and thus is considered to be one of the most important blanket bog landscapes in Europe. Extensive tracts of high quality, open blanket bog habitat adjoin the property along its northern and eastern margins. The property is dominated by poorly productive conifers which were planted in the mid-1980s. Although the trees have closed canopy in places, a blanket bog flora still persists locally. These conifers will be felled to waste in order to regenerate a blanket bog flora. Subsequently, the felled conifers will be placed into long “wind-rows” by machine, in order to maximise the area of open ground for bog restoration. Any significant drains will also be blocked in order to raise the water levels within the peat. Within this property there is a small area of unafforested habitats, mainly wet blanket bog and oligotrophic lake, scattered throughout.

Project site 19 Kingarow – 45.8 ha

This area lies mostly within the Cloghernagore Bog and Glenveagh National Park Special Area of Conservation (Natura 2000 Code IE 002047) and the River Finn Special Area of Conservation (Natura 2000 Code IE 002301). While these SACs were not in the original approved project, their inclusion now presents an opportunity to expand the project impact on the Natura 2000 network. An additional Section B has been prepared and is provided at Annex 1. This proposed restoration area is dominated by conifer plantation on sloping blanket bog to the south-east of Lough Muck in central Donegal. Most of the conifer-dominated area lies within the Cloghernagore Bog and Glenveagh National Park Natural Heritage Area while the surrounding intact bog lies within the SAC area of that site. This NHA/SAC supports the largest tracts of high-quality, intact blanket bog habitat in the north-west of the country. Throughout much of this area the conifer crop has not closed canopy and a blanket bog flora still exists. Common species present include purple moor-grass (*Molinia caerulea*), deer grass (*Trichophorum cespitosum*), cross-leaved heath (*Erica tetralix*), ling (*Calluna vulgaris*) and the Sphagnum cover is locally well-developed. There are also small areas of largely intact blanket bog present and along the northern margins of the area there are small areas of bog which were drained for forestry but not planted. The conifers within this restoration area will be felled to waste in order to regenerate a blanket bog flora. Windrowing of these felled conifers, in order to clear the peat surface for vegetation regeneration, will also be carried out. Any significant drains will also be blocked in order to raise the water levels in the peat. It should be noted that this site is being included in the modification request, subject to there being no *Margaritifera margaritifera* found in the potential impact zone of the site in an upcoming survey by the National Parks and Wildlife Service (NPWS); the site may be dropped, if necessary on NPWS advice, without being replaced – as the modification proposal is to restore up to another 776.7 ha).

Project site 20 Cappaghoosh – 363.8 ha

The Connemara Bog Complex Special Area of Conservation (Natura 2000 Code IE 002034) is one of the largest areas of lowland blanket bog habitat in Ireland and thus ranks as one of the best-preserved and most extensive areas of the habitat in the world. While this SAC was not in the original approved project, its inclusion now presents an opportunity to expand the project impact on the Natura 2000 network. An additional Section B has been prepared and is provided at Annex 1. The area in question stretches from Spiddal in the east to Clifden in the west and dominates the southern half of the Connemara region. During the late-1970s to the mid-1980s a large area of this blanket bog landscape was afforested at Cappaghoosh and Boheeshal. The main tree species planted were lodgepole pine and Sitka spruce and the blanket bog was extensively drained prior to planting. The conifers in this forestry property have generally not grown well and many areas are considered to have limited commercial potential. Most of the afforested areas still retain a well-developed, albeit modified, blanket bog flora. The trees in this area were mostly planted between 1985 and 1988 and their yield class is low, i.e. mostly 8 to 10. In addition to afforested areas a number of small, open blanket bog areas, occurring mostly along the margins of lakes, lie within the proposed restoration area. The felling of conifers to waste in this area will result in a rapid recovery/regeneration of the blanket bog habitat. As drains in

this area are mostly poorly functioning it is envisaged that minimal drain blocking, mainly at the ends of drains, will be required.

In summary, the proposed modification does not in any way adversely affect the objective and expected results of the original project as presented in the approved proposal. The actions for the restoration of 1,212.3 ha of active blanket bog as presented in the approved proposal (and subject to the already agreed revised action targets) are on target for completion by the scheduled end of the project (30th June 2006). The extra restored areas (up to 776.7 ha) proposed in this modification will be in addition to the original project objectives/targets. While our best estimates are that the entire extra 776.7 ha may be restored for the available saving, it is intended to restore only as many of the identified 776.7 ha as can be done before the total project budget of €4,195,693 is exhausted.

A general location map, showing both the original and additional proposed project sites, has been provided as a replacement Form 5 at Annex 1. Maps, in the original format, of each additional project site have been provided for inclusion after Form 7 at Annex 1.

Details of the requested modifications – compared to what was foreseen

The requested modifications relate primarily to the “C” group of actions as follows:

Action	Operation	Agreed Revised Targets (Ha)	Proposed Additional Targets (Ha)	Modified Project Targets (Ha)
C1	Non-commercial felling	374.90	487.10	862.00
C2	Fell and chip conifers	10.17	0.00	10.17
C3	Commercial felling	110.10	0.00	110.10
C1-C3	Total felling	*495.17	**487.10	982.27
C4	Install dams (ha)	780.00	776.70	1556.70
C6***	New and repair roads (metres)	4560.0	3000.0 (Repairs only)	7360.00

*Note 1: balance of original project total area of 1,212.3 ha consists of unplanted open bog.

**Note 2: balance of additional total area of up to 776.7 ha consists of unplanted open bog.

***Note 3: 200 metres of new road in excess of the agreed revised target are needed at Site 11, and 3000 metres of road repairs are needed on two of the additional sites for operational access.

The other “C” actions remain as per the already agreed revised targets:

Action	Operation	Agreed Revised Targets (ha)	Proposed Additional Targets (Ha)	Modified Project Targets (Ha)
C5	Erect/repair fences (ha)	555.4	0.0	555.4
C7	Install dipwells (units)	98.0	0.0	98.0

Details of the effect on the “C” group of actions of adding these areas to the project are given below. Replacement Form 18 pages for “C” actions have been provided at Annex 1.

Details of the requested modifications – action by action

A Actions

Actions A1-A5 will continue on a limited, as necessary, basis up to the new project end date (while there is no fencing programmed for the additional areas proposed under the project modification, some fenceline surveying may be necessary under Action A4 in order to identify site boundaries before restoration work commences).

C Actions

Action C1 will continue up to the new project end date, with the fell to waste or fell/windrow of up to 487.1 ha of additional areas. The tables below show (1) the already agreed revised targets for the original project and (2) the proposed additional targets under the project modification. The tree crops under this action are all crops of medium to low yield class.

(1) the already agreed revised targets - Action C1

Site No.	Site Name	Detail of action	Revised area for Action (Ha)	Area complete to 30/06/05 (Ha)	Balance to complete (Ha)	Expected Completion date
2	Garrane	Fell to Waste	17.5	17.5	0.0	Complete
3	Dromalohurt	Fell/Windrow	28.3	28.3	0.0	Complete
4	Pollagoona	Fell to Waste	11.6	11.6	0.0	Complete
5	Emlaghdauroe	Fell to Waste	10.0	*7.6	0.0	Complete
6	Bellaveeny	Fell/Windrow	126.0	113.00	13.0	06/06
7	Eskeragh 1	Fell to Waste	10.3	**12.3	0.0	Complete
8	Eskeragh 2	Fell/Windrow	17.8	17.8	0.0	Complete
9	Owenirragh	Fell/Windrow	107.0	107.0	0.0	Complete
10	Glencullin	No Program	0.0	0.0	0.0	No Program
11	Shanvolahan	Fell/Windrow	25.8	23.0	2.8	06/06
13	Croaghonagh	No Program	0.0	0.0	0.0	No Program
14	Carrick Barr	Fell to Waste	12.1	11.65	0.45	06/06
15	Sessuegilroy	Fell/Windrow	8.5	3.8	4.7	06/06
16	Slieve Blooms	No Program	0.0	0.0	0.0	No Program
	Total		374.9	353.55	20.95	

*The balance of fell to waste for Emlaghdauroe was actually felled commercially.

**An extra 2 ha were felled under this action instead of under fell and chip (C2).

(2) the proposed additional targets – Action C1

Site No.	Site Name	Detail of action	Site Total Area (Ha)	Area for Action (Ha)	Expected Start Date	Expected Completion Date	Estimated direct cost of labour or contractor (€)
4(a)	Pollagoona	Fell/Windrow	38.9	28.7	Mar 06	Dec 07	32,431
14(a)	Carrick Barr	Fell to Waste	41.9	25.9	Mar 06	Dec 07	16,067
17	Corravokeen	Fell to Waste	89.7	36.0	Mar 06	Dec 07	40,680
18	Derry	Fell/Windrow	196.6	181.4	Mar 06	Dec 07	185,930
19	Kingarrow	Fell/Windrow	45.8	25.9	Mar 06	Dec 07	19,725
20	Cappahoosh	Fell to Waste	363.8	189.2	Mar 06	Dec 07	216,856
	Total		776.7	487.1			511,689

Action C2 has been completed by the end of Year 3 (there is no fell/chip programmed for the additional areas proposed under the project modification).

Action C3 will be completed by the end of Year 4 (there is no commercial felling programmed for the additional areas proposed under the project modification).

Action C4 will continue up to the new project end date on up to 776.7 ha of additional areas using a combination of plastic dams and peat dams installed by machine. The tables outlined below show (1) the already agreed revised targets for the original project and (2) the proposed additional targets under the project modification.

(1) the already agreed revised targets – Action C4

Site No.	Site Name	Detail of Action	Revised area for Action (Ha)	Area complete to 30/06/05 (Ha)	No. dams installed to 30/06/05	Balance to complete (Ha)	Expected completion date
2	Garrane	Install dams	17.5	17.5	1372	0.00	Complete
3	Dromalohurt	Install dams	28.3	28.3	3328	0.00	Complete
4	Pollagoona	Install dams	12.03	12.03	1101	0.00	Complete
5	Emlaghdauroe	Install dams	72.17	56.0	14900	16.17	03/06
6	Bellaveeny	Install dams	126.0	100.8	15019	25.2	03/06
7	Eskeragh 1	Install dams	12.3	10.3	823	2.00	03/06
8	Eskeragh 2	Install dams	25.8	25.8	3200	0.00	Complete
9	Owenirragh	Install dams	107.0	107.0	5173	0.00	Complete
10	Glencullin	No Program	0.0	0.0	0	0.00	No Program
11	Shanvolahan	Install dams	66.2	25.0	1012	41.2	06/06
13	Croaghonagh	Install dams	33.0	33.0	1770	0.00	Complete
14	Carrick Barr	Install dams	12.1	12.1	604	0.0	Complete
15	Sessuegilroy	Install dams	15.6	1.7	420	13.9	03/06
16	Slieve Blooms	Install dams	252.0	184.0	1040	68.0	03/06
	Total		780	613.53	49763	166.47	

(2) the proposed additional targets – Action C4

Site No.	Site Name	Detail of Action	Site Total Area (Ha)	Area for Action (Ha)	Expected Start Date	Expected Completion Date	Estimated direct cost of labour or contractor (€)
4(a)	Pollagoona	Install dams	38.9	38.9	Aug 06	Dec 07	4,007
14(a)	Carrick Barr	Install dams	41.9	41.9	Sept 06	Dec 07	10,000
17	Corravokeen	Install dams	89.7	89.7	June 06	Dec 07	8,940
18	Derry	Install dams	196.6	196.6	Aug 06	Dec 07	30,700
19	Kingarow	Install dams	45.8	45.8	Oct 06	Dec 07	4,000
20	Cappahoosh	Install dams	363.8	363.8	Jan 07	Dec 07	24,596
	Total		776.7	776.7			82,243

Action C5 will be completed by the end of Year 4 (there is no fencing programmed for the additional areas proposed under the project modification).

Action C6 will continue on a limited scale up to the new project end date, with a total of 3,000 metres of repairs to be carried out at Sites 14(a) and 20.

Action C7 has been completed by the end of Year 3.

Actions D1-D3 will continue on a limited, as necessary, basis up to the new project end date. It should be noted that Action D3 will continue to the new project end date on the original project sites only, but (on the advice of the former external team) not on the additional areas proposed under the project modification.

Actions E1-E7 will continue, as necessary, up to the new project end date – with the exception of Action E7 which will be completed by the end of Year 4.

Actions F1-F9 will continue, as necessary, up to the new project end date (including continued site manager overseeing on the original sites) – with the exception of Action F5 which has been completed by the end of Year 3. It should be noted that Actions F6 and F7 will continue to the new project end date on the original project sites only, but (on the advice of the former external team) not on the additional areas proposed under the project modification.

Details of the requested modifications – time planning

As already indicated above, the time extension to the new end date of 31/12/07 is necessary to allow for the restoration of up to 776.7 ha of additional blanket bog areas; this need arises from major financial efficiencies achieved in the implementation of the original approved project (including agreed revised targets) – and not from any failure to meet original targets. A new detailed calendar for the implementation of all actions is provided below (where an action ceases before the new project end date, the remainder of its line is blanked out in grey colour for purposes of emphasis; this has not been done in the replacement Form 22 at Annex 1 in order to keep it as close to the original format as possible).

Note: The original approved project runs for four project years from 01/07/02 to 30/06/06. The requested time extension runs for an additional 1½ project years from 01/07/06 to 31/12/07 to give 5½ project years in total but the additional restoration work, if approved, will begin as soon as possible in Project Year 4. In that way it will be possible to report on both the original and additional project sites in a single progress report for Year 4 and in a single final report (it is not proposed to submit a progress report at the end of year 5 as this would come only six months before the final report).

Action Number/name	Project Years 1-3 01/07/02 – 30/06/05			Project Year 4 01/07/05 – 30/06/06				Project Year 5 01/07/06 – 30/06/07				Project Year 6 01/07/07 – 31/12/07			
	YR1	YR2	YR3	QI	II	III	IV	QI	II	III	IV	QI	II		
A. Preparatory actions, elaboration of management plans and/or action plans:															
A1 Site visit to see another LIFE sponsored project.	✓	✓	✓	✓				✓							
A2 Elaboration of action plan.	✓	✓	✓		✓				✓						
A3 Identify Safety Hazards and draw up a general safety plan for sites.	✓	✓	✓		✓				✓						
A4 Survey of fence lines and enclosures.	✓	✓	✓			✓	✓								
A5 To produce plan accurate photographs of all project sites.	✓	✓	✓	✓	✓			✓	✓						
B. Purchase/lease of land and/or rights:															
None															

Action Number/name	Project Years 1-3 01/07/02 – 30/06/05			Project Year 4 01/07/05 – 30/06/06				Project Year 5 01/07/06 – 30/06/07				Project Year 6 01/07/07 – 31/12/07			
	YR1	YR2	YR3	QI	II	III	IV	QI	II	III	IV	QI	II		
C. Non-recurring biotope management:															
C1 Fell mature trees non-commercial felling.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
C2 Fell and chip conifers	✓	✓	✓												
C3 Commercial felling.	✓	✓	✓												
C4 Install dams.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
C5 Erect enclosures on unplanted areas and repair fences on cleared areas.	✓	✓	✓												
C6 Build and repair roads onto sites for safe access and the removal of trees.	✓	✓	✓	✓	✓	✓	✓	✓	✓						
C7 *Install dipwells.	✓	✓	✓												
D. Recurring biotope management:															
D1 Remove natural regeneration.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
D2 Removal of trespassing livestock.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
D3 *Measure nutrient flow from sites.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		

*This action will be carried out on the original project sites, but (on the advice of the former external team) not on the additional project sites.

Coillte Teoranta (The Irish Forestry Board)

Action Number/name	Project Years 1-3 01/07/02 – 30/06/05			Project Year 4 01/07/05 – 30/06/06				Project Year 5 01/07/06 – 30/06/07				Project Year 6 01/07/07 – 31/12/07			
	YR1	YR2	YR3	QI	II	III	IV	QI	II	III	IV	QI	II		
E. Public awareness and dissemination of results:															
E1 Land manager training course	✓	✓	✓				✓				✓				
E2 Project website	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
E3 Project information brochure	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
E4 Project results booklet												✓	✓		
E5 Annual bog walk		✓	✓	✓				✓				✓			
E6 Media publicity campaign	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
E7 Interpretative displays and boardwalks	✓	✓	✓				✓								

Action	Project Years 1-3 01/07/02 – 30/06/05			Project Year 4 01/07/05 – 30/06/06				Project Year 5 01/07/06 – 30/06/07				Project Year 6 01/07/07 – 31/12/07			
	YR1	YR2	YR3	QI	II	III	IV	QI	II	III	IV	QI	II		
F. Overall project operation and monitoring:															
F1 Project management	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
F2 Project advisory panel	✓	✓	✓				✓				✓				
F3 Project Report	✓	✓	✓	✓				✓				✓	✓	✓	
F4 Procure the use of expert advice	✓					✓	✓	✓							
F5 To gain a scientific understanding of points of ground water discharge 'flushes' and their surrounding ecology	✓	✓													
F6 *Hydrology monitoring.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
F7 *Vegetation monitoring.	✓	✓	✓	✓				✓				✓			
F8 Aerial survey.												✓	✓		
F9 Ground inventory.		✓										✓	✓		

*These actions will be carried out on the original project sites, but (on the advice of the former external team) not on the additional project sites.

Details of the requested modifications – deliverables

Details have been updated in accordance with the agreed revised targets and the modification requirements.

Product	Name or n° of reference action	Deadline
Project Information Brochure	E3	31.10.2002
Safety Plan and Hazard Identification	A3	31.10.2002
Produce plan accurate photographs of project sites	A5	31.10.2002
Training Pack year II	E1	30.05.2003
Study of flush areas (Report)	F5	28.11.2003
Nutrient Flow Study (Interim report)	D3	30.10.2004
Training Pack Year III	E1	28.05.2004
Training Pack Year IV	E1	28.05.2005
Training Pack Year V	E1	28.05.2006
Aerial survey is completed	F8	31.12.2007
Project Results Booklet	E4	31.12. 2007
Nutrient Flow Study (Final report)	D3	31.12. 2007

Details of the requested modifications – activity reports foreseen

It is proposed that the additional restoration work will begin in Project Year 4 as soon as approval has been received from the Commission. In that way it will be possible to report on both the original and additional project sites in a single progress report for Year 4 and in a single final report.

Progress Report Year I	31.07.2003
Progress Report Year II with interim report	31.07.2004
Progress Report Year III	31.07.2005
Progress Report Year IV	31.08.2006
Progress Report Year V/VI with Final Report	31.03.2008

Details of the requested modifications – summary of project milestones

Details have been updated in accordance with the agreed revised targets and the modification requirements.

Milestone	Name or n° of reference action	Deadline
Appoint Project Director	A - F	31.01.2002
Project Launch	E6	31.09.2002
Project Website Launch	E2	31.03.2003
Complete ground inventory on all sites to show cleared areas	F9	31.12.2007
All major clearance, and damming work will be completed	C1:C2:C3:C4:C5	31.12.2007
Project results disseminated	E4	31.12.2007

FINANCIAL JUSTIFICATION

Details of the requested modifications – re-allocation of the original budget

Budget Item	Original Budget		Requested Revised Budget		Variation	
	Total Costs	% of Total Costs	Total Costs	% of Total Costs	In €	In %
Personnel	780,372	19%	1,749,533	42%	969,161	23%
Travel	159,575	4%	188,221	4%	28,646	1%
External Assistance	1,378,434	33%	1,168,050	28%	-210,384	-5%
Durable Goods	1,503,386	36%	795,804	19%	-707,582	-17%
Consumable Material	36,465	1%	109,637	3%	73,172	2%
Other Costs	83,977	2%	42,440	1%	-41,537	-1%
Overheads	253,484	6%	142,008	3%	-111,476	-3%
Total	4,195,693	100%	4,195,693	100%	0	0

Summary of budget changes requested

Personnel

Action		Amount	Total
		€	€
Transfer of original budget from:			
C2	Fell & Chip Conifers	10,334	
C3	Commercial Felling	14,504	
C7	Install Dipwells	3,194	
E1	Land Manager Training Course	34,323	
E2	Project Website	29,335	
E3	Project Information Brochure	5,290	
E4	Project Results Booklet	10,578	
E5	Annual Bog Walk	3,240	
F6	Hydrology Monitoring	11,000	121,798
to:			
A3	Identify Safety Hazards	6,000	
A4	Survey Fence Lines & Enclosures	437	
A5	Produce Plan Accurate Photographs	2,600	
C1	Non-commercial Felling	396,508	
C4	Install Dams	142,586	
C5	Erect Enclosures, Repair Fences	44,072	
D1	Remove Natural Regeneration	30,311	
D2	Removal of Trespassing Livestock	2,000	
D3	Measure Nutrient Flow	78,315	
E6	Media Publicity Campaign	147,473	
E7	Interpretative Displays & Boardwalks	5,442	
F1	Project Management	234,170	
F4	Use of Expert Advice	1,045	1,090,959
Variation			969,161

- An overall increase of €969,161 in the personnel budget is requested as part of the project modification.
- The agreed revised operational targets for fell and chip activities (C2) are now reflected in a reduced personnel budget. There is no programme under this action type for the additional sites being proposed.
- The agreed revised operational targets for commercial felling are reflected in a reduced budget for the C3 action. There are no further targets included under this action type for the additional sites being proposed.
- The majority of personnel costs under the public awareness and dissemination of results category (action E), have been reallocated to media publicity campaign (E6). This reflects the work being undertaken by the

PR/Administration manager on all of these actions. In addition, the E6 action shows an increased budget due to the time extension being requested for the project.

- The saving in the original personnel budget under the hydrology monitoring action (F6) reflects some use of external assistance in the interpretation of walrag readings where this was not originally envisaged.
- The increased budget for non-commercial felling (C1) reflects the previously agreed revised operational targets, in addition to the cost of non-commercial felling on up to 487.10 ha in the 6 additional proposed sites.
- The proposed increase in the personnel cost under the install dams action (C4) reflects the increased use of Coillte own labour over external assistance in the installation of plastic dams. The increase also reflects the expected area of 776.70 ha to be drain blocked in the proposed additional project sites.
- The increase requested under the erect enclosures, repair fences action (C5) reflects greater than anticipated use of Coillte own labour on the original sites, replacing external assistance. The overall budget for this action remains unchanged from that originally approved There are no additional activities under this action in the proposed additional sites.
- The increase in personnel costs for the removal of natural regeneration (D1) is as a result of the use of more Coillte own labour than envisaged. It is expected that this situation will continue for the project duration. The overall budget for this action remains unchanged. Work will continue on a limited, as necessary, basis up to the proposed extended end date.
- The increase in the personnel budget for the measure nutrient flow action (D3) reflects the cost of extending the measurement and analysis of nutrient flows on 4 sites to the proposed extended project end date. It also reflects the fact that in the original budget laboratory analysis costs were costed under 'other costs' whereas these are own labour costs and are now included under personnel costs.
- The project management action (F1) requires an increase in the personnel budget to cover the additional 1.5 years of project duration for the project manager, site managers and other administration staff, in addition to the inclusion of 6 additional project sites. The type of work carried out by the project and site managers is mainly of the nature of project management and this is reflected in the modified budget by the movement of some of the original personnel budget from C actions to the project management action.

Travel

Action		Amount	Total
		€	€
Transfer of original budget from:			
C2	Fell & Chip Conifers	4,512	
C3	Commercial Felling	2,857	
C4	Install Dams	12,602	
C5	Erect Enclosures, Repair Fences	4,714	
C6	Build and Repair Roads	1,170	
E5	Annual Bog Walk	7,697	
E6	Media Publicity Campaign	12,855	
E7	Interpretive Displays & Boardwalks	3,809	
F4	Use of Expert Advice	1,270	
F7	Vegetation Monitoring	10,795	62,281
to:			
A1	Site Visit to Another LIFE Project	1,500	
A4	Survey Fence Lines & Enclosures	59	
D3	Measure Nutrient Flow from Sites	9,461	
E2	Project Website	1,000	
F1	Project Management	71,907	
F3	Project Report	7,000	90,927
Variation			28,646

- The project modification requests an overall increase of €28,646 in the travel budget. This reflects the time extension of 1.5 years being proposed and the inclusion of 6 additional sites to restore up to 776.70 ha of extra blanket bog areas. The original travel budget has been reallocated to the appropriate actions based on where the actual project experience differs from that originally budgeted.
- The major increase in the travel budget arises in the project management action (F1). This reflects the additional travel expense that will be incurred by the project, site managers and other administration staff due to the time extension and additional sites proposed. The travel costs for the additional sites will be proportionately higher than on the original sites as many of the new sites are a further from the site manager's central point/ home base.
- The reduction in the travel budget under the install dams activity (C4) reflects the fact that less travel costs arose under this operational activity than was originally expected- site managers travel has occurred more for project management rather than for operational purposes.

- Likewise travel costs for the annual bog walk (E5) and media publicity campaign (E6) have not arisen to the level anticipated and a portion of these budget is reallocated to project management.
- Vegetation monitoring work (F7) is fully subcontracted with no additional travel costs arising hence this budget is reallocated to project management. This action will continue to the new project end date on the original sites only.
- Nutrient flow monitoring (D3) will continue for an additional 1.5 years to the new project end date on the existing sites already being monitored.
- There was no travel budget included originally for the project reporting action (F3). A budget has now been included for this action type, including an element for the additional reporting requirements that arise as part of the proposed project extension.

External Assistance

Action	Amount	Total
	€	€
Transfer of original budget from:		
C4	Install Dams	448,037
C5	Erect Enclosures, Repair Fences	24,583
D1	Remove Natural Regeneration	30,311
		502,931
to:		
A4	Survey Fence Lines & Enclosures	3,000
A5	Produce Plan Accurate Photographs	1,500
C1	Non-commercial Felling	170,114
C2	Fell & Chip Conifers	280
C6	Build and Repair Roads	33,417
C7	Install Dipwells	9,671
E1	Land Manager Training Course	5,890
E2	Project Website	3,000
E6	Media Publicity Campaign	3,000
E7	Interpretive Displays & Boardwalks	10,000
F1	Project Management	3,000
F4	Use of Expert Advice	880
F6	Hydrology Monitoring	20,000
F7	Vegetation Monitoring	20,795
F8	Aerial Survey	6,000
F9	Ground Inventory	2,000
		292,547
Variation		- 210,384

- The modified project budget reflects a reduction of €210,384 in the overall external assistance budget.
- The major saving is in the area of installing dams (C4). This is due to the partial switch to the use of much cheaper mechanically installed peat dams (using subcontractors), the installation of the remaining plastic dams being done by Coillte own labour, and less dams being required than originally anticipated.
- Much of the work of erecting enclosures, repairing fences (C5) is now being done by Coillte own labour instead of subcontractors. There is no programme for this activity in the additional sites proposed. The overall original approved budget for this action has not changed.
- Likewise in the area of removal of natural regeneration (D1), Coillte own labour are replacing external assistance. Work will continue on a limited, as necessary, basis up to the proposed extended end date on the original and additional sites. The overall original approved budget for this action has not changed.

- An additional budget is required for non-commercial felling activities (C1) as this action is required on all of the additional sites proposed. Fell to waste or fell/windrow will take place on up to 487.10 ha of additional areas. The additional budget also reflects the already approved changes in operational targets between non-commercial felling, fell and chipping and commercial felling activities.
- The additional roading budget (C6) reflects the agreed amended operational targets on the existing sites, as well as roading repair work on two of the proposed additional sites.
- The install dipwells action (C7) is now complete. An external assistance budget was required for this action.
- External assistance costs have arisen under the interpretive displays and boardwalks action (E7) as a result of the use of subcontractors for construction work under this action.
- Increased costs for hydrology monitoring (F6) and vegetation monitoring (F7) reflect the proposed extension of the monitoring timescale. Monitoring work under these actions will continue to the new project end date on the original project sites only.

Durable Goods

Action	Amount	Total
	€	€

Transfer of original budget from:

C2	Fell & Chip Conifers	25,395	
C4	Install Dams	695,572	
C5	Erect Enclosures, Repair Fences	3,040	
C7	Install Dipwells	6,217	730,224

to:

A5	Produce Plan Accurate Photographs	550	
D3	Measure Nutrient Flow from Sites	12,092	
E7	Interpretive Displays & Boardwalks	10,000	22,642

Variation		-	707,582
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- The modified project budget for durable goods shows an overall reduction of €707,582.
- The original budget for fell and chip conifers (C2) envisaged the purchase of a chipping machine to fit on a contract forwarder. This did not prove cost efficient and this action was the subject of agreed revised targets.
- Less dams were required than originally envisaged, for the reasons outlined above. In addition, some of the drain blocking has been done with peat dams rather than with plastic piling. As a result of this there is a reduction in the durable goods (plastic piling) requirements. Although some drain blocking is required on the proposed new sites, this will be carried out using a combination of plastic piling and peat blocking using machines, the latter being considerably more cost effective.
- An additional sampler was purchased to aid in nutrient flow measurement (D3), resulting in a required increase in the budget.
- An additional budget is required for the interpretive displays and boardwalks action (E7). Basic signage is required for the additional proposed sites.

Consumable Material

Action		Amount	Total
		€	€
Transfer of original budget from:			
E2	Project Website	2,539	
E6	Media Publicity Campaign	8,158	10,697
to:			
C1	Non-commercial Felling	30,100	
C4	Install Dams	12,000	
C6	Build and Repair Roads	41,039	
E7	Interpretive Displays & Boardwalks	730	83,869
Variation			73,172

- A proposed increased budget for consumable materials of €73,172 is requested.
- The consumables budget for the media publicity campaign (E6) is reduced due to anticipated savings in this area.
- Consumables costs arise under the non-commercial felling activity (C1) due to the agreed amended operational targets on the original sites, and non-commercial felling activity on the proposed new sites (an additional target of up to 487.10 ha)
- Additional costs arise under the install dams action (C4). These relate to costs regarding the hire of vehicles to transport materials and staff to project sites for drain blocking activities.
- Increased consumable costs for build and repair of roads (C6) reflects the agreed amended operational targets on existing sites, in addition to repair work on two of the proposed additional sites.

Other Costs

Action	Amount	Total
	€	€

Transfer of original budget from:

D3	Measure Nutrient Flow from Sites	45,873	
E1	Land Manager Training Course	4,776	
E7	Interpretive Displays & Boardwalks	1,701	
F4	Use of Expert Advice	317	52,667

to:

E6	Media Publicity Campaign	8,580	
F1	Project Management	2,550	11,130

Variation		-	41,537
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- The modified project budget for other costs shows an overall decrease of €41,537.
- A reduction in the other costs category under the nutrient flow measurement action (D3) arises as a result of the movement of costs to the personnel category for Coillte own labour laboratory analysis costs.
- Additional costs have arisen under the media publicity campaign action (E6), reflecting the increased project duration, in addition to higher than envisaged sponsorship costs.

Overheads

Action	Amount	Total
	€	€
Transfer of original budget from:		
C2	Fell & Chip Conifers	18,759
C3	Commercial Felling	7,859
C4	Install Dams	71,243
C5	Erect Enclosures, Repair Fences	11,735
C6	Build and Repair Roads	2,928
D3	Measure Nutrient Flow from Sites	6,616
E3	Project Information Brochure	22
F3	Project Report	4,890
		124,052
to:		
C1	Non-commercial Felling	4,036
C7	Install Dipwells	587
E2	Project Website	6,953
F6	Hydrology Monitoring	1,000
		12,576
Variation		- 111,476

- The overheads budget item has a forecast saving of €111,476.
- This mainly arises in the install dams activity (C4), an action that has principally led to the project modification request. The alteration in the number of dams installed and the methodology used has resulted in less overheads costs.
- The reduction in operational activity in the fell and chip (C2) and commercial felling (C3) actions has led to reduced levels of overhead budget requirements.
- It is anticipated that the overhead costs for the erect enclosures, repair fences action (C5) will be less than originally expected.
- The extension of the duration of the project is reflected in added overhead costs for project website maintenance (E2).