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**COMMITTEE FOR THE ACTIVITIES OF THE COUNCIL
OF EUROPE IN THE FIELD OF BIOLOGICAL
AND LANDSCAPE DIVERSITY**

CO-DBP

**Group of Specialists - European Diploma
of Protected Areas**

HAUTES-FAGNES NATURE RESERVE

(Belgium)

RENEWAL OF THE EUROPEAN DIPLOMA

Expert Report by

by Mr. J. G de MOLENAAR (The Netherlands)

The European Diploma was awarded to the Hautes-Fagnes Nature Reserve in 1966 and thereafter renewed.

The secretariat did not accompany the expert on his visit to the nature reserve.

Appendix I contains Resolution (96) 22 which was adopted when the Diploma was last renewed. Appendix II contains a draft resolution prepared by the secretariat for the purpose of a further renewal.

1. PRELIMINARY

For a general description of Hautes-Fagnes Nature Reserve, including threats, conservation of the main groups of communities represented in the Reserve, landscape, management: see the previous on-the-spot appraisal, document PE-S-ZP (96) 42.

2. INTRODUCTION

The Hautes-Fagnes Nature Reserve was established in 1957. In 1966, it was one of the three first nature reserves to be awarded the European Diploma (category A). The Diploma is subsequently renewed every five years, the last time in 1996. See Appendix I for the recommendations attached to the previous renewal of the European Diploma.

In view of the renewal of the Diploma in 2001, I was invited by the General Secretariat of the Council of Europe to carry out a new on-the-spot appraisal. The objective of an appraisal is to describe the state and development of the reserve since the previous renewal of the Diploma. This should take into account the recommendations attached to the previous renewal, and recommend, if possible and necessary, measurements for the coming period.

In 1996, the Committee of Ministers of the Council of Europe attached the following recommendations to the renewal of the European Diploma awarded to the Hautes-Fagnes Nature Reserve (Resolution (96) 22):

1. to persevere, with determination, with the implementation of the management plan, having resource to impact studies and developing a systematic monitoring system;
2. to reinforce the reserve's protection status by redrawing the reserve's boundaries so as to include sites which are of obvious ecological interest or which might help rationalise the layout of the reserve;

Particular attention should be paid to:

- rounding off of catchment areas, including buffer zones and transitional zones;
 - creating corridors between isolated elements in the archipelago of the reserve;
 - the area of the former '*fermes en Fagne*';
 - the valleys of the Warche and the Hoëgne;
 - the area between the confluence of the Grande Rur and the Petite Rur;
3. information for visitors and particularly for local inhabitants, locally elected representatives and the park authorities should have top priority as a means of improving understanding of the need to conserve these landscapes, also in view of their socio-economic value for recreational and tourist activities;
 4. to persevere and reinforce the scientific co-operation with the *Station Scientifique des Hautes-Fagnes* of Liège University:
 - to continue and extend research on and monitoring of the peatland hydrology;
 - to carry out an impact study on the emission of air pollution and its possible impact, and to develop a monitoring and evaluation system;
 - to extend practical research on management experiments, especially concerning mowing and sod cutting in slightly desiccated raised bog;
 - to very quickly start a programme on the black grouse.

Following an introductory meeting late on 23 August, Hautes-Fagnes Nature Reserve was officially visited on 24 and 25 August. The Belgian hosts representing in the field the Direction Générale des Ressources Naturelles et de l'Environnement, Division de la Nature et des Forêts of the Ministère de la Région Wallonne were ir. Letocart, Directeur à Malmédy, and ir. Pieper, ir. Doyen and ir. Dahmen, chefs of the cantons Eupen, Malmédy and Elsenborn, accompanied by their colleagues and assistants. Also present were Mr. Frankard and Mr. Ghiette, the biologists of the *Centre Scientifique de la Région Wallonne* based at the *Station Scientifique des Hautes-Fagnes* of Liège University, Mr. Leclercq, director of the *Station Scientifique des Hautes-Fagnes* of Liège University, and Mr. Herman, president of the *Commission Consultative de Gestion de la Réserve Naturelle Domaniale des Hautes-Fagnes*.

3. EUROPEAN INTEREST OF THE HAUTES-FAGNES NATURE RESERVE

- The European interest of the Hautes-Fagnes Nature Reserve is well maintained.

3.1 GENERAL

The European interest of the Hautes-Fagnes Nature Reserve concentrates on the raised bog or *fagne* areas¹. Peat soils cover 3750 ha, including about 1000 ha of raised bogs protected since 1957 in a state nature reserve. Most of these bogs are now strongly disturbed due to drainage, peat cutting and *stiernage* (mowing of the vascular plants and living Sphagnum surface, and gathering of the product). Most of these strongly disturbed bogs is now covered by monospecific lawns of *Molinia caerulea*. There remain three more or less active raised bog sites in the Fagne Wallonne, Fagne de Misten and Fagne de Cléfaye. There is no clear evidence of further deterioration of these three raised bogs, nor of their recovery. Small areas of mesotrophic vegetation occur locally.

In addition, the European interest concentrates on heathland in disturbed bog, montane river valley grassland and narrow river valleys rich in bryophytes. The area and quality of these types is stable, the quality of montane river valley grassland is even progressing. The botanical development of more or less experimentally managed sites is promising.

3.2 FLORA AND FAUNA

Various characteristic bog species appear to react positively to regular mowing (e.g. *Juncus filiformis*) (in la Grande Fagne and Fagne des Deux-Séries). Sphagnum species (*S. fallax*, *S. cuspidatum*, *S. papillosum*, *S. magellanicum*) and phanerogams (*Eriophorum vaginatum*, *E. polystachion*, *Carex rostrata*, *Narthecium ossifragum*, *Vaccinium oxycoccus*, *Andromeda polifolia*) progressively re-colonise the sites where the sod recently is cut (in Fagne Wallonne, Fagne des Deux-Séries). So do moist heathland species like *Carex echinata*, *C. nigra*, *Polygala serpyllifolia*, *Erica tetralix*, *Sphagnum* species after mulching in disturbed bog invaded by *Molinia caerulea* (in Fagne Wallonne) and dry heathland species like *Calluna vulgaris*, *Carex pilulifera*, *Cytisus scoparius*, *Lycopodium* after sod cutting in heathland invaded by *Molinia caerulea* (in Fagne des Deux-Séries).

The restoration of montane river valley grassland by mulching and mowing results in a remarkable recovery, shown by a doubling to tripling of the number of plant species per study plot. In the *Meum athamanticum* meadows in the valley of the Schwalm, *Arnica montana* and *Serratula tinctoria* appeared.

The state of the local population of the black grouse in the Hautes-Fagnes is alarming and calls for even greater concern; see also § 11.5. The number of cocks is now down to less than two dozen.

On the other hand golden plover (*Pluvialis apricaria*) is established to be breeding in the reserve with one pair since 1997. Formerly it bred in Wallonia irregularly until 1910. The Hautes-Fagnes is the southernmost breeding location for this species in Europe, the nearest breeding location being in Lower Saxony (north-west Germany). The populations are strongly regressing in the entire southern part of their distribution (Denmark, Great Britain, Ireland, Germany).

Apart from the known population of *Boloria aquilonaris* in the fagne de Hochscheid, a new population is discovered in the Fagne de Nessello in 1999.

The fauna rapidly reacts to the bog restoration by sod cutting in 1998 in the periphery of the raised bog in the Fagne Wallonne. This concerns e.g. the (re)appearance of a number of species of dragonflies (*Odonata*), including *Sympetrum danae* and *Leucorrhinia dubia*, and the visits by migratory limnicolous birds such as *Calidris temminckii*, *Lymnocyptes minimus* *Tringa ochropus*, and *T. hypoleucos*.

In 1997 beavers appeared in the valley of the Rur. However, the naturalness of this appearance is questioned.

¹ Fagne will be used hereafter as a general denomination for a peatland area in the Hautes-Fagnes

4. RESPONSIBILITY FOR ADMINISTRATION AND MANAGEMENT OF THE HAUTES-FAGNES NATURE RESERVE

- The body responsible for administration and management recently reorganised. The new organisation creates conditions that will be to the benefit of the reserve. Its attributions, powers, budget and human resources seem to suffice for the moment. However, especially the budget is expected to become a point of increasing concern before long.

4.1 GENERAL

The responsibility for administration and management of the reserve is organised as follows:

Central: Ministère de la Région Wallonne

Regional: Direction de Malmédy de la Division de la Nature et des Forêts

Local: Cantonnement d'Eupen 2, Cantonnement de Malmédy, Cantonnement d'Elsenborn.

These are responsible for the state-owned parts of the plateau of the Hautes-Fagnes as a whole, forests and nature reserve areas alike.

4.2 RECENT REORGANISATION

In the past, the state-owned parts of the plateau of the Hautes-Fagnes fell under two directions (Liège and Malmédy) and five cantons (Elsenborn, Dolhain, Malmédy, Eupen and Walhorn). The *Commission Consultative de Gestion de la Réserve Naturelle Domaniale des Hautes-Fagnes* and the Management Plan considered this a too complex situation and recommended a reorganisation. This was achieved on 1 July 1998. Since then, the whole area falls under one direction (Malmédy). The main body of the area is now divided in two cantons, Eupen2 covering the fagnes of the northeast in the German speaking part, and Malmédy covering the fagnes of the 'Baraque Michel complex' in the French speaking part. The smaller fagne reserves in the south, i.c. those of Nessello, Herzogenvenn and Schwarzesvenn, and the river valley reserves of the Warche, Olef and Ruhr, remained under the responsibility of the canton of Elsenborn, under the direction of Malmédy as well.

The body responsible for administration and management is governed by European, national and regional legislation. It is well staffed and the officials are wholeheartedly dedicated to their job. Human resources are certainly not superfluous, but a considerable part of the work in the field is put out to well instructed private partners. It is supported by a small team of biologists of the *Centre Scientifique de la Région Wallonne*, based at the *Station Scientifique des Hautes-Fagnes* of Liège University. There is of old a close co-operation with said Station. The administration and management is assisted by the *Commission Consultative de Gestion de la Réserve Naturelle Domaniale des Hautes-Fagnes* and in the field by a large number of well organised and equipped volunteer guardians. The budget may seem to be sufficient for the moment, but in view of the state of part of the machinery and of the very promising results of recent management experiments, which should be expanded and put to practice, it is expected to fall short in the near future. It is also reasonable to expect that the implementation of the results of recent management experiments will demand more human capacity. See also § 8, 11.5.

5. EFFECTIVENESS OF EXISTING PROTECTIVE REGULATIONS VIS-À-VIS INTERNAL AND EXTERNAL THREATS

- Internal and external threats, are restricted to the influence of tourism, sylviculture (subnatural reafforestation by seedlings, desiccation) and possibly industry. The influence of tourism is effectively controlled and as regards sylviculture forced back. The possible influence of industry is unknown. A pilot study shows that the effects of the habitual system of hunting can be prevented by a licence system.

The threat of tourism is effectively controlled by regulated access and intensive surveillance by auxiliary guides, see § 9.1. Serious fires did not occur during the last years. In the central peatland complex (Fagne Wallonne, Fagne des Deux-Séries), about one out of fifty visitors met in the field in 1998 were observed to violate the rules by e.g. leaving the official routes, going without a guide where access is only allowed in accompaniment of officials of the *Administration Nature et Forêts* or a licensed guide, taking dogs out, and smoking. Indications of e.g. disturbance and trampling are indeed scarce. The threats of sylviculture, that is mainly (sub)natural re-forestation by seed and desiccation, is curbed by the redrawing the reserve's boundaries, including the creation of buffer zones, transitional zones and corridors, see § 10.

A separate issue is hunting. Hunting is habitually not leased in the great reserves. Only in a few small reserves the right to hunt is leased (for example in the valley of Schwalm and Olef). In the forest reserve Rurbusch, the overgrazing in the beech forests was so great, that a pilot project is carried out in the forest reserve Rurbusch and the adjacent reserve areas of Herzogenvenn and Schwarzes Venn. In this project, the habitual system of leasing the hunting right is replaced by a kind of license system. This means that private persons can acquire a hunting permission for two weeks to shoot only roe deer, red deer or wild boar under the strict instructions of the authorised officials. The results appear to be very positive concerning the regeneration of the beech forests, disturbance in the field and local social involvement of - and via - hunters.

There is not enough known about the influence of industry, *in casu* air pollution, to take effective protective regulations; see § 11.4. Activities such as fishing, urban development, road building, air traffic and military manoeuvres do not directly threaten the reserve. There are no land-use plans affecting the reserve. Nor is there any development work launched, under way, or to be launched that directly affects the area.

6. ZONING

- Zoning is achieved by controlled access and the given surrounding forest surroundings.

Public access to the reserve is strictly controlled; see § 9. The vast surrounding forest acts as a natural buffer zone for the public. Most fagnes of the reserve can be overlooked from paths along one or more of their sides, in the edge of the surrounding forest.

7. OWNERSHIP TITLE

- The rounding off of the reserve is a constant matter of attention and effort.

The area of the reserve is extended with approximately 460 hectares in e.g. Allgemeines Venn, Fermes en Fagne, Vallon de la Poleûr, Vallée de la Rur, Fagne des Clairs Chênes, Fagne devant Troupa. It includes the exchange of state owned forest parcels against communal fagne areas.

The reserve now (late 2000) covers 4.633 hectares, of which 4.421 hectares is owned by the state; the rest is leased from the Community of Malmédy. An exchange of property with the Community of Bütgenbach is in preparation. It is expected that this will result in the acquisition by the state of another 100 hectares in 2001 (Fagne de Nessello end Rurhof), which will be added to the reserve.

Unfortunately, the acquisition of the area between the confluence of the Grande Rur and the Petite Rur failed (see § 15). This area is of utmost importance for the population of whinchat (*Saxicola rubetra*) of the Hautes-Fagnes plateau. It should absolutely be attempted to acquire and protect more parts of this area in the near future.

8. THE MANAGEMENT PLAN FOR THE AREA

- The implementation of the management plan in force is persevered with determination. However, it is now desirable to set up and implement a programme to develop regular management plans for the individual peatland areas or peatland complexes of the reserve.

The management plan dates from 1988. It is drawn up by the *Station Scientifique des Hautes-Fagnes* of Liège University. The plan gives recommendations, directives and rules for the management of the reserve in general, concentrating on specific management activities, both regular and experimental. It also deals with procedures to consult and to co-operate with the biologists of the *Centre Scientifique de la Région Wallonne*, those of the *Station Scientifique des Hautes-Fagnes* of Liège University, and the *Commission Consultative de Gestion de la Réserve Naturelle Domaniale des Hautes-Fagnes*. Considering the situation in 1988, it deserves to be qualified as a good plan. It worked very well, especially in starting and endorsing research projects and field experiments. These resulted in a considerable increase in the knowledge of peatland management and restoration; see § 11.

However, the management plan supplies an insufficient basis for specified annual planning of work to be done in terms of what will be done where, when and how, including the allocation of necessary financial and technical means and human resources. This obscures the view on the sufficiency of the available budget and human resources dealt with above. As such, the present management plan should also be considered insufficient for impact studies and the development of a systematic monitoring system. Indeed, impact studies and the development of a systematic monitoring system are still failing. Now that field experiments are bearing fruit, it is time to set up a programme to develop regular management plans for the individual peatland areas or peatland complexes of the reserve, and to start drawing these up.

9. PUBLIC ACCESS AND RECEPTION FACILITIES AND INFRASTRUCTURES

- Public access is restricted by rules and by a minimal disclosure of the reserve. The surveillance is assisted by a professional group of volunteers. Besides the reception desk at Botrange, a small new one is established at Mont Rigi. The number of visitors is steadily increasing, the number of observed offences is falling remarkably.

9.1 PUBLIC ACCESS

Public access to the reserve is strictly controlled. Most fagnes of the reserve can be overlooked from paths along one or more of their sides, in the edge of the surrounding forest.

A number of fagnes is open to the public, but the access is restricted to marked routes which are open the whole year, from dawn to sunset. In this zone B fall mostly smaller, disturbed bogs. The main one is the Fagne de Polleur near Mont Rigi, which is open to the public by an educational route.

In most fagnes, public access is only allowed on demand, in accompaniment of officials of the *Administration Nature et Forêts* or a guide licensed by that Administration (zone C). This concerns the central peatland complex near Mont Rigi (Grande Fagne, Fagnes Wallonne, Fagne des deux Séries, Fagne de Cléfaye) and a considerable part of the fagne complex in the north-east. Within this category, some routes are thus accessible from dawn to sunset, others between 10h and 17h.

Public access is forbidden in a number of fagnes in the north-east (zone D).

9.2 RECEPTION FACILITIES c.a.

Information for visitors has great priority and is supported by volunteers in the field.

At Botrange, the office of the Cantonnement de Malmédy also accommodates an information centre. There is a supply of a large number of very attractive flyers, booklets and maps, and a recent video-film about the raised bog regeneration experiments.

The recorded annual number of visitors is steadily increasing. In 1999 it totalled a number of almost 22 000. The peak falls in late summer and early autumn, a second one in mid-winter. The main dip is

in March. Most foreigners come from Germany and The Netherlands. The Botrange office is also the basis for guided tours in zone C. The 600 guides are certificated volunteers, which also perform auxiliary surveillance. Most popular seem to be the guided tours in the extensive Fagne Wallonne. Most offences reported by the guides concern the unauthorised presence of visitors in zone C, taking dogs into the field, and smoking. In 1999, the number of observed offences (1871) was almost half the number observed in 1995 (3563).

At Mont Rigi, near the *Station Scientifique des Hautes-Fagnes* of Liège University, *Les Amis de la Fagne* recently established a small information centre. It is at the entrance to the educational route through the Fagne de Polleur and receives monthly about 300 to 400 visitors.

10. REINFORCEMENT OF THE RESERVE'S PROTECTION STATUS

- The reinforcement of the reserve's protection status is persevered with determination. The progress is mostly successfully, but hampered by the possibility to acquire private property.

The reinforcement of the reserve's protection status by redrawing the reserve's boundaries so as to include sites which are of obvious ecological interest or which might help rationalise the layout of the reserve is persevered with determination. By the Ministerial Decree of 31.05.2000, an additional area of 460 hectares is classified.

In more detail, following the recommendations attached to the previous renewal of the European Diploma (see § 2):

- The planning (definition, delimitation, measurements) for rounding off of catchment areas, including buffer zones and transitional zones, is completed. Implementation is already in progress.
- The system of planned transitional zones and buffer zones (zones tampons, lisières) is very extensive. The width varies from mostly 50 metres to locally over 500 metres. The total area in the whole of the Hautes-Fagnes amounts to 791 hectares.
- The rounding off of catchment areas (zones de extension) is approximately 146 hectares, which are integrated in the reserve by the decree of 31.05.2000. It mainly concerns the community-owned sectors of the Raerener Stuhl and the privately owned valley of the Rur by exchange and acquisition, respectively.
- The creation of corridors between isolated elements in the archipelago of the reserve is in full progress as well. The total area of planned corridors (zones de liaison, couloirs) in the whole of the Hautes-Fagnes is 354 hectares. As a result, all fagne areas will be connected, as a rule through brook valleys, with the exception of the two north-easternmost, isolated small fagnes in the Hochscheid area. The two forest reserves are included in the network.
- The area of the former '*fermes en Fagne*' is now included in the management of the Grande Fagne, and incorporated in the sheep grazing project in the Grande Fagne.
- The valley of the Warche is part of a communal forest. In consultation with the representatives of the canton concerned, the communal forest manager has already foreseen the classification of this valley as a protected area.
- The valley of the Hoëgne is part of a communal forest as well. It is especially the right bank that is one of the richest sites for bryophytes in Belgium. In consultation with the representatives of the canton concerned, the community considers to classify it as a 'wet zone of biological interest'.
- The acquisition and incorporation of the area between the confluence of the Grande Rur and the Petite Rur failed, in spite of all efforts, but the Ministère de la Région Wallonne hopes to be able to acquire the most interesting parts of it in the future.
- In addition to the importance of this area, mentioned in § 7, it is important to concentrate on the area of the Petite Rur to try to protect the greater part of the catchment area of the Rur.
- Plans are to include the area between the confluence of the Grande Rur and the Petite Rur in the proposed classification of the Hautes-Fagnes as a Ramsar site.

- The valley of the Rur, which is bought from numerous private owners, is now classified. For the area of the Raerener Stuhl, an exchange with communal owner is in preparation.

11. SCIENTIFIC STUDIES AND ACTIVITIES OF RESEARCH BODIES

- The list of scientific studies and publications is impressive and too long to summarise. Scientific co-operation concentrates on working together with the *Station Scientifique des Hautes-Fagnes* of Liège University. It is persevered and reinforced successfully. A team of biologists of the *Centre scientifique de la Région Wallonne*, which is attached to the administration and management of the reserve, is based at that station. As regards the recommendations attached to the previous renewal of the European Diploma, only an impact study on the emission of air pollution and its possible impact is not accomplished. It is desirable to start a programme on the influence of weather conditions on the recruitment of black grouse, to continue monitoring of the flora of the raised bogs, and to start experimental studies of the ecology of peatmosses and studies of the seed bank.

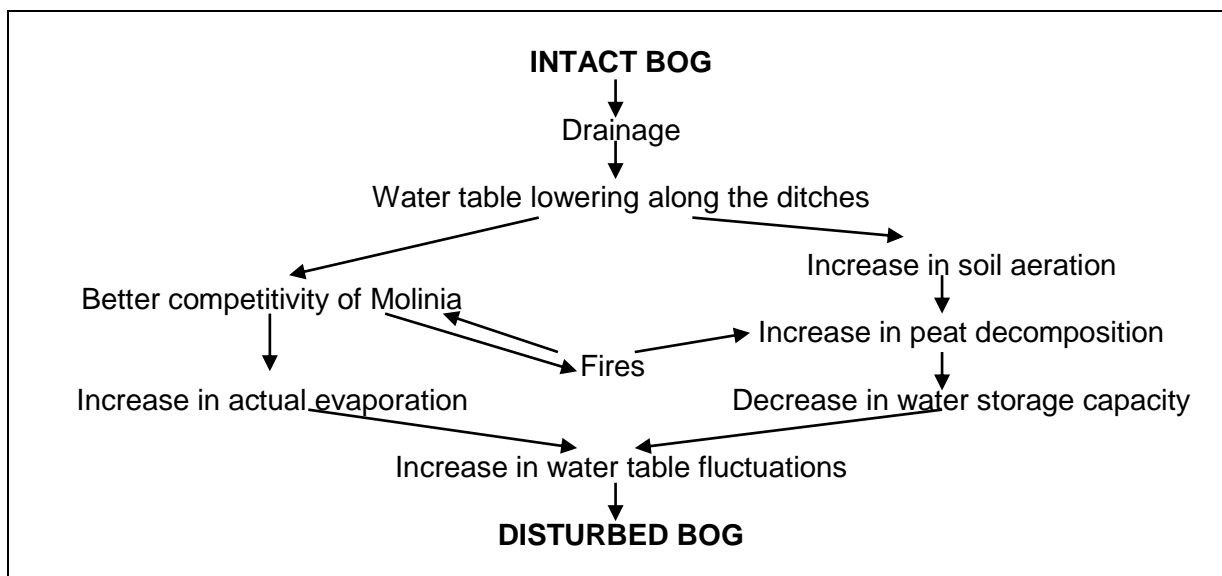
11.1 SCIENTIFIC STUDIES

The list of scientific studies is impressive and the number of scientific publications is too long to summarise. Reference is therefore made to the annual reports. The studies include projects in the programme of the *Centre scientifique de la Région Wallonne*, two theses, and a number of studies by students from universities in Belgium and abroad. Besides, several scientific meetings are held dealing with (aspects of) the Hautes-Fagnes.

11.2 PEATLAND HYDROLOGY

One of the examples of the fruitful scientific co-operation with the *Station Scientifique des Hautes-Fagnes* of Liège University is the research on the peatland hydrology in the reserve. This very recently resulted in a Ph.D. thesis at Liège University by Mrs. Cécile Wastiaux: "*Facteurs hydrologique de la dégradation des tourbières hautes à sphaignes des Hautes-Fagnes (Belgique)*". (2000; 223 p. + ann.).

The outline is summarised below



This fine study attributes considerably to the knowledge of the effects of invasion by *Molinia* in peatland. The results enlighten the prospects of prevention of *Molinia* invasion in degenerated bog by mowing and by sod cutting, and regeneration of *Molinia* invaded less disturbed bog by sod cutting. It also attributes to adequate monitoring of the peatland hydrology. It shows that drainage by the old

ditches is negligible as compared to the erosion caused by these ditches and especially the effects of *Molinia* on the hydrology and the trophic conditions.

The results are implemented e.g. in regeneration experiments by sod cutting in the periphery of the intact bog in the Fagne Wallonne.

11.3 PEATLAND – HISTORICAL DEVELOPMENT

In addition, the subsurface of 800 hectares of drained peatlands was surveyed. Despite the great ecological interest of raised bogs, very little information was available on their genesis and development. The survey revealed numerous lithals² remnants under the peat, in the form of circular depressions surrounded by a rampart, which provided favourable conditions where peat started to accumulate since the Preboreal. The peat development outside the depressions did not begin to form before the Atlantic.

As regards the more recent history, a study has been made of transect studies made since 1938.

11.4 AIR POLLUTION

The recommendation to carry out an impact study on the emission of air pollution and its possible impact, and to develop a monitoring and evaluation system could so far not be taken up since it appeared so far to be impossible to find interested students.

11.5 MANAGEMENT EXPERIMENTS

Extension of practical research on management experiments, especially concerning mowing and sod cutting in slightly desiccated raised bog is well under way, especially in the Fagne Wallonne (disturbed bog, see 7.2) and in the Fagne des Deux-Séries (degenerated bog). The results appear to be promising and call increasingly for implementation in practice. See also § 3.2. Recently, video-film is made about the raised bog regeneration experiments.

Late 1997, sheep grazing was introduced as a management tool in the Grande-Fagne. The herd of about 650 animals belong to a race (*Eifeler*), close to the authentic *Ardennais roux* race. It is managed by a shepherd, permitting a certain degree of free-grazing. The effects on the vegetation are positively promising, thanks not in the least to the expertise and the dedication of the shepherd.

11.6 BLACK GROUSE

Another example of the fruitful scientific co-operation with the *Station Scientifique des Hautes-Fagnes* of Liège University is the research on the black grouse.

The local population of the black grouse in the Hautes-Fagnes is not doing well. The pattern in the ups and downs of the population reveals a general trend on the down grade. The recommendation to start a programme on the black grouse resulted in four publications, under the collective title of *Bilan de trente années d'étude des populations du Tétraz lyre (Tetrao tetrix) sur le plateau des Hautes-Fagnes*³, in a triple volume of the Cahiers d'Ethologie (17,2-4; in all 397 pages).

The present situation is critical. This is shown to be due to a combination of weather dependent variations of recruitment and spontaneous change in the habitat quality of the species (i.e. evolution of some parts of the reserve from attractive peatlands to less attractive woodlands). The influence of the weather on the recruitment is shown to be similar elsewhere in lowland to (sub)montane Europe. Other detrimental factors such as habitat fragmentation, disturbance by human activities (recreation) and (sub)spontaneous reforestation are now curbed, pushed back or removed.

On 26-29 September 2000, the Liège University organised an international symposium on 'The fate of Black Grouse in moors and heathlands of Europe'.

² Mineral palsas or 'palsas without a peat cover', dating from the late Dryas

³ Results of a 30 years' research on Black Grouse (*Tetrao tetrix*) populations in the Hautes-Fagnes of Belgium.

11.7 SCIENTIFIC STUDIES NEEDED

One of the recommendations attached to the previous renewal of the European Diploma awarded to the Hautes-Fagnes Nature Reserve (Resolution (96) 22), still needs to be carried out. It concerns an impact study on the emission of air pollution and its possible impact, and to develop a monitoring and evaluation system.

In addition to the work done on the on the habitat requirements of the black grouse, it is desirable to very quickly start a programme on the influence of weather conditions on the recruitment of this bird. Furthermore, the monitoring of the development of the flora of the raised bogs should be continued and be supplemented with experimental studies of the ecology of peatmoss species (*Sphagnum*) and with studies of the seed bank in the soil.

12. MEMBERSHIP OF OTHER INTERNATIONAL NETWORKS

The Hautes-Fagnes Nature Reserve is proposed as a Ramsar site. Together with the Hautes-Fagnes forest part of the Parc Naturel Hautes-Fagnes – Eifel, it co-operates with the German Naturpark Nordeifel in the German-Belgian Nature Park. Within the framework of NATURA 2000, contacts with the authorities of the neighbouring Bundesland Nordrhein-Westfalen took place for cross-border co-ordination and planning.

Within the framework of the implementation of the INTERREG II Programme in the German-Belgian Nature Park, many coniferous stands in brook valleys are cleared. Many private owners and communities agreed to fell their spruce stands, against compensation, so that corridors between protected nature areas could be re-established (e.g. in the valleys of the Schwarzenbach, the Rur, the Petite Rur, and of tributaries of the Olef).

13. RELATIONSHIPS BETWEEN THE BODY RESPONSIBLE FOR THE AREA, LOCAL ELECTED REPRESENTATIVES, OFFICIALS IN THE SOCIO-ECONOMIC SPHERE AND ASSOCIATIONS

- Information for local elected representatives etc. is organised, but could certainly be intensified. Future involvement of schools is possible and desirable.

Information for local elected representatives etc. has great priority as a means of improving understanding of the need to conserve these landscapes, also in view of their socio-economic value for recreational and tourist activities.

To enhance the receptiveness of elected representatives, several field visits are organised for the councils of local communities (Bütgenbach). However, most of the relationships seem to be bilateral and focussing on exchange of property and the classification of communal grounds. Therefore, all politicians of Bütgenbach were shown around this year in a number of reserve areas to show the grounds for management activities like mowing, removal of spruce, landscape restoration, and their positive results. This was a success. The same was done for the authorities of the neighbouring military training camp, to increase their sensitivity for problems arising in the nature areas close by the military grounds.

Such activities could certainly be intensified. Likewise, involvement of schools is possible and desirable.

14. RECOMMENDATIONS

In view of the dedication and expertise of the people concerned, it seems rather superfluous to formulate recommendations. Therefore the following recommendations are mostly reminders for the planning of activities and means. I thus recommend:

1. to set up and implement a programme to develop regular management plans for the individual peatland areas or complexes of peatland areas of the reserve, and to start drawing these up and to start implementing them; these plans should include among other things the aim, location and

timing of regular measurements, experiments and impact studies, systematic monitoring systems, and required human, financial and technical resources;

2. to persevere with the implementation of the plans for rounding off of catchment areas, including buffer zones and transitional zones, and creating corridors between isolated elements in the archipelago of the reserve;
particular attention should be paid to:
 - the acquisition of at least the most important parts of the area between the confluence of the Grande Rur and the Petite Rur;
 - the acquisition of tributary valleys, in particular those of the Schwalm, to include the total brook system in the reserve;
3. to continue the project of sheep grazing in the Grande-Fagne consistently;
4. to continue and intensify formal informative contact with local inhabitants, locally elected representatives and the park authorities as a means of improving understanding of the need to conserve these landscapes, also in view of their socio-economic value for recreational and tourist activities; likewise, involvement of schools is possible and desirable.
5. to maintain the pilot project of hunting by license introduced in Rurbusch, Herzogenvenn, and Schwarzes Venn;
6. to continue and intensify the involvement of the *Centre Scientifique de la Région Wallonne* and the scientific co-operation with the *Station Scientifique des Hautes-Fagnes* of Liège University in general, and specifically :
 - to carry out an impact study on the emission of air pollution and its possible impact, and to develop a monitoring and evaluation system;
 - to continue and extend practical research on management experiments and restoration experiments, accompanied by research on and monitoring of the peatland hydrology and the effect on flora and fauna;
 - to very quickly start a programme on the habitat requirements of the black grouse, supplementary to the accomplished study on the influence of weather conditions on its recruitment;
 - to start experimental studies of the ecology of peatmoss species (*Sphagnum*);
 - to start studies of the seed bank in the soil, supplementary to sod cutting experiments.

APPENDIX I

APPENDIX II

DRAFT RESOLUTION

on the Renewal of the European Diploma awarded to the Hautes-Fagnes Nature Reserves (Belgium)

The Committee of Ministers, under terms of Article 15.a. of the Statute of the Council of Europe;

Having regard to Resolution (65) 6 instituting the European Diploma, as amended by Resolution (98) 29 on the Regulations for the European Diploma of Protected Areas;

Having regard to Resolution (66) 22 awarding the European Diploma to the Hautes-Fagnes Nature Reserve;

Having regard to the proposals of the Committee for the Activities of the Council of Europe in the field of Biological and Landscape Diversity (CO-DBP);

Bearing in mind the consultant's report submitted to the Group of Specialists for the European Diploma of Protected Areas at its meeting on 1st and 2 March 2001;

Renews the European Diploma awarded to the Hautes-Fagnes Nature Reserve until 28 March 2006;

Attaches the following recommendations to the renewal:

1. to set up and implement a programme to develop regular management plans for the individual peatland areas or complexes of peatland areas of the reserve, and to start drawing these up and to start implementing them; these plans should include among other things the aim, location and timing of regular measurements, experiments and impact studies, systematic monitoring systems, and required human, financial and technical resources;
2. to persevere with the implementation of the plans for rounding off of catchment areas, including buffer zones and transitional zones, and creating corridors between isolated elements in the archipelago of the reserve; particular attention should be paid to:
 - the acquisition of at least the most important parts of the area between the confluence of the Grande Rur and the Petite Rur;
 - the acquisition of tributary valleys, in particular those of the Schwalm, to include the total brook system in the reserve;
3. to continue the project of sheep grazing in the Grande-Fagne consistently;
4. to continue and intensify formal informative contact with local inhabitants, locally elected representatives and the park authorities as a means of improving understanding of the need to conserve these landscapes, also in view of their socio-economic value for recreational and tourist activities; likewise, involvement of schools is possible and desirable.
5. to maintain the pilot project of hunting by license introduced in Rurbusch, Herzogenvenn, and Schwarzes Venn;
6. to continue and intensify the involvement of the *Centre Scientifique de la Région Wallonne* and the scientific co-operation with the *Station Scientifique des Hautes-Fagnes* of Liège University in general, and specifically :
 - to carry out an impact study on the emission of air pollution and its possible impact, and to develop a monitoring and evaluation system;

- to continue and extend practical research on management experiments and restoration experiments, accompanied by research on and monitoring of the peatland hydrology and the effect on flora and fauna;
- to very quickly start a programme on the habitat requirements of the black grouse, supplementary to the accomplished study on the influence of weather conditions on its recruitment;
- to start experimental studies of the ecology of peatmoss species (*Sphagnum*);
- to start studies of the seed bank in the soil, supplementary to sod cutting experiments.