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EUROPEAN DIPLOMA

ON-THE-SPOT APPRAISAL OF THE HAUTES FAGNES  
NATURE RESERVE  
(Belgium)

by Prof. M.F. Mörzer Bruyns

In 1966 the Hautes Fagnes Nature Reserve received the Council of Europe Diploma in the category "nature reserve". The diploma was awarded for the reserve's international significance and its scientific value, as it is a characteristic peat bog landscape.

The flora, vegetation and fauna of this landscape, with its typical sub-mountainous raised peat bog ecosystems, were considered of great interest. The area was also important for its palynological, palaeobotanical, geomorphological and historical features, all well preserved and well managed.

Since 1966, the annual reports for 1967, 68 and 69 indicated the increasing value and significance of the reserve, not only because new areas had been added but also because the management had been improved in several aspects.

According to Council of Europe regulations, each area awarded the Diploma is re-examined after five years, with a view to renewal of the Diploma. The present report is the result of the on-the-spot appraisal carried out by the author, as an independent expert, at the invitation of the Secretary General of the Council of Europe.

The visit took place on 12 and 13 November 1970. The author was accompanied by Mr Hacourt, Administrator, Environment and Natural Resources Division of the Council of Europe. Professor A. Noirfalise (Gembloux), Head of the Belgian Delegation to the European Committee for the Conservation of Nature and Natural Resources, organised and guided the excursions. He was accompanied by the officials responsible for management of the reserve, i.e. Ing. W. Delvingt (Service de la Protection de la Nature, Administration des Eaux et Forêts, Bd. Bischoffsheim 32, Brussels), Ing. Terwagne (Senior Forestry Officer of the Inspection Dolhain), Ing. Lemaître (Senior Forestry Officer of the Inspection of Malmédy) and Ing. M. Letocart (Forestry Officer of the Cantonment Walhorn of the Inspection Dolhain).

All important parts of the reserve were visited. The author had good opportunities to acquaint himself with the present situation of vegetation and flora. He was given adequate information on recent developments and also on the fauna situation.

The author's conclusion is that the Hautes Fagnes Nature Reserve is still an area of exceptional international importance and that it fully deserves the European Diploma as a reserve.

This conclusion is based on the following facts :

#### Conservation of the area as a whole

Several developments which have taken place since 1966 may be mentioned here, for they have been of great importance for the reserve.

The most significant is the enlargement of the area of the reserve. In 1966 it measured about 1500 ha.; in November 1970 the protected area was nearly 3900 ha.

Another important point is the management of the surrounding, mostly coniferous, forests. Although they are only locally part of the reserve, the management of these forests is such that they function as valuable buffer zones. The forests contribute in this way to the preservation and importance of the reserve. They even add to its natural richness. The special measures taken since 1966 to prevent and control fires have been successful and are therefore mentioned under this heading.

Other measures aimed particularly at the protection of special sites and elements of flora and fauna have also been successful. The results are partly due to the attention given to the guidance of the public by the "Service des Eaux et Forêts".

#### Conservation of flora and vegetation

The characteristic vegetation types of the Hautes Fagnes, the Sphagnum peat bog phytocoenoses, exist all over the reserve, in different forms in different areas.

All vegetation types known in the Hautes Fagnes, whether described in literature or mentioned in the annual reports, are present and well developed. They are in great variety and wonderful patterns and are well preserved. Among them the interesting pingo-landscape in the eastern part may be specially mentioned. The typical phytocoenoses are present in large areas and are rich in species in many sites, according to the environment, either with Sphagnum spp, Eriophorum spp, Erica tetralix, Calluna vulgaris or Molinia caerulea as dominant species. In many localities the more specialised peat bog species are found, such as Andromeda polifolia, Oxycoccus quadripetalus, Eriophorum vaginatum, Narthecium ossifragum and on drier patches the interesting combinations of Vaccinium myrtillus, Vaccinium vitis-idaea, Vaccinium uliginosum and Empetrum nigrum. Locally rarer species as Arnica montana, Trientalis europaea, Pedicularis sp, Lycopodium and Narcissus pseudonarcissus are found. The areas which have been burned in recent years have generally vegetation poor in species, often mainly Molinia caerulea and Polytrichum commune. In some localities, however, regeneration of richer vegetation seems to be on its way.

#### Conservation of fauna

The annual reports and other information indicate a remarkable increase in numbers of several animal species.

Oligotrophic peat bog areas are usually poor in wildlife. In the Hautes Fagnes reserve, however, a number of animals live and may be seen regularly because of the favourable habitat formed by forest areas bordering the reserve. This is a special feature of the Hautes Fagnes. It makes the reserve richer than comparable peat bog areas elsewhere. This is true not only for the well-known larger mammals and birds, but also for lower vertebrates and the invertebrate fauna.

Large mammals such as red deer (*Cervus elaphus*), roe deer (*Capreolus capreolus*) and wild boar (*Sus scrofa*) are to be found among the mammals living in the area and visiting the reserve regularly. Populations of hare (*Lepus europeus*), field mouse (*Apodemus sylvaticus*) and other small rodents and mammals are staple food for fox (*Vulpes vulpes*), wildcat (*Felix sylvestris*) and badger (*Meles meles*).

The fox population has recently been controlled owing to rabies. The increase in numbers of wildcat and some bird species (for instance blackgame (*Lyrurus tetrix*) is about 10 times more than four years ago) is probably the result of this control. Next to *Lyrurus*, several birds of prey species seem to have increased as well. A very remarkable increase is also reported of the fieldfare (*Turdus pilaris*), which now has a breeding population of 30 - 40 pairs. The increase of this species could partly be the result of changes in the management.

Since 1967, there is no shooting in the reserve. Furthermore, catching and netting of (song-)birds has been forbidden since 1967, not only in the reserve but also in the surrounding forests. This new regulation has certainly made the Hautes Fagnes area far more valuable for migrating birds, among which flocks of cranes (*Grus grus*), as well as the above-mentioned passerine species, are to be seen.

The breeding population of the bird of prey species kestrel (*Falco tinnunculus*) increased in number and according to the reports so did the populations of buzzard (*Buteo buteo*), honey buzzard (*Pernis apivorus*), goshawk (*Accipiter gentilis*) and sparrowhawk (*Accipiter nisus*). In autumn and winter the peregrine falcon (*Falco peregrinus*) and the merlin (*Falco columbarius*) regularly visit the area. The rare hen harrier (*Circus cyaneus*) was observed in the reserve for the first time in spring.

Three species of owl are to be found: the long-eared owl (*Asio otus*), the short-eared owl (*Asio flammeus*) - in 1967 for the first time - and the Tengmalm's owl (*Aegolius funereus*), of which as many as ten to twelve pairs are present.

These figures indicate an increasing importance of the Hautes Fagnes from the point of view of fauna conservation.

### Management

The nature conservation management of the Hautes Fagnes reserve has been intensified since 1966. The results of this are evident, as has been shown in previous paragraphs. Some of the measures taken, which have proved favourable to the reserve, are the following :

#### Establishment of fire breaks

Along the border of the reserve and in strategic places in the reserve, fire breaks up to 10 m. wide are made. Much is done to maintain these. Ploughing, mowing, cutting of vegetation or the use of herbicides, is done on the basis of scientific experiments. Local shelterbelts are planted and ditches dug in wet areas.

### Prevention of fires

Fires are the worst enemies of the Hautes Fagnes. Much has been done, especially during the last four years, to prevent fires and to restrict them as far as possible. At present, four watch towers have been constructed and special fire watchers appointed. During dangerous periods, a constant watch is organised, including Saturdays and holidays. Fire watchers are provided with walkie talkies (radio transmitters). In spring (February - May) the reserve is closed to the public in periods of dry weather.

### Watertable

Drainage of peat bog areas of the Hautes Fagnes, formerly practised for the sake of afforestation, has stopped completely. Natural drainage only is provided by rivulets and streams. In several areas formerly drained, runoff water is checked and regulated by the construction of dams (partly experimental) and by filling former drains.

### Vegetation

Besides the management of the fire breaks vegetation, necessary for their proper functioning, attention is specially given in several cases. In some areas, the dominant growth of *Molinia caerulea* is controlled by mowing and cutting to encourage the development of other plant species. In other localities, heather is mowed to improve the habitat for blackgame (*Lyrurus tetrix*). Transplantation of sphagnum is practised to colonise pools and ditches which lack sphagnum growth.

### Fauna

Management measures have already been mentioned. The most important are the shooting regulations (no shooting in the reserve) and the prohibition of netting and catching of birds. Other measures are the control of the fox population, which has had no harmful effects, and the special protection given to blackgame and to birds of prey.

### Wardens

The wardening of the area has been intensified. By the end of 1970, there were 8 wardens in the Inspection Deltain and 4 in the Inspection Malmédy. Fire watchers are also appointed.

A "Commission Scientifique pour la Gestion de la Réserve" was established in 1970 by the Conseil Supérieur des Réserves Naturelles et de la Conservation de la Nature. This Commission has 12 members :

- the 3 forestry officers managing the reserve
- 3 botanists
- 1 zoologist
- 1 forest ecologist
- 1 hydrologist
- 2 representatives of the Society "Les Amis de la Fagne"
- 1 country planner

### Public access

The number of visitors has increased distinctly since 1966. This is due in a great measure to the award of the European Diploma ; it is also a result of European Conservation Year. The number of visitors in 1970 is estimated at about 40,000. Most people visit the reserve in July and August. It is closed to the public during periods of dry weather because of fire hazards.

Several special measures have been taken since 1966 for controlling and guiding the public. This is done mainly for their own benefit, but also helps to prevent damage to the reserve. Visitors from outside the area are guided to carefully chosen sites, from which they may enter the reserve on foot, following footpaths or firebreaks. Small parking places are available nearby, for 10 - 50 cars. They are located outside the reserve, but near its border and not far from the main roads. In some places picnic sites will be provided in order to concentrate the visitors in suitable localities.

In different parts of the reserve 5 special marked tracks are to be found. At the starting points there are posts with a map of the area. The trails lead visitors along an attractive route through typical, interesting, but not vulnerable, parts of the reserve. In this way, more vulnerable sites are protected.

Wardens guide and inform visitors, when and where necessary, on the reserve and its plant and animal life. They will attend special courses to prepare them for this task. The wardens also keep watch on the public to prevent fires, picking of flowers or disturbance of the fauna.

Some types of newly developed recreational activities, such as group ski-ing and the use of snow-scooters, are being studied, so that measures may be taken to forbid such activities in the reserve, should this prove necessary. Up to 1970, public pressure has not been such that the establishment of "strict reserves" has proved necessary. The forestry officers are nevertheless on the alert, ready to set up such reserves or refuges as soon as this is felt advisable.

### Scientific Research

The Hautes Fagnes has always been an area of interest for scientific research. Before 1966, botanical investigations carried out by the University of Liège were among the most important. Since 1966, the number of institutes interested in organising investigations in the reserve has increased. In 1970, scientific research was carried out in at least the following disciplines : geology, palynology, botany (taxonomy, phytogeography, vegetation), hydrobiology, zoology (ornithology, entomology), forestry and hydrology.

Research was carried out in particular by institutes from the Universities of Louvain, Liège and Gembloux. Student excursions from these universities visit the area regularly.

With reference to the increased interest in the Hautes Fagnes, a journal "Hautes Fagnes" is published, edited by the society "Les amis de la Fagne". Research into the entomofauna is done by the "Cercle des Naturalistes Verviertois" (Verviers) and published in its Bulletin. The "Cercle des Naturalistes de Malmédy" focuses on botanical investigations. Both organisations arrange guided excursions.

#### General Remarks

In previous paragraphs, all aspects discussed are those which must be studied if one is to be able to judge whether the status, development and management of the reserve are sound enough to merit continuation of the European Diploma for the next five years.

Conservation, Administration, Management, Wardens, Public access and Scientific research have been discussed. In all, positive and favourable developments have been reported. Due to this, the value and significance of the Hautes Fagnes Reserve has distinctly increased. The author had the impression that the improvements achieved are at least partly the result of the award of the Diploma. He was impressed - as an expert - and realised during his visit what has been done for the reserve and what has been achieved since 1966. He also wishes to express his appreciation and his confidence in what is envisaged for the near future.

#### Conclusion

The Hautes Fagnes Reserve in all respects deserves the honour of retaining the European Diploma for another term of five years.