

## ROMANIAN FOREST MANAGEMENT PLANNING AND BIOLOGICAL DIVERSITY CONSERVATION

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### ABSTRACT

The paper shows the role played by the forest management planning in the conservation and improvement of the biological diversity, which is an essential component of sustainable forest management. It emphasizes the increasing interest for promoting the natural regeneration in forest management planning and the concerns for identification and demarcation of some large forest areas, in order to manage them for protection or for special conservation. The regulations of the new technical standards for forest management planning related to conservation of forest ecosystem biodiversity are also briefly presented. In the end, the paper presents some general considerations on the implications of giving up the forest management planning by working sections on the practical implementation of the forest management planning principles, including the ones related to biological diversity.

**Keywords:** forest management planning; biological diversity conservation; protected areas.

The definition of sustainable forest management, as it was endorsed during the Helsinki Ministerial Conference for Protection of Forests in Europe (1993), includes a sine qua non condition that is the maintenance of forest ecosystem biodiversity. Under these conditions, the role of the forest management plan - as a management tool - should be considered not only in respect to ensuring the permanence of the ecological, social and economic functions of the forests, but also related to the concerns and actions it promotes for biological diversity conservation.

It should be mentioned from the very beginning that the contribution of the Romanian forest management planning has been and still is remarkable from this point of view. It was obvious both in the promotion of natural stand regeneration, essential

prerequisite for maintaining the forest biodiversity with main production functions, and in the identification and marking of stands or large forest areas to be subjected to an integral protection of special conservation system.

In the following paragraphs we will briefly present these issues, covering in the end the increased interest for biodiversity, reflected in the new Technical Norms for Forest Management Planning.

#### **FOREST MANAGEMENT PLANNING AND NATURAL REGENERATION**

In this respect, it is worth mentioning the remarkable contribution of some renowned foresters - some of them strongly interested in forest management planning - who, in the second half of the 19th century have continually acted for abandoning the harvesting of seed trees areas and the so-called "selection cutting" system from certain dimensions up. Some of the very famous names in forestry and management planning of that time should be mentioned here - with the obvious risk of unavoidable omission: Scarlat Trasnea, Milan Tanasescu, N.G. Popovici, Th. Petraru, P.S. Antonescu Remusi, Gh. Stasescu, Petre Antonescu s.a. With forefathers who were highly committed the Romanian forest and with high morals and professional competence - Marin Dracea, Vintila Stinghe, I. Popescu Zeletin, Nicolae Rucareanu, I. Vlad, C. Nettea and others - the following generations endowed the management planning with important conservation values and continuous concerns towards restricting the coppice system and diversification of the silvicultural treatments, in order to implement, on a large scale, the natural regeneration from seed. Establishing, from the very beginning, through management planning, standards on the natural regeneration proportion within the regeneration under a shelterwood system, the daring implementation, through management plans, of some accelerate systems, like the selection forest or cuttings for transformation into selection forest, have greatly increased, for those stands, the chance for biodiversity conservation and even development, if we take into consideration the change in the vertical structure.

Concerning the support of the natural regeneration, it is worth mentioning that the forest management plans have promoted also some remarkable attempts, sometimes successful, aiming at a regeneration under a shelterwood of some highly valuable spruce stands (Cosna, Cârlibaba, Dorna Candreni, Zetea Forestry Districts) although the technical norms did not include such stipulations. This is another contribution of the forest management planning to maintaining the biodiversity, especially considering that, in some periods, forestation after clear-cuttings applied in spruce stands was done with forestation material not subjected to a rigorous control in relation to the origin; the transfer of such material was sometimes done from one end of the country to the other.

**AREAS AND IN THE IMPLEMENTATION OF A SPECIAL CONSERVATION SYSTEM**

Obviously, the most complete form of biological diversity conservation in forest ecosystems is to include them in different categories of protected areas with a strict protection system.

After 1948, when the national forest area was planned in accordance with a unique system, some ambiguous legal aspects concerning the protected areas resulted, until the Environmental Law from 1973, in the fact that the main scientific reserves, natural reserves, nature monuments and other categories of forest reserves were identified and marked mainly in the forest management plans. In this respect, the role of the forest management planning became more important after the introduction in 1954, of the system for forest functional zoning, which was later implemented and improved during the forest management planning, especially by establishing the forest functional categories, which included, obviously, the reserves we have mentioned.

That explains how some reserves have been established through management plans - of course, with the participation of the representatives from the former Commission for Nature Monuments within the Romanian Academy - like Gosman Reserve in Tarcau-Neamt, Romanian Peony reserve in Padina Tatarului Forest in Comana Forestry District, the highly productive Hungarian oak from Seaca Optasani, common yew reserve from Cenaru in Focsani Forestry District, Intre Galde Reserve in Teius Forestry District, Old Growth Forest in Strâmbul Baiut Forestry District, Petrosul Rodnei Reserve, with the later expansion and others. In many situations, the forest management plans lead to the relocation of some important reserves created between the two world wars, strongly affected by natural disasters, like Cocora-Prahova, Gimalau-Pojorâta etc.

An absolutely remarkable situation is that sometimes the forest management plans stipulated a special protection system for forest areas that were not declared by law as protected areas. An extraordinary case was represented by Apuseni Mountains National Park, which was established by a forest management plan of Sudrugi Forest District in 1962, with the support of Professor I. Popescu Zeletin and Professor Valeriu Puscariu. The park, which had then as main component the Padis watershed, has been taken over in all the later forest management plans, with some completions and developments. The reserve areas were excluded from silvicultural operations and being surrounded by buffer forests, with restrictions that have been strictly observed from one management planning period to another. The forest planners and experts from the management teams deserve the exclusive recognition for these conservation measures, because the more or less official acknowledgement as a national park came only in 1990, through a Ministerial Resolution no. 7/1990. It is also worth mentioning the development of Retezat National Park due to successive planning. This park started with 10,000 hectares of forests and now it has 38,000.

According to Law 9/1973, the establishment of scientific reserves, natural reserves, nature monuments and other protected areas, was done through a decision of the Council of Ministers, in accordance with their importance. But, due to explicable delays in those times, since the issue of the law until its endorsement by Law on environment

protection in 1995, no legislative measure of this kind has been promoted in order to establish protected forest areas. This situation showed once again the important role played by the management planning in creating such protected areas, which have been endorsed and acknowledged as such by the 1995 Law.

A big contribution of the forest management planning to biological diversity maintenance and enhancement was represented by the implementation of the special conservation measure for the forests in the 2nd functional category. For these forests, covering about 10% of the national forest area, the silvicultural operations have a strong conservation nature. The low intensity of wood harvesting and the nature of the interventions ensure optimal conditions both for maintaining the existing species, and for diversification of stand structures in those areas. It is very important that this conservation measures include forests from all forest formations with a high variability according to vegetation and production conditions.

#### **CONCERNS REGARDING BIODIVERSITY CONSERVATION REFLECTED IN THE NEW TECHNICAL NORMS FOR FOREST MANAGEMENT PLANNING**

In the development of the new technical norms, a main interest was the harmonization of the Romanian forest management planning with the trends in Europe and the whole world in sustainable forest management in accordance with the Forest Principles endorsed by the United Nations Conference on Environment and Development from Rio de Janeiro (1992) and with the commitments of our country when signing the resolutions endorsed by the Ministerial Conference on Protection of Forests in Europe (Strasbourg, 1990, Lisbon, 1998 and Vienna, 2003). Among others, a special attention was paid to the problem of forest ecosystem biodiversity, as an essential component of their sustainability.

Beside the permanence and functional efficiency elements, the norms include among the major planning principles, the biodiversity conservation and enhancement principle. The problem is, of course, arguable. Biodiversity refers not only to the forest and not only to its organizing, which is the main object in the planning; but it concerns the biological element as a whole and, as such, will not remain as a management planning principle and, probably, not as a silvicultural principle. What is important is that, at present, its inclusion among the management planning principles shows the attention that should be paid to biodiversity conservation and enhancement, especially considering that, both in management planning process and in its implementation, the problem has not been studied thoroughly.

Like the in previous editions, the technical norms promote the natural regeneration and creation of protected areas, for maintaining and preserving the biodiversity. Moreover, the norms make official the power of the management plan to propose the temporary protection of some forest ecosystems highly valuable according to the scientific and the forest genetic and ecological values.

Also, the new technical norms stipulate that the management planning basic components, the forest management plans and the texts related to them, include solutions and recommendations aiming at the conservation and enhancement of forest biodiversity, like the correct establishment of goal compositions; diversification of the horizontal and vertical structure of stands by applying appropriate operations and management systems; maintenance in the stands of some specimens of rare species, of the trees from the former stand, which have extraordinary sizes or obvious characteristics in relation to biological diversity; identification and maintenance of some areas containing such elements, and even set up of separate sub-plots to be strictly protected or subjected to a special conservation system.

These measures emphasize the concerns of the Romanian management planning for forest ecosystem biodiversity. In the future, this problem will be analyzed and approached with a special attention as a very complex situation, with no restriction related to composition and other elements that characterize mainly the stand structure in dimensions and quality. In the development of the forest management plans - from field data collection and interpretation until the establishing of the technical forest operations for the following period - it should be always considered that conservation and enhancement of biological diversity is a main criterion in assessing forest management.

## FINAL ASPECTS

Considering - with the rationale mentioned-above - biological diversity conservation as one of the principles of forest management planning, the forest technical norms make official the regulations for its implementation through forest management plans and studies concerning regulation of forest management. Unfortunately, as with the other management planning principles, its implementation is at present difficult, at least for a large part of the national forest area. The difficulty comes from the fact that, after the giving back of the forestlands to their former owners, the idea of forest management plans by working sections established before this process started was obsolete, instead it was preferred the management plan (or summary studies of areas lower than 30 hectares) by properties. It is easy to understand that for small and very small lands - the forest lands belonging to natural persons may cover a few hectares or even acres - the regulations in the management planning studies cannot fulfill the requirements neither of the continuity and functional efficiency principle, or of the forest ecosystem biodiversity conservation principle.

In this respect it is worth noticing that by giving up the development of forest management plans by working sections, respectively by forest massifs or relatively large forest areas, represent a set back for the Romanian forestry. Although it has been implemented in forest management planning since 1948, this concept was born between the two world wars, during the blooming of the Romanian capitalism. Appropriate implementation, with the proper consideration of the rights on forest lands included in those sections, could result in remarkable advantages both for the owners, especially

related to continuous production of wood products and incomes, and for society in general, related to indirect services, ecological or social, provided by the forests. Obviously, the positive impacts of biological diversity conservation mentioned in this paper can be included among these services.

#### **REFERENCE**

- Ministerul Silviculturii, 1986: Norme tehnice pentru amenajarea pădurilor.  
Ministerul apelor, pădurilor și Protecției mediului, 2000: Norme tehnice pentru amenajarea pădurilor  
Legea Protecției mediului din 1973  
legea Mediului din 1995