Principles of forest management in Greece

Dimitrios Karamanolis
Ass. Professor
Aristotle University of Thessaloniki
School of Forestry and Natural Environment
Laboratory of forest management and remote sensing

Forest ecosystems are divided according to the degree of human action and corresponding ecological balance and stability in the following categories:

1. Unaffected natural ecosystems such as the virgin forests of tropical and northern regions

2. The compromise forest ecosystems that are managed by humans forest ecosystems, but maintain the natural species composition of biocoenose

3. The reforestation (near stable) forest ecosystems which involve ecosystems that have emerged from the rehabilitation of degraded ecosystems, in ecosystems high degree of organization and productivity

The instable productive plantations ecosystems, which are usually established in rich agricultural soils and the methods applied are purely agricultural (Dafis 1985, Hatzistathis and Dafis 1989)

Following this categorization of ecosystems is clear that our presentation is dealing mainly with the ecosystems of second category and secondly with the ecosystems of third category. The management of these ecosystems is considered necessary both for economic and protection reasons.

The term ecological management meant that the management within the framework of economic interest or management in general-purpose aimed at maintaining the ecological balance and stability of ecosystems. The need for such a management was visible from the last century when the monocultures of Central Europe occurred extensive damages from wind- and snow-falls, insect epidemies etc.

Today our planet is facing many serious ecological problems. The phrase of Parade "follow the steps of nature, speed up its work" as an expression of a naturalistic philosophy of the era of enlightenment and the French Revolution remains topical as ever.

At the ecological management of forest ecosystems should respect the following basic principles:

1. The principle of conservation of forest ecosystem as a forest ecosystem

2. The principle of maintaining and where possible to improve the capacity of the site

1. The principle of realizing the maximum, sustainable production in value and social effects (principle of sustainability)

Principle of conservation of forest ecosystem as a forest ecosystem

The maintenance of ecological balance and stability should be our main concern. This is achieved by maintaining all of the members of the ecosystem in the appropriate proportions of both population and age. A prerequisite is a detailed knowledge of the prevailing each time ecological conditions as a result of systematic study and scientific research.

The conservation of biodiversity must be basic priority. With the appropriate mixture of species and developing the appropriate uneven age structure of the stands, so as to participate all tree age classes and mostly old, contributing greatly to maintain it. Thus it is possible to maintain a wide variety of ecological nests and consequently a large variety of species. The most appropriate structure for this purpose is the structure of all age forest and follows that of (group) selection forest.

Endangered species in each ecosystem should be promptly detected and recorded in order to receive similar treatment. Rare habitats should be put to the regime of absolute protection in the form of "nature reserves" to allow monitoring of the natural evolution and input from this process.

The natural regeneration is the best way for the renewal of forest ecosystems by ensuring that with participation in an ecosystem species composition, origins and varieties tested in this station. In systematically managed forests, natural regeneration is a natural consequence and achieved very easily. Particularly in Greece where all the forest species often bear fruit (most years), the natural regeneration is the rule for renewal of our forests.

The protection of forest ecosystems from all forms of risk is inseparable connected with the above mentioned principle. Management and protection are in direct fission between them. The main concern of any form of management is to protect them from various risks. The main ones are:

1.The wildfires

2.Overgrazing

3.The land reclamation

4.The windfalls and snowfalls

5.The attacks by fungi and insects

The fires are a scourge on forest ecosystems of Greece and the Mediterranean in general and in our view pose the biggest threat to them after leading in perfect disarray and used many times as a means to transform them into simpler ecosystems and serve other purposes .

The measures to protect forests against fires should be primarily preventive and suppression, starting from informing the public and the organization of a modern system of wireless and wire line communications and reaching up to the organization and training the necessary human dynamic in conjunction with the use of modern instruments of suppression.

Overgrazing of forest ecosystems from both wild animals and domesticated species should be avoided because demonstrably leads to deterioration

The land reclamation in turn is high risk for forest ecosystems. High land prices are helping in this.

The windfalls and snowfalls only indirectly, through the systematic tending and developing multi-storey structure of the stands, can be avoided

Endly the attacks of fungi and insects, are not a threat to the eco-managed forest ecosystems since all populations are at a dynamic balance and rarely observed severe effects.

Principle of maintaining and where possible improve of the productive dynamic site.

The soil is the most valuable component of forest ecosystems and decisively determine their productivity. Its protection therefore, to maintain production capacity and if possible improving it, is our first concern over the ecological management of forest ecosystems. For this reason, forest soils are under the protection of stands. The clear cutting which are drastic in Greece interventions in the ecosystem, exposing the soil to erosion are prevented.

To avoid damage on the soil, are used the more traditional mid-harvest means -animals- and less heavy machinery.

During the logging, the fine material and bark remain within forest ecosystem, helping to maintain and improve the productivity of the soil.

The conservation and utilization of forest species, has contributed to ensuring a satisfactory return, but also to maintain the capacity of the site.

The development of a suitable forest environment, with continuous coverage of the soil and maintaining closed edges, helps to ensure optimum conditions for all members of biocoenose, ensuring smooth development, renewal and sustainability.

Principle of maximum sustainable production in value and social effects

A prerequisite for the validity of this principle is the respect of the previous two principles. From the moment that will ensure the conservation of forest ecosystem and the productivity of the site, with the deliberate purpose and the wood volume rational tending is possible to respect the authority said.

Our goal is to maintain wood volumes at rather high levels, so that forest ecosystems to be able to meet the ecological role, in the best manner. So we can increase the diameter of products with a result of both the financial but mainly the eco-profit, as it would undertake greater quantities of CO2. For this purpose it is deemed the conversion of the coppice forests of the country into high forests so that these forests respond fully to current standards. The logging must be made according to single tree or group selection management system, in order to exploit the productive potential and other benefits.

On modern ecological management there must be a particular emphasis to ensure specific functions of the forest ecosystem, such as:

- Regulate water runoff
- Aesthetic impact on the landscape
- Health effect on humans
- Recreation
- Noise reduction
- Combat air pollution
- Commitment of CO_2 and performance of O_2
- Ensuring biodiversity

From the foregoing, we conclude that forest ecosystems should play a multiple role, which should be corresponded to the demands of modern society in the best way.