

Ecosystem-
based forest
management:



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Québec 

USING THE NATURAL FOREST AS A MODEL



Forestry practices have evolved a great deal in recent years, both in North America and in Québec. With the passage of time, it has become clear that greater attention must be paid to existing forest biodiversity and related ecological processes.

Ecosystem-based management is one of the key ways to respond to environmental concerns and to manage forests in a sustainable manner. The main idea behind this approach is as follows: to use the natural forest as a model and to keep managed forests close to its characteristics.

The life of the forest is governed by ecological processes that allow the forest to function and to provide habitat for a multitude of living species. Natural disturbances on a small or large scale (such as fires, insect epidemics or windfalls) are among the processes that shape the forest and habitats. Stands die and are reborn as the result of these disturbances. The species that inhabit these stands are adapted to these conditions and variations.

The goal of ecosystem-based management is to reduce the differences between managed forests and the natural forest in order to create landscapes that contain all the diversity and irregularity of the natural forest. This approach offers the best available guarantee for maintaining over the long term functional forest ecosystems and the biodiversity to which they are home. Ecosystem-based management is particularly well suited to Québec's forests which, in many respects, still retain their natural attributes to some degree.

ACHIEVE SUSTAINABLE FOREST MANAGEMENT

Ecosystem-based management is the solution favoured by Québec to ensure the sustainable management of its forests. This concept is at the heart of the Sustainable Forest Development Act. It is based on the need to maintain biodiversity, an essential prerequisite if Québec's population is to continue to have access to the many benefits and products offered by the forest.



ECOLOGICAL

The goal of ecosystem-based management is necessarily to preserve ecological processes and biodiversity. By analyzing the significant differences between the natural forest and managed forests, forest managers can determine the elements that may constitute a threat to the viability of ecosystems.



ECONOMIC

Ecosystem-based management permits the integration of economic considerations. It matches a vision for the future in which forestry activities contribute to the lasting well-being of the communities that depend on the forest and of Québec's population in general. Another goal of ecosystem-based management is to position Québec products advantageously on competitive world markets that are becoming ever more demanding from an environmental performance standpoint.



SOCIAL

Ecosystem-based management is applied in territories where a multitude of stakeholders, with varied values and needs, are active. Consequently, it must be part of a management approach that facilitates the participation of all stakeholders and reconciles the different values associated with the forest. Moreover, Quebecers are very much attached to the natural character of their forest. Through ecosystem-based management, forest managers will aim to respond to this value while promoting the multipurpose use of forest environments.

From an ecosystem-based management standpoint, the maintenance of natural forest characteristics is the best way to reconcile different values.

DIVERSIFYING FORESTRY PRACTICES AND INNOVATING



The goal of ecosystem-based management is not to maintain virgin forests everywhere or to reproduce all aspects of a natural forest, but rather to create managed landscapes that resembles a natural forest. This type of management includes timber harvesting and production activities.

The practices used are designed to create forest landscapes that contain all the diversity and irregularity of natural forests, for example with regard to the size and shape of stands and the presence of trees of different sizes along with snags and woody debris.

- *Distribute silvicultural activities over time and space.* Forest managers distribute silvicultural treatments over the territory and plan when the work will be carried out. In ecosystem-based management, managers endeavour to reproduce the effects of the natural disturbances to which species are adapted. Managers try to emulate natural disturbance regimes, for example with regard to cycle, severity, size and form. They adjust the distribution of silvicultural treatments and residual forest to create a managed forest that is closer to nature.
- *Apply silvicultural practices that reproduce the ecological complexity of the natural forest.* While several existing practices may be adapted in order to meet this objective, new tools have been added to the silviculturalist's toolbox. For example, variable retention harvesting consists of silvicultural treatments that maintain a variable quantity of residual trees according to diversified arrangements. These biological legacies help generate future forest stands that will be home to greater diversity. In addition, in softwood forests, greater emphasis is placed on partial cuts that maintain a closed canopy, reproduce stands with a complex internal structure and promote the re-establishment of old growth forest attributes.

ECOSYSTEM-BASED MANAGEMENT IN QUESTION FORM

WHAT IS ECOSYSTEM-BASED MANAGEMENT?

Ecosystem-based management is an ecological vision applied to sustainable forest management. It involves adopting the natural forest as a model and creating a managed forest that helps maintain biodiversity.

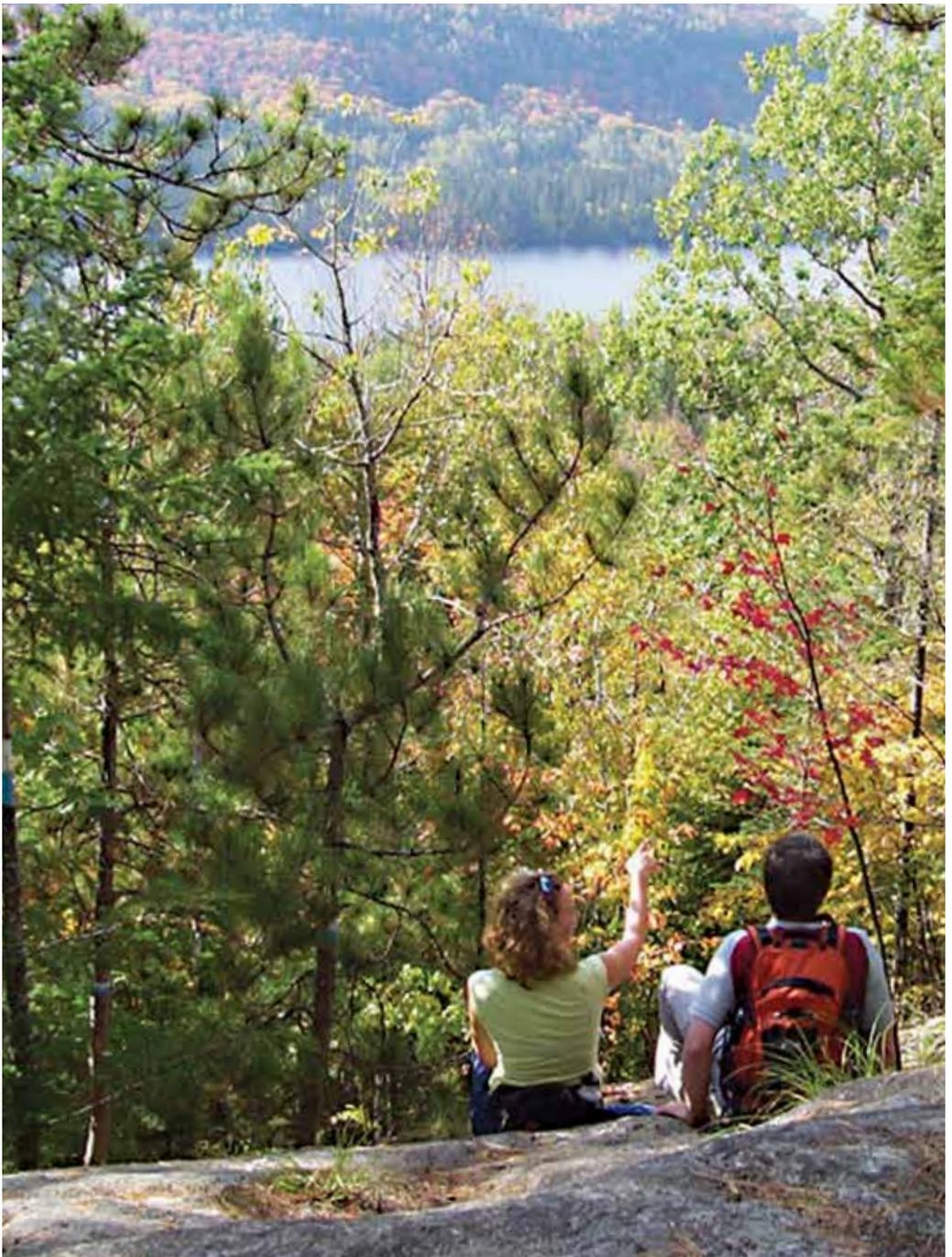
WHAT IS THE OBJECTIVE?

The objective is to promote forestry practices that maintain functional and productive forest ecosystems over the long term, in order to provide future generations with the ecological, social and economic benefits derived from these ecosystems.

WHAT EFFECT DOES ECOSYSTEM-BASED MANAGEMENT HAVE IN THE FIELD?

It results in the application of practices to create landscapes that contain most of the attributes and functions of natural forests.

It is by maintaining managed forests in a state that is close to that of the natural forest that we can best ensure the survival of most species, perpetuate ecological processes and, as a result, support the long-term production of the goods and services provided by the forest.



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