



Characteristics of Sustainable Forest Management



FORESTS CAN PROVIDE numerous benefits to society today, tomorrow, and far into the future. Many in society seek sustainable forest management to ensure that future generations enjoy those benefits. The foundation of professional forest management is “the use of the natural resources for the greatest good of the greatest number for the longest time” (Gifford Pinchot 1947). Adherents to these concepts recognize that although it may never be possible to claim that sustainable forestry has been fully achieved, constantly striving for it in the face of changing conditions is a worthwhile pursuit.

Sustainable forest management has been defined in various ways. Despite widespread support for the concept of sustainable forest management, disagreements can arise about the specifics of how to achieve it. Forest management or forest use that seems reasonable to one person or group may not appear so to another. We are people with widely divergent interests and concerns. Therefore, conflicts over planned or ongoing forest management are inevitable, and people who share concern about forest resources sometimes disagree about priorities for those resources. The many different ways that forests and people interact tend to exacerbate some of these conflicts. However, unlike some other natural resources, forests can be managed for several purposes simultaneously, and, thus, jointly meet the interests and priorities of multiple groups.

Forests constantly change over time. These changes, whether natural or human-caused, result in species that gain resources or increase in number and species that lose resources, fitness, or habitat. Simply stated, forest change creates winners and losers among the flora and fauna (including humans) that depend on forests. Such tradeoffs are inevitable, and so is forest change. Sustainable forest management requires that we understand and manage those tradeoffs while pursuing multiple objectives for present and future generations.



Defining Sustainable Forestry

Although definitions of sustainable forestry have been offered by a variety of sources and are difficult to quantify, the following are the most widely used.

WORLD COMMISSION ON ENVIRONMENT AND DEVELOPMENT (1987), MOST COMMONLY KNOWN AS THE BRUNDTLAND COMMISSION—Development that meets the needs of the present without compromising the ability of future generations to meet their own needs; embodying two key elements:

- The concept of “needs,” in particular the essential needs of the World’s poor, to which overriding priority should be given
- The idea of limitations imposed by the state of technology and social organization on the environment’s ability to meet present and future needs

As applied to forestry, the enhancement of human well-being by using, developing, and protecting resources at a rate and in a manner that enables people to meet their current needs while also providing future generations with the means to meet their needs as well, while simultaneously meeting environmental, economic, and community aspirations. Additional sources: USDA FS (2004), Floyd et al. (2001)

EXECUTIVE ORDER 13514, FEDERAL LEADERSHIP IN ENVIRONMENTAL, ENERGY, AND ECONOMIC PERFORMANCE (FEDERAL REGISTER 2009)—To create and maintain conditions, under which humans and nature can exist in productive harmony, that permit fulfilling the social, economic, and other requirements of present and future generations.

HELMS (1998)—An evolving concept that has several definitions:

- The practice of meeting the forest resource needs and values of the present without compromising the similar capability of future generations; note that sustainable forest management involves practicing a land stewardship ethic that integrates the reforestation, managing, growing, nurturing, and harvesting of trees for useful products with the conservation of soil, air and water quality, wildlife and fish habitat, and aesthetics.
- The stewardship and use of forests and forest lands in a way, and a rate, that maintains their biodiversity, productivity, regeneration capacity, vitality, and potential to fulfill, now and in the future, relevant ecological, economic, and social functions at local, national, and global levels, and that does not cause damage to other ecosystems; note that criteria for sustainable forestry include (1) conservation of biological diversity, (2) maintenance of productive capacity of forest ecosystems, (3) maintenance of forest ecosystem health and vitality, (4) conservation and maintenance of soil and water resources, (5) maintenance of forest contributions to global carbon cycles, (6) maintenance and enhancement of long-term multiple socioeconomic benefits to meet the needs of societies, and (7) a legal, institutional, and economic framework for forest conservation and sustainable management



Scale is a complicating factor in sustainable forest management. Forest management (or lack thereof) that appears reasonable at one spatial scale may look unreasonable when viewed across a range of spatial scales and vice versa. Management practices that appear innocuous at the local scale do not necessarily result in forest conditions that are desirable at landscape, ecoregion, State, national, or global scales. This issue of scale can be especially problematic when considering the wide array of products, amenities, and ecosystem services that forests provide and the inherent tradeoffs associated with alternative management objectives. Consequently, it is essential to examine forest conditions in a hierarchical, spatial context that includes landscapes and ecoregions (Fig. 6).

Likewise, because many forest policies are established by legislative bodies, it is informative to examine forest conditions at several political scales: local governments, States, multi-State regions, and the Nation. Issues of scale are important in both upward and downward directions. Understanding the cumulative effects of management practices or policy alternatives may require us to scale up to the ecoregion, State, or national perspective. Conversely, implementing a policy usually requires us to scale down and resolve the application logistics acre-by-acre on the ground.



It is important to emphasize that forest sustainability is a human concept. What is considered sustainable and desirable is filtered through human value sets. For as long as people have lived on the North American continent, they have relied on forests to sustain and improve the quality of their lives. Native Americans used fire extensively to shape forests and woodlands. During periods of rapid European settlement, much of the focus was on timber extraction and land clearing for agriculture. Recent decades have seen a gradual change in focus toward sustaining the ecosystem

services that forests provide: clean air, clean water, repositories of biological diversity, climate stabilization, and emotional and spiritual well-being. This shift in emphasis has been accompanied by efforts to attach quantitative values to ecosystem services, which are ultimately evaluated from a human perspective. Even objectives such as maintaining forest health and biodiversity are human centered. Many people who value healthy, diverse forests do so because they believe those attributes will better sustain forests for the benefit of present and future generations.

