

Forest management for renewable energy: The decision-making process

Natural Resources Notebook

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How decisions are made in improving our forest policy to include forest-based renewable energy and phasing out fossil fuels is important.

There are two sides to how we deal with our public forests: On one hand, we have those who would like to preserve them with little or no proactive treatment. On the other hand, there are those of us who believe that a certain amount of forest stand treatment — including timber harvesting — is desirable and necessary. It is necessary to achieve overall sustainability, and there should be a balance between preservation and productive management.

However, there is common ground in that we have a common goal: to have our forests for the greater benefit of society forever. Our differences reside in how we go about doing it. The bottom line is sustainability in terms of environment, economics and the sociopolitical component.

Set the stage

The starting point in making decisions is to identify the problem and define goals, objectives and preferences. This sets the stage for formulating planning strategies and management practices toward achieving our goals and objectives. For the sake of discussion, we assume that the problem in question is global climate change related to fossil fuels and that large areas of forests are unhealthy and thus prone to insect infestations, disease and wildfire due to overstocking.

We can further assume that we would like to consider forest-based energy in the process of phasing out fossil fuels along with other renewable sources of energy for global climate change mitigation.

The case in point is the question of how we decide whether or not to adopt sustainable, productive forest management for renewable energy. The factors that need to be considered include forest health, the economics of productive management, carbon balance and socioeconomic benefits, such as jobs and revenues.

Alternative management options must be formulated, evaluated and compared in cost-benefit analyses within the framework of forest policy. We want to select the best option — the one that has the greatest probability of achieving our goals and objectives. The definition of goals and objectives is the starting point, but not necessarily a sequential chain of events. Deciding on the best policy requires going over the options available, like a “Which came first, the chicken or the egg?” situation. This is an iterative process where we go from step one to step two and then back to step one to refine certain elements. This is an optimization process.

The use of computer simulation models that project outcomes is one way to evaluate each option. They make use of available information that includes forest stand dynamics, economics, carbon balance, integrated social benefits, drawing data and information from monitoring and research.

Job opportunities

To our students — young and not so young, beginners or professionals — here's a challenging career opportunity: Whether in forestry, ecology or business management, the systems approach is applicable to most any field. Don't be afraid of the math, computers and science. Also, a lot of art and human science are involved. You'll find it all fascinating and also practical in getting well-paid jobs or for your own business startups. Go for it.

This is article 149 in the "Taos News Natural Resources Notebook." Articles one to 99 are in "Forest Power: Adventures in Ecology and Forest Management." Others are available at taosnews.newspaperarchive.com.



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