CONCLUDING REMARKS

David B. Thorud

Ecosystem management is about more sophisticated management of our interior forests. It represents an evolution in thinking about how we are going to manage our forest resources. I am not sure that it represents a revolution in terms of approach, but it clearly represents a major expansion in thinking about the spectrum of forest values which must be managed for and protected. The change implied is a different way of looking at desired outcomes on the land over time; outcomes that simultaneously protect fish and wildlife, soil conditions and productivity, biodiversity of flora and fauna, and produce the commodities that society needs and demands. These outcomes must address amenity and aesthetic issues and values as well. This is a tall order, requiring more information to accomplish than we have at present. Achieving this goal will require 1) more sophisticated understanding of how natural, social, and economic systems function, 2) advanced technologies such as geographic information systems, and 3) institutions and legal mechanisms that will make all of this economically, biologically, and physically feasible.

Despite difficulties and uncertainties in definition and implementation, the concept of ecosystem management is probably an idea whose time has come. One that I think the public will support. A successful attempt to define and implement ecosystem management should have the associated benefit of increasing public confidence in, and support for, natural resources stewardship. This foundation, if solidly laid, may be an important future anchor that society will respect as competing commodity and non-commodity uses of the forest increase with population growth.

The pending pressures on our natural resource base in the interior forests, as well as elsewhere, as a result of population growth should not be underestimated. These pressures will be unremitting. For example, the population of the United States is now 250 million people and is projected to grow by 140 million by mid-century, less than a lifetime away. On the average, each American consumes about 80 cubic feet per year in wood products, and Americans are increasingly interested in the amenity and environmental values of forests as well. To use a regional example, the state of Washington now has 5.3 million people. Demographers project that the population will be at 8 million by the year 2020, or 2.7 million more people living here in just 25 years. King County (Seattle area) alone is projected to have 325,000 new residents around the turn of the century. No forests in the Northwest will escape these growing pressures—not only for commodity demands, but for non-commodity uses as well.

Global population growth is even more striking. There are 5.5 billion people now and U.N. demographers project that in a 50-year time frame it could grow to 10 billion people. All of these changes will place enormous pressures on forest land, not only in the Pacific Northwest, but also nationally and certainly around the globe. For those of you who have traveled internationally, you know that in the absence of appropriate management, human beings can use and abuse natural systems in ways that cannot be sustained. In my view, population growth, here and elsewhere, is the real train wreck coming down the track.

If natural systems are going to be maintained in a healthy state, population growth dictates that better ways be found to integrate human society and its needs into the ecosystem management equation. The challenge will be to devise operational concepts in which healthy natural systems and growing human populations can successfully co-exist on a sustainable basis. Forest management is not going to solve all the problems associated with population growth, but ecosystem management may be a step in the right direction towards gaining public respect and acceptance as these pressures mount.

Ecosystem management involves many unanswered questions, and an important one is the role of different forestland ownerships. I subscribe to the belief that different ownerships should have different responsibilities, or at least different roles to play. In my view, the private sector will be called upon to be the principle provider of wood products for our country. This will give private forests a different responsibility in the ecosystem management framework than federal forests, which will provide some level of wood products but, more likely, will have a greater responsibility for providing non-commodity values and services. Of course, the private sector must also be concerned about non-commodity services and environmental values. Equitable and fair ways will have to be devised for deciding which ownerships will provide what on a watershed basis, or in a region, while acknowledging the different roles for different ownerships. How will private property rights be protected in this scheme? This question is one that we, as a society, have to address. How do we provide incentives for conservation, as well as for commodity production? These and other issues remain before us. But I think with creative effort and good will, positive results can be achieved.

A cautionary note is warranted. In reality, we do not know what the future total demand for wood products will be. Even though forests are renewable through proper management, if America's appetite for wood products goes unabated, future pressures for production from the private sector could adversely strain the environmental qualities of the private sector land base.

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The non-industrial private forest landowners do not appear to be properly factored into the ecosystem management concept. There is still a major gap in that regard, and I know that Washington State University Cooperative Extension and others are working on this. In the state of Washington alone, 21% of the forestland is in non-industrial private ownership, some 3.6 million acres—a major piece of real estate. So, what is in ecosystem management that will benefit the small woodland owners and how will they be a part of the ecosystem management equation? However this is achieved, small landowners should not have to fear a "taking" that encourages them to liquidate their forests now, rather than manage and conserve them into the future.

I would like to conclude with a statement about science and the role of scientists and academicians in ecosystem management. This is clearly an era where science has played a major role in policy development. It is important that scientists share their knowledge with policy-makers and that scientists help define the various courses of action that may be feasible. Scientists should help policy-makers assess the consequences of alternative courses of action that could be implemented in given situations. But, in my view, it is the policy-makers who should make the final decisions on behalf of the public, not the scientists. This is an era where scientists are given a wonderful opportunity to ensure that public policy is based on the best available knowledge, not on myth and mythology. This era also places a great responsibility on the shoulders of scientists that they remain objective and impartial, and that their own policy preferences do not compromise the objectivity of their science. If scientists slip through that gray area between science and advocacy because of a particular personal policy reference, the credibility of science and scientists will ultimately be called into question to everyone's detriment. I would also add that once scientists put on an advocacy hat, they may find it difficult to remove. The question will be asked: Is this scientist providing us objective information or does the information favor the personal policy preference of the scientist? And how will the public and policy-makers know which it is? This is an important challenge for all of us who are scientists and academicians. At a minimum, in offering advice, our personal policy preference, if we have one, should be disclosed or otherwise made obvious.

Author

David B. Thorud, Acting Provost
University of Washington, and
former Dean of College of Forest Resources
Seattle, WA 98195-2100

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