

Advocacy by Scientists—a Federal Scientist's View

by Frederick J. Swanson

"Science Advocacy is Inevitable: Deal with It." This provocative title of an article by Margaret Shannon and others catches the essence of the struggle for objectivity in contentious issues where science plays a part. Environmental issues present a powerful battleground for this struggle, as we have experienced in the spotted owl and old-growth wars over the past decade in the Pacific Northwest.

The context of a scientist's job is very important in addressing the question of appropriate and inappropriate advocacy in environmental issues. My personal perspective (and that's all this short essay amounts to) is that of a USDA Forest Service scientist working on forest and watershed questions in the Pacific Northwest in the late 20th century. This exciting, challenging time and place stimulates frequent discussion of advocacy by scientists. With federal taxpayer support—principally through the Forest Service and National Science Foundation—I conduct studies aimed at understanding how forests and watersheds function under the influence of natural disturbance processes and land use practices. I consider it a great privilege to do this interesting work, and an important reward has been the sense that findings from these studies can have immediate usefulness to society. These feelings strongly shape my attitudes about advocacy.

Advocacy in science ranges across a broad spectrum of types, objectives, and potential outcomes. In the simplest case one might advocate that science should be part of the process of addressing natural resource issues, regardless of potential outcomes. At the other extreme of advocacy scientists may vigorously support a particular outcome of a natural resource dispute. Intermediate forms of advocacy include promoting particular approaches for dealing with issues, such as emphasizing species protection using a conservation biology approach or adopting a commodity production perspective modified with selective practices to reduce environmental effects. Even the study topics a scientist chooses to pursue may be

considered a form of advocacy—e.g., study of a rare, old-growth-dependent species may be viewed as supporting conservation initiatives—whereas development of techniques to suppress vegetation competing with crop trees could be viewed as advocating commodity production from contested forest lands. Scientists and science organizations may adopt certain positions along this continuum of advocacy and then claim objectivity with respect to "more extreme" levels of advocacy.

I believe that scientists should advocate use of their science in environmental issues, and that science findings should be framed in a way that informs decision makers and the general public, who ultimately are responsible for setting the course of action. A scientist can have two roles—one as a scientist providing science-based information that is merged with other information to make decisions, the other as a citizen who has a voice in the public's role in the process. If the scientist's voice as a citizen is loud and on one side of an issue, the objectivity of the science may be called into question. Science voices with high levels of objectivity are relatively few, so scientists should guard and cultivate them. However, objectivity can be elusive, given the complexity of environmental issues and of advocacy itself. Consequently, I believe that scientists should strive for objectivity, be clear about the subjective and the advocacy aspects of their work, and avoid bias in their science.

An important contribution of scientists can be to develop their science and to communicate findings in ways that promote recognition of a broad perspective without ardently supporting a particular outcome. This can have the effect of reducing prospects for advocacy, while helping policy makers understand the context of an issue. Having worked for 30 years on histories and consequences of wildfire and landslides, for example, I have seen dramatically broadened understanding of these processes and their roles in ecosystems. When fire and landslides are considered in a very narrow time frame and

under strictly utilitarian objectives, these processes are seen as having only negative effects on ecosystems and watersheds. On a longer time frame considering historical disturbance regimes and a diverse mixture of objectives for managing ecosystems, fire and landslides are viewed as integral parts of the ecosystem. Our previous concern with how best to suppress fire and landslides has shifted to asking how to manage landscapes to retain desirable influences of these processes, tailored to meeting the management objectives for the particular area. In this case I advocate that science play a role in identifying the histories and implications of these processes and in developing new approaches to management that incorporate this understanding.

In the Pacific Northwest we are both blessed and cursed with contentious, protracted, highly public natural resource issues in which many scientists play diverse roles. This context and my job as a research scientist with a Federal agency strongly shape my belief in trying to provide sound, science-based information and broad perspective to the public and to decision makers.

I trust that in the long-term our society's decision-making processes and public respect for ecosystems and watersheds will lead to good conclusions.

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