Northwest Science Forum

Northwest Science Forum provides an opportunity to articulate and discuss scientific issues in a less structured format than peer-reviewed articles. The Forum publishes short articles, opinion pieces, and letters with a focus on science and natural resource issues in the Pacific Northwest. Although the Forum is not peer-reviewed, it is edited for format and clarity. Articles should generally be less than 2000 words and contain minimal literature citations. Letters in response to articles are particularly encouraged; the original author will normally be given a chance to respond to the letter as well. There are no page charges or reprints associated with the Forum, and participants need not be members of the Northwest Scientific Association. Please send all submissions, including two hard copies and an electronic copy (any recent version of Word or WordPerfect) to the Editor.

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Position Advocacy by Scientists Risks Science Credibility and May Be Unethical[1]

The demand for science information in decisions about the management of natural resources is ever more insistent, just as the debates seem ever more contentious. Increasingly, research scientists from public agencies such as the USDA Forest Service are being asked to bring science information to the decision-making table. Research scientists are being asked because of their expertise and because they generally are viewed as objective and independent from interests advocating different solutions in the debate. These perceptions of credibility in turn come from the public's trust in the scientific method and science institutions.

Scientists and the science information they bring can make many valuable contributions to the decision-making process. They can contribute an understanding of the system being managed, understanding that is essential to intelligent development of management options and to the reasoned estimation of the effects of management actions. Once management goals are established by the decision maker, or through whatever process is legitimate, scientists can contribute to development of management options that might achieve those goals.

The scientists also can estimate the consequences of management options, including the uncertainty in those estimates and risks inherent in the management option. It may be challenging for the scientist to estimate the consequences of management options that they helped create, but it is a valuable and legitimate role as long as the estimates are clearly based on the available science information.

The scientist likely will have to make professional judgments when estimating the consequences of management options, because a complete array of hard science studies on which to base the estimates probably is not available. For example, scientists may have to interpolate between points of hard science information, extrapolate results from the research study area to another area, or from one geographic scale to another. None of these science roles is easy, but they are feasible when done with careful anchoring in the scientific literature and when associated with clear communication of the degree of confidence in the results.

[1] This paper was originally published in *OSU Reflections*, a newsletter from the Oregon State University Department of Philosophy. The author has modified it slightly in this version.

Accomplishing these science roles is essential to informed public decisions. Science information sometimes provides a neutral ground where people with divergent interests can assemble to better understand the systems about which they have an interest. Without the science information, the public dialogue often deteriorates into a dogmatic debate among divergent and often mutually exclusive positions driven by self interest. Such a dialogue is not likely to yield a full array of potential management options and will surely lack a full understanding of the consequences of any of the options. Inclusion of science information may also allow participants to generate options that are more acceptable to individuals representing diverse interests. Moreover, these options may not arise in the absence of scientific input.

In playing these science roles in decision-making settings, it is appropriate that the scientist forcefully advocate the consideration of the relevant scientific information. Especially once science has been engaged in the debate, it is even the responsibility of the scientists to advocate for the full consideration of scientific information and to not allow others to pretend that the science was considered, if in fact it was not.

One way of implementing this is for scientists to conduct what might be called a "science consistency check," wherein they evaluate whether the final decision fully considered, correctly interpreted, and revealed what is currently known from the available science information. Such an evaluation can facilitate holding everyone accountable for considering the science. And this means that all the available scientific information is considered, not just some subset on which decision makers might want to focus because that subset seems to support their final decision.

This science consistency check of the decision can be a powerful tool in ensuring the full consideration of science, even recognizing that science information is only one of several factors to consider in any decision. It is an effective tool in helping the scientists discipline themselves to stay in a science role. It can also become a useful vehicle for effectively communicating the essence of the science information into the decision process, albeit at the risk of confrontation between scientists and decision makers.

The next question, though, is whether the scientist should advocate a particular management option as the *best* solution, either because the scientist has strongly held personal values or because he/she thinks their science perspective gives them special insights that others lack. The most important consideration in answering this question is how position advocacy affects the vitality of the science component of the decision.

Invariably, any natural resource management decision is a value-based balance among diverse considerations, of which science information is but one component. Even though a balance among diverse values is the central stuff of decision making, it is not the stuff of science. Science informs the choice, but it does not make the choice or direct a single solution.

This is not to say that scientists do not have personal values: they do. It also is not to say that those values do not affect the scientist's behavior: they do. Personal values affect what scientists perceive to be important to study, how they present their research findings, and how they integrate different pieces of scientific information into a larger scientific whole.

At issue is not whether scientists have personal values. Rather, it is whether they should express those values by advocating for any particular decision outcome during a public debate in which they are being counted on to be a neutral provider of credible science information.

Position advocacy by scientists can take at least two forms. In the first form, the scientist advocates a position while pretending that the position is a science statement rather than a personal value statement. If science has any credibility in the debate, the scientists might do this to gain more attention and support for their personal position. This misrepresentation of personal values as if they were science is unethical. It is just as unethical to misrepresent personal values for science, as it is to misrepresent experimental data or the results of statistical test in a scientific paper.

And it is a misrepresentation whether the scientist initiated the position advocacy or was asked by someone else to do so; for example, a decision maker might ask the scientist to endorse a decision. If that endorsement is anything other than an answer to the question of whether the decision was consistent with science, (i.e., the science consistency check), the endorsement is a misrepresentation; it is just as much of a

misrepresentation as if the scientist originated the advocacy themselves. And the decision maker shares the responsibility for the misrepresentation.

The second form of position advocacy is more problematic. In the second form, the scientist carefully clarifies that they are expressing a personal value rather than science information when they advocate a position. They make it clear that they have taken off their science hat and put on their personal value hat. At best, the audience will be confused about whether the scientist is speaking science or personal values. The confusion is not helped if the scientist wraps their advocacy in scientific language. Most likely, the public will think, at least at first, that the personal value-based advocacy is really science information because, after all, the scientist gained the public platform through their scientific standing, not personal values. If this confusion occurs, the effect of the second form is the same as the first, that is, a misrepresentation, even if the intent is different.

What is the outcome, whether the misrepresentation was intended or not? Although arguably the outcome might be different from different perspectives, from at least one perspective the outcome will be erosion of the scientist's personal scientific credibility along with the credibility of the science information they brought to the dialogue. How can they be trusted to be a neutral source of science information if they entangle science with value-based advocacy, intended or not? That credibility damage might wash over onto other science information vital to the debate and perhaps even the institution of science itself.

Personal values and the advocacy of those values are vital components of any substantial natural resource management debate. They also are common components of most debates. There never seems to be a shortage of advocates for different solutions. Credible scientific information about system function, feasible management options, and inherent risks and consequences of different management options, on the other hand, is usually in short supply. Yet, it too is a vital component in reasoned public choices. Sacrificing the scarce science contribution for the more common, though no less important, expression of personal values is a poor trade. It is a poor trade for the credibility of science and it is a poor trade for the decision-making process.

Given these risks and tradeoffs, scientists should avoid position advocacy. Scientists should even avoid recommending an outcome or decision. The scientist can get to a recommendation only by doing the same value-based integration of divergent considerations as they would if they advocated a position. Therefore, a recommendation is likely to be seen as position advocacy, and reasonably so. Also, attacks on the scientist's recommendation could easily lead the scientist to defend the recommendation and thereby slide further down that slippery slope into advocacy and further lose the objectivity on which their scientific credibility is based.

This discussion has thus far focused on research scientists with public agencies. Should the same guidelines apply to scientists in other organizations, such as scientists with universities, private sector firms, and special interest groups? Similarly, should they apply to staff specialists in public agencies, like a regional hydrologist or a state fish biologist, who represent themselves as scientists? Given that interest groups and private-sector firms were formed to pursue specific agendas, perhaps different guidelines are appropriate.

The answer is a function of whether the scientists in these other organizations can credibly play two roles simultaneously: that of credible, neutral scientist and that of position advocate. The answer is that they cannot — not any more than a public research scientist can. There is nothing wrong with advocacy and there is nothing wrong with bringing science to the debate, but there is a great deal wrong with pretending that a selective use of available science to support a position or the value-based advocacy of a particular position is science or that science information somehow points to one solution. They cannot credibly change hats any more than public agency research scientists can. Therefore, yes, the same guidelines should apply and for the same reasons.

It is good that scientists have passion for sound, science-based decisions. Their passion for good decisions should be focused on assertively communicating the rich fabric of science information into the decision process. It should not be translated into an indulgence of personal values or into thinking that their experiences give them unique insights that all others lack. Alternatively, the individual can stop playing a science role altogether and play solely an advocacy role. Play one role or the other, but not both.

An attempt by the scientist to simultaneously be a science information provider and a position

advocate is an inherent conflict of interest. The development of objective science information on the one hand and the value balancing of all considerations in a final decision on the other hand are two different roles than cannot be credibly played by one person. The risk to the credibility of the science component of the decision process is too great. At best, it will further confuse already contentious and complex public debates. At worst, it is an unethical misrepresentation of personal values as if they were science information.