

To Advocate or Not to Advocate - Is That the Question?

By Barb Faggetter, PhD, RPBio

Like many scientists today, I often feel the need to speak out when I see decisions being made which are based on little or no science, have no rationale besides simply the generation of dollars, and which are likely to have deleterious impacts on the environment. Furthermore, I am also deeply distressed by the general lack of understanding of science amongst the public, the apparent disconnect between the services provided by ecosystems and the increasing resource demands of a growing human population, the low participation in science programs in the schools, and the overall repression of science by our government, including the muzzling of government scientists. How do I speak to these issues while still maintaining my integrity as a scientist?

In attempting to answer this question, I did what any good researcher should do - I reviewed the literature. This quickly turned up quite an amount of material. Clearly, this question has been asked by many scientists working at many different levels and in many different positions. So, to start this quest for wisdom, I will quote some thoughts from other scientists on the role of scientists as advocates:

"As we argue in our Conservation Biology paper, citizens in a democracy have a moral obligation to actively promote within their society that which they are justified in thinking is right or good and to actively opposing that which they are justified in thinking is wrong or bad. Consequently, because they are citizens, every scientist has an obligation to be just and transparently honest advocates. Societies behave unethically when they expect or encourage their citizens to abdicate their privileges and responsibilities as citizens without adequate justification. When scientists reject advocacy as a principle, they reject a fundamental aspect of their citizenship. Rejecting one's responsibility as a citizen is unethical. An important part of this, however, is the manner in which scientists, as citizens, are obligated to be advocates: in a justified and transparent manner. We have too often seen scientists, and others, not advocating in this manner."

Michael Nelson, associate professor of environmental ethics and philosophy at Michigan State University^{1,2}.

"Responsible advocacy and popularization are not, in my view, oxymoronic — but it takes discipline to minimize trouble. Scientists will never succeed in pleasing everyone, especially since many continue to think scientists should stay out of the public arena. But if we do avoid the public arena entirely, then we merely abdicate...to someone else — someone who is probably less knowledgeable or responsible. In my view, staying out of the fray is not taking the "high ground"; it is just passing the buck."

Stephen H. Schneider, Stanford-based climate scientist³.

Scientists have been concerned about their roles as researcher, citizen, and advocate for as long as scientists have been seen as "wise advisors". This is a heavy burden - how to speak the truth and provide wisdom on the application of the truth to different scenarios, while remaining objective and not being seen as taking political sides. This is further complicated by the many agencies which see the truth as counter to their purposes, and thus attempt to muzzle the scientists who speak the truth, or distort the truth to meet their own objectives.

¹Nelson, M.P., Vucetich, J.A. 2009. *On Advocacy by Environmental Scientists: What, Whether, Why, and How*. Conservation Biology, 2009, 23, 1090. http://lymanbriggs.msu.edu/Nelson_Vucetich_Advocacy_09.pdf.

²Nisbet, N.C. 2010. *Do Scientists Have a Special Responsibility to Engage in Political Advocacy?* <http://bigthink.com/age-of-engagement/do-scientists-have-a-special-responsibility-to-engage-in-political-advocacy>.

³Schneider, S.H. "Mediarology". <http://stephenschneider.stanford.edu/Mediarology/Mediarology.html>.

Many scientists are wary of the term *advocacy*. Traditionally, scientists have been reluctant to become involved in advocacy for a variety of reasons, including the amount of time that public education or advocacy can take away from their professional responsibilities, their lack of skill in the nonscientific arena, and their concern that their credibility as scientists will be challenged. There has been a great deal of debate among scientists and others regarding the impact of public advocacy by scientists; however, this debate often oversimplifies the term advocacy, thereby missing the wide range of possible activities and engagement of scientists in policy and management.⁴ *Professional advocacy* occurs when scientists use the results of their research to try to influence policy or management actions. Most of the controversy surrounding scientific advocacy centers on professional advocacy. However, while professional advocacy is important, advocacy in a broad sense includes other matters that are equally important, such as advocating for science, for ecosystem services, and for the natural world.⁵

Various researchers have proposed four models for professional advocacy⁶:

1. **Traditional model** - science is separate from politics with the expectation that scientists should put forth objective data when pertinent without further involvement in the policy process.⁴
2. **Science communication** - there is a distinction between science and politics, but scientists should be involved in interpreting and explaining their findings to both policy makers and the public.⁷
3. **Expert advocacy model** - scientists should communicate their research with an ethical obligation to act as advocates.⁷ Advocacy in this form is defined as the process of informing policy makers, managers, and the general public about issues that arise in one's area of expertise.⁵ This model holds that scientists are qualified to be involved in decision-making processes, but it deems advocacy for specific policy preferences as inappropriate.⁸
4. **Political advocacy** - a scientist advocates a position beyond their core area of scientific expertise. Thus, the arguments may "*sound like science, read like science, are presented by people who cloak themselves in the accouterments of science but who are actually offering nothing but policy advocacy masquerading as science*".⁸

These models are ordered in terms of degree of "risk" to the scientist. I think most of us have no issues with the first model, have probably engaged in the second model, are uncomfortable with the third model, and would definitely recommend avoiding the fourth model. Wherever each of us feels that we fit on this spectrum, I think the important point is that science-based advocacy is complex, and that all scientists must take care to advocate in a transparent and appropriate manner. That being said, given that advocacy covers a wide range of activities and can occur at many levels, I don't think that we should be asking the question of whether to advocate or not. Rather, to quote Nelson and Vucetich¹, "*We suggest scientists expend their efforts to better understand what constitutes appropriate advocacy and spend less effort pondering whether they should advocate.*"

Many scientists may feel that the whole issue of advocacy leaves them floundering in deep water with little guidance as to how to proceed. However, in fact, much thought has been given to this matter, and a number of guidelines exist outlining scientists' responsibility to society and appropriate use of advocacy. The 2010 *Singapore Statement on Research Integrity* sets out some global principles for responsible research, which can be summed up as follows⁹:

Code of conduct for science

- *Be honest, accountable, fair and a good steward*
- *Accept responsibility for the trustworthiness of science*

⁴Lach, D.L., List, P.C., Steel, B.S., Shindler, B.A. 2003. *Advocacy and credibility of ecological scientists in resource decisionmaking: a regional study*. *Bioscience* 53(2): 170-178. http://www.ci.uri.edu/ciip/FallClass/Docs_2005/Lach%20et%20al.%202003%20role%20of%20scientists.pdf.

⁵Brussard, P. F., Tull, J. C. 2007. *Conservation biology and four types of advocacy*. *Conservation Biology* 21: 21-24. <http://www.sabrizain.org/traffic/library/4advocacy.pdf>.

⁶Rivers, A., Hoberg, G. 2009. *Should Scientists be Advocates? The Case of Dr. James Hansen*. <http://greenpolicyprof.org/wordpress/?p=358>.

⁷Mills, T. J., Clark, R. N. 2001. *Roles of research scientists in natural resource decision-making*. *Forest Ecology and Management* 153: 189-198. http://www.colorado.edu/geography/class_homepages/geog_5161_tv_s06/Mills_Clark_2001_Forest_Ecology_and_Management_153-pp189-198.pdf.

⁸Lackey, R. T. 2007. *Science, scientists and policy advocacy*. *Conservation Biology* 21: 12-17.

<http://oregonstate.edu/dept/fw/lackey/SCIENCE-SCIENTISTS-AND-POLICY-ADVOCACY-REPRINT-2007.pdf>.

⁹Steneck, N. 2011. *Responsible Advocacy in Science: Standards, Benefits and Risks*. <http://srhrl.aas.org/projects/advocacy/workshop/Steneck.pdf>.

Guidelines for public communication

- Limit communication to area(s) of expertise
- Present information accurately and in clear, understandable terms
- Disclose interests
- Point out weaknesses and limitations
- Mention opposing scientific views

Furthermore, the International Council for Science (ICSU) report on *Freedom, Responsibility and Universality of Science* includes a comprehensive list of responsibilities to society⁹:

Community responsibilities to society

- Responsibility to contribute to the wealth of shared human knowledge and experience
- Responsibility to generate, and promote the use of, relevant science to improve human welfare and sustainable development
- Responsibility to try to ensure the benefits and minimize the potential dangers of applications of science
- Responsibility to support good, evidence based, policy-making
- Responsibility to promote public engagement in science
- Concern for the greater common good

Individual responsibilities to society

- Upholding the Principle of Universality and its inherent values of openness, equity and non-discrimination
- Respect for human rights, animals and the environment
- Acknowledging scientific risk and uncertainty
- Being accountable in any advisory capacity
- Communicating responsibly and honestly
- Placing societal benefits before the pursuit of personal profit

I think we could all benefit by following guidelines such as these, and it would be difficult to find fault in any advocacy that was carried out under these principles. Finally for those who have taken the big step, and have engaged in advocacy, there was a set of "tips for science advocacy" published in *Nature*^{9,10}:

¹⁰Russo, G. *Political will. Scientists who enter the world of political advocacy stand to gain perspective but could face a culture shock.* *Nature*. 2008, 453:662-3.
<http://www.nature.com/naturejobs/science/articles/10.1038/nj7204-662a>.



ABOVE: Great blue heron (*Ardea herodias*) with a bullfrog. Reifel Migratory Bird Sanctuary. Although the main food of the great blue heron is fish, it also eats shellfish, insects, rodents, amphibians (mostly frogs), reptiles, and small birds. Photo: Sean Weston.

Tips for science advocacy

- Know your audience. Communicate your science in a clear, concise but intelligent manner.
- Consider other implications aside from just the budgetary — how should the science initiatives be prioritized?
- Recognize the perceptions of different fields and disciplines — for example, some politicians have a negative view of scientists associated with environmental groups.
- Be aware that explicit advocacy activities, especially if allied with a certain political party, could cause some tension with colleagues who disagree.
- Be careful when reaching outside of your area of expertise. Don't be afraid to state the limits of your knowledge on a subject.
- Consider advocating through a science society that knows the issues.
- Recognize that a full-time career move to advocacy could affect your prospects for returning to research.
- Recognize that other factors, such as values, jobs and economics, play into science policy. Laws rarely grow out of scientific evidence alone.

With that advice, I will leave you to ponder the role of scientists in advocacy while I do a little advocating myself!



ABOVE: Barren-ground caribou (*Rangifer tarandus groenlandicus*) emerging from the Thelon River. The barren ground caribou is well known for its large migration.
Photo: Damian Seán Power.