

What is “Responsible Advocacy” in Science? Good Advice.

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ABSTRACT: Debates over scientists’ appropriate contributions to policy-making are prominent in a variety of natural resources fields. The issue is often presented as one of “responsible advocacy.” But this framing locks us into a paradox: Scientists who advocate aim to be effective in the policy arena, but by advocating lose their credibility. In this preliminary review of the issue, I argue that we can avoid the paradox by acknowledging a wider range of speech acts structuring scientists’ obligations in the policy process. Scientists can advocate—but they can also report, give their assessments, make recommendations, and especially, offer good advice.

KEYWORDS: science-policy interface, scientists, advocacy, advice, credibility, trustworthiness.

1. INTRODUCTION

We need scientists to contribute to public deliberations over wicked problems: wicked problems as local as development in the floodplain here in Ames and as global as the wickedest problem of them all, climate change. Managing the interface between science and democratic policy-making is itself a wicked problem, however, as suggested by the variety of ways that have been proposed to describe what is going wrong. Is the problem that we have too much or too little public participation in decisions that have a technical aspect (Collins & Evans, 2007; Wynne, 2003)? Is it that science is being politicized, and/or that politics is being scientized (Weingart, 2002)? In this paper, I want to focus on yet another approach to conceptualizing what is going wrong between scientists and citizens: an approach that takes advocacy by scientists as either a key problem in—or a leading solution to—getting the nation’s wealth of science into the policy process. Scientists, it is argued, should or should not advocate in the policy realm; or if they should advocate, they should only do it responsibly, in accordance with some set of guidelines.

This framing of the problem at the boundary between science and policy is of interest for at least two reasons. First, talk of “(responsible) advocacy” directs our attention to the specifically *communicative* conduct of scientists on particular occasions. This raises the hope that communication scholarship such as that in evidence at this conference may have something useful to say, by way of refining—or challenging—conceptions of advocacy.

Second, “(responsible) advocacy” is a conception of communication at the science/policy interface that is being advanced within scientific communities. Some of the conversation within biology fields will be reviewed below; for now, it may be enough to point to the series of events on “advocacy in science” that have been organized at the national level since 2006 (American Association for the Advancement of Science, 2006, 2008, 2011). The invocation of “(responsible) advocacy” by scientists gives the conception a certain validity; it deserves respect as an attempt by skilled practitioners to articulate the ideals which regulate

their communication practice (Craig & Tracy, 1995). Further, the debate over “(responsible) advocacy” opens opportunities for interdisciplinary dialogue. While many scientists may resist learning about theories of science in society put forward by humanities or social science scholars who study science, they may welcome outsiders who can offer increased clarity for conceptions they are already deploying.

In the next section of this paper I sketch the debate as it has occurred in one scientific community, identifying the main reasons advanced for and against scientists’ obligation to advocate and the normative standards that have been proposed in order to mitigate some of advocacy’s undesirable consequences. I next review what we know about the normative structure of the ordinary communicative activity of advocating. Audiences have strong expectations about what a good advocate will do. In light of these expectations, what is called “responsible” advocacy by scientists will either be taken as bad advocacy, or simply ignored. Does this relieve scientists of the obligation to participate in policy-making? I close by arguing a strong “no.” There are many alternative communicative activities through which scientists can contribute to deliberations. Among these, the act of advising stands out as achieving many of the high purposes identified by proponents of responsible advocacy. I conclude that when scientists talk of “responsible advocacy”, what they really mean is “good advice.”

2. ADVOCACY BY SCIENTISTS: THE STATE OF THE DEBATE IN ONE DISCIPLINARY COMMUNITY

Discussions of advocacy by scientists have occurred in a variety of scientific fields as well as in scholarship on science. In this preliminary survey of the issue, I will focus almost exclusively on discussions within biology fields related to natural resources: ecology, conservation biology, invasion biology, marine biology, wildlife management and forestry, for example. Commitments to—and concerns about—involvement in policy-making have deep historical roots in these fields (Nelkin, 1977), and continue to provoke deep disagreements (Young & Larson, 2011). Their love of the natural world pushes these scientists into policy arenas, especially when they perceive the biodiversity and ecosystems they cherish under imminent threat of annihilation (Barry & Oelschlaeger, 1996; Myers, 1999). They also experience a pull into policy-making from environmental advocacy groups (Kaiser, 2000; Lindeman, 2007) and natural resource managers and regulators (Mills & Clark, 2001; Steel, List, Lach, & Shindler, 2004) who welcome their expertise. The nature and ethics of advocacy has thus been the subject of discussion in dedicated fora at conferences and in journals (e.g., *Conservation Biology* 10.3, 1996; 21.1, 2007; *Human Dimensions of Wildlife* 6.1, 2001; *BioScience* 51.6, 2001). In addition, a series of empirical studies have surveyed attitudes towards and conceptions of advocacy among natural resource scientists and other stakeholders (Gray & Campbell, 2009; Kinchy & Kleinman, 2003; Lach, List, Steel, & Shindler, 2003; J. Scott et al., 2007; J. M. Scott & Rachlow, 2011; Steel et al., 2004; Young & Larson, 2011)

Within this literature, “policy advocacy” is commonly and I believe correctly defined as activity aimed to support a policy proposal (Ehrlich, 2001; Gill, 2001; Lach et al., 2003; Lackey, 2007; J. M. Scott & Rachlow, 2011). It “involves advancing the most convincingly reasoned suggestions for change, informed by defensible, rigorous evidence” (Foote, Krogman, & Spence, 2009).

Those defending the legitimacy of advocacy argue:

- *Pro 1*: that their science is inherently value-laden, and thus that pursuing objective knowledge cannot be separated from advocacy for valued outcomes; pretending anything else will only lead to value commitments being covert and unexamined (Barry & Oelschlaeger, 1996; Noss, 2007; Shrader-Frechette, 1996; for a trenchant defense of a version of this view, see also Sarewitz, 2004, 2012)
- *Pro 2*: that all citizens, including scientists, are required to serve the public good and participate in democratic policy-making (Blockstein, 2002; Kaiser, 2000; Karr, 2006)
- *Pro 3*: that scientists’ special knowledge gives them a special obligation to contribute to the common good (Karr, 2006; Lovejoy, 1989; Nelson & Vucetich, 2009)
- *Pro 4*: that scientists as recipients of public support are obligated to contribute back their knowledge to help solve public problems (Foote et al., 2009; Karr, 2006)
- *Pro 5*: that if scientists don’t advocate on policy issues, the vacuum will be filled by misinformation from interested stakeholders; further, failure to advocate for change is equivalent to advocating for the status quo (Foote et al., 2009; Karr, 2006; Nelson & Vucetich, 2009)

Those questioning the legitimacy of advocacy, and perhaps even calling for its complete avoidance, argue:

- *Con 1*: that scientific objectivity requires scientists to aspire to a value-free stance (or a stance committing them only to epistemic values like objectivity) which is incompatible with advocacy (Tracy & Brussard, 1996)
- *Con 2*: that scientists who advocate will experience negative consequences, including time lost from research, lowered reputation among peers, and personal attacks by political opponents (Foote et al., 2009; Karr, 2006)
- *Con 3*: that advocacy will tend to corrupt the scientific process, e.g. illegitimately influencing the interpretation of data, either because advocacy will tend to distort the scientist’s own reasoning process, or because the scientist will be forced to “keep up appearances” once committed to a specific policy (Aron, Burke, & Freeman, 2002; Kaiser, 2000; Lackey, 2007; Nielsen, 2001; Wiens, 1997)
- *Con 4*: that independent of the actual integrity of their science, scientist-advocates will be perceived as being motivated by personal interests, with the result that their credibility or trustworthiness as scientists will come into question, and indirectly, the credibility/trustworthiness of their field and of the scientific enterprise as a whole (Gill, 2001; Lackey, 2007; Mills & Clark, 2001; Rykiel Jr, 2001; J. Scott et al., 2007)
- *Con 5*: that scientists are poorly prepared to be policy advocates, and are better off leaving that task to professionals (Aron et al., 2002)

The clash between Pro 1 and Con 1, while significant, raises epistemological issues beyond the scope of this paper. Further, it seems to me that scientists and ordinary citizens should be able to figure out what communicative activity is appropriate on a particular occasion, without waiting for philosophers to definitively solve the puzzle of values in the scientific process. In this, as in many other cases (e.g., Goodwin, 2002), skilled communicators must work out practical solutions to (or work-arounds for) theoretical problems. Objection Con 2, as has been pointed out by Nelson and Vucetich (2009) does not have much relevance to a debate over scientists’ obligation to advocate; advocacy could still be owed, even if it is hard

and painful. Objection Con 3 raises a significant psychological point; but in this paper I will take scientists' avowals of their own integrity at face value. Pro/Con 5, finally, raise interesting empirical questions about who is to blame for the present dismal state of science communication; these are both beyond the scope of this paper, and also tend to advocacy themselves.

It is consideration Con 4 (credibility with the broader public) that has proven to be the most compelling, judging by the number of replies it has attracted. Where Con 3 focuses on the trustworthiness of the science produced by the scientist-advocate, Con 4 focuses on the trustworthiness of the scientist-advocate herself (for this distinction, see Goodwin, 2011)—and in particular, on the trustworthiness of the scientist-advocate manifest to her audience of citizens and policy-makers. One response has been to declare this concern negligible. Scientists are not to blame (it is argued) if the public wrongly perceives them as being biased when in fact they are promoting the public good (Nelson & Vucetich, 2009). But blaming only citizens for the breakdown of trust between scientists and citizens seems—well, a little too convenient a response from the scientific community. More commonly, proponents of advocacy respond to Con 4 by imposing limits on advocacy, so that advocacy when correctly pursued will not in fact threaten scientists' manifest trustworthiness. Principles of “responsible” (Foote et al., 2009) or “honest” (Noss, 2007) advocacy that have been proposed include:

- *RA 1*: scientist-advocates should be fully open about their value commitments, interests, funding sources, etc. (Foote et al., 2009; Meyer, Frumhoff, Hamburg, & de la Rosa, 2010; Nielsen, 2001)
- *RA 2*: scientist-advocates should change their public positions when the evidence demands it (Meyer et al., 2010; Nelson & Vucetich, 2009; Noss, 2007)
- *RA 3*: scientist-advocates should advocate only on topics within their areas of expertise, and/or should openly indicate where they are going beyond their expertise (Foote et al., 2009; Meyer et al., 2010)
- *RA 4*: scientist-advocates should not (like “sophists”—Nelson, 2009) use the most effective arguments for their policy positions; they should use only the best available, peer-reviewed, data-supported science to make their cases (Blockstein, 2002; Foote et al., 2009; Meyer et al., 2010; Nelson & Vucetich, 2009)
- *RA 5*: scientist-advocates should be fully open about uncertainties, margins of error, and caveats (Blockstein, 2002; Meyer et al., 2010)
- *RA 6*: scientist-advocates should bring forward counter-considerations that weigh against the policies for which they advocate (Foote et al., 2009; Nielsen, 2001)
- *RA 7*: scientist-advocates should avoid hyperbole (Blockstein, 2002; Meyer et al., 2010)

Many of these normative principles are attractive. I do wish scientists would heed them, or at least some of them, when engaging with me and other citizens on policy issues. However, we don't expect advocates to follow them, whether scientists or not; and for good reason. The ordinary communicative activity of advocating already has norms. These aren't them.

3. THE NORMS OF THE ORDINARY COMMUNICATIVE ACTIVITY OF ADVOCATING

As consumers in a capitalist economy, members of a litigious society, and citizens in an adversarial democracy, we are quite familiar with advocacy. Our well-being depends in part on recognizing advocacy when we're subject to it, and we are capable of judging advocacy as good or bad. What are the norms we use in making such judgments?¹

A full analysis of the communicative activity of advocating has not yet been accomplished. In the meantime, a good place to start is with the central normative principle articulated for legal advocates: to represent their clients “zealously, within the bounds of the law” (American Bar Association [ABA], 1983, Canon 7; or, “as advocate, a lawyer zealously asserts the client’s position under the rules of the adversary system,” ABA, 2004). When we say that an attorney was a “good advocate,” we don’t necessarily mean that she won her suit. We do mean that she did everything she could, given the facts, laws and procedures, to urge the judge or jury to reach a decision in her client’s favor—everything short of outright dishonesties like presenting evidence that she knew was fake or bribing a juror. A zealous advocate is responsible for making the strongest case possible on behalf of the position her client has taken.

The norm of zeal is not imposed on legal proceedings from the outside; it is invoked by the participants in legal proceedings themselves, as I have shown in a study of the closing arguments of the OJ Simpson criminal trial (Goodwin, 2001). The excellent (or at least expensive) advocates there excused the length of the trial by explaining that they were bound to take as much time as necessary to defend their clients, for example. They also argued that when their opponents had not produced evidence in support of one of their points, it must be because there was no such evidence, since their opponents were bound to support their position as strongly as they could. In these and similar arguments, advocates were encouraging the jury to recall and apply the basic presumption that advocates ought to be zealous, attempting to make the best case possible.

We don’t necessarily like to be subjected to another’s zeal. Zealous advocacy obviously is good for who- or whatever the advocate is speaking for. But when we’re the audience of advocacy, why is it good for us? Often it isn’t; so it’s not surprising that a common response to advocacy is to ignore or resist it. Indeed, a large part of instruction in “critical thinking” consists in helping students recognize and withstand advocacy directed at them.

Why then do we keep advocacy around as a social practice? What use could it be? In some cases, good advocacy allows us to make prudent use of our own scarce cognitive resources. We can, for example, presume that the evidence or arguments are no stronger than the zealous advocate has made them out to be (Klonoff & Colby, 2007). If the best evidence that an advocate can produce is ambiguous, or the best arguments weak, we may be able to dismiss her position efficiently, without ourselves investing in a search for evidence or an

¹ I employ here without defending a normative conception of communicative (speech) acts initially put forward by Paul Grice, elaborated by Dennis Stampe and brought into argumentation studies by Fred Kauffeld (Kauffeld, 2009). In this view, in any given speech act the speaker undertakes a specific set of responsibilities to the auditor—undertakings which give the auditor a good reason to respond in the desired way. Every instance of a speech act can thus be seen as creating a local “normative terrain” between speaker and auditor. The speaker’s conspicuous undertaking and fulfillment of the local normative requirements is what allows the speech act to be effective; echoing Hegel, for a speech act, “the practical is the normative.”

elaboration of our own reasoning. In fact, we can save even more time by making sure that we receive advocacy from both sides. That way we can not only benefit from the advocates making the best cases for us, we can also count on them to make obvious to us the weaknesses in each other's arguments. Advocacy, in sum, outsources some of the work of reasoning.

Still, despite their occasional usefulness, we have mixed feelings about the ethical status of advocates. On one hand, the advocate's norm of zeal is in some ways stronger than the obligation of veracity binding any speaker who says something seriously; as when I tell you that the food at The Café is good, I am not obliged to defend that statement by every means necessary. From this perspective, dedicating oneself to "speaking for" a cause has a certain nobility. But in other ways, the norm of zeal is more limited than the norms of ordinary sayings. In particular, we understand that in advocating a position zealously, an advocate may not believe everything she is saying. As long as she is not saying something that she knows is untrue, she may be putting forward colorable claims that she would not personally endorse. The case she makes has to be good; it does not have to be her own. Indeed, court rules traditionally prohibit advocates from "vouching"—making known their personal opinions on the case—and advocates at the Simpson trial actively encouraged jurors not to believe their say-so (but see Audi, 1995; Goodwin, 2001). From this perspective, "speaking for" a cause has a certain baseness. An advocate is capable of saying for another things that the other cannot truthfully say for him or herself. The accused cannot make claims such as "I wasn't there at the time, and if I was, he hit me first," since he knows which (if either) is true; the advocate not only can, but must—if it would support the plea.

It should be apparent from this brief discussion that the proposed norms of responsible advocacy by scientists are incompatible with the actual norms of the ordinary speech activity of advocating.

RA 1–3 require scientists-advocates to be open about their personal values, to draw only on their personal knowledge, and to defend only positions that they themselves hold after full consideration. Once a speaker has undertaken to be an advocate, however, the advocate's personal values, knowledge and position are irrelevant. She will be presumed to be committed to defending her position, whatever her personal values. She will be expected to seek out all the evidence that will support her position, whatever her personal expertise. And she will be expected to continue to defend her position even when it becomes apparent that other positions have something to say for themselves.

RA 4–7 restrict the kinds of rhetorical techniques scientist-advocates can deploy. While sometimes the best science may also be the grounds for the strongest argument for her position, the advocate is committed to drawing from it not because it is best, but because it helps her make her case. Similarly, an advocate may judge that revealing weaknesses, uncertainties and opposing considerations may help her defend her position (the jury is out on this, in communication theory); if so, she ought to be open about them, but only because it is the zealous thing to do. And as for hyperbole—where would an advocate be without a little of that?

In short, following the proposed rules for responsible advocacy may frequently render the scientist-advocate a bad advocate. Now, that might be a necessary sacrifice, if it helped preserve her credibility and the credibility of her science—that is, if following the rules would reduce the concerns about advocacy by scientists expressed in Con 4. Unfortunately, even open and explicit commitments to the proposed rules will be unlikely to preserve the scientist's manifest trustworthiness. As soon as an audience understands that they are listening to an

advocate, they will presume that everything she says is in the service of zealously making her case. Avowals of personal commitment, personal knowledge, personal expertise, of reliance on the best evidence and of full transparency about weaknesses—all will be discounted as attempts to bolster her case. The audience of a scientist-advocate will allow her to be a bad advocate, but won’t permit her to be a responsible one.

4. BEYOND ADVOCACY

It would be unfortunate if we were faced with a choice between advocacy by scientists and their silence, since neither serves to get reliable knowledge into the policy process. Luckily, we have other options. “There are many ways” for scientists “to express and act upon values” within the policy process, as one article has put it (Meine & Meffe, 1996); “the notion that a scientist is either an advocate or does nothing at all to shape policy is a false dichotomy that has muddied the debate about science and advocacy” (J. M. Scott & Rachlow, 2011).

Indeed, within the debate in natural resource fields we find already named a variety of other communicative activities scientists could undertake. The empirical work has largely relied upon a five part categorization developed by Steel and his colleagues based on interviews with ecologists (Lach et al., 2003): reporting, interpreting, integrating, advocating, and deciding. Blockstein (2002) identifies interpretation (which he also calls reporting), advice and counsel as alternatives to advocacy; Minnis and McPeake (2001) distinguish education and promotion from advocacy. Even those defending advocacy tend to refer to other communicative activities when discussing the details of what scientists ought to do: informing (Brussard & Tull, 2007), assessing (Meyer et al., 2010; Nelson & Vucetich, 2009), recommending (Meyer et al., 2010; Noss, 2007) and advising (Meyer et al., 2010).

We can appreciate how different these communicative activities are from each other, and from advocacy, by considering a decision context more familiar than the realm of policy-making. Imagine you have been diagnosed with a serious illness. You might look to your doctor to report to you what is known about the success rate of the different treatment options; to offer her assessment of the different options; to recommend the option that in her judgment has proven most successful; to advise you to choose a specific treatment; or to advocate for one treatment. Each of these establishes its own normative expectations—each of them establishes a specific, normatively charged relationship between your doctor and you. Your doctor is undertaking different obligations to you when reporting than when recommending, for example; in reporting, you expect her to be accurate and thorough (and you would criticize her if she weren’t), while in recommending, you expect her to employ her best judgment.

In general, we don’t want our doctors to advocate; when my dentist did, I began to think he was more interested in getting me to pay for an expensive bit of equipment than in alleviating my pain, and switched practitioners. In ordinary parlance, what we often seek is a doctor’s advice. Similarly, when policy-makers seek scientists’ help, they often organize them into “advisory committees” and ask them to produce “advisory reports.” Let us look briefly then at the normative standards underlying the ordinary communicative act of advising, as developed in the work of Fred Kauffeld (esp. 1999).

Kauffeld started from the presumption that we all should be minding our own business. Every individual is autonomous, with the right to make his or her own decisions on matters of concern to him or her. Occasionally, however, situations arise where someone else may actually know better. As Kauffeld has noted, in these situations “talking to another about

that person's concerns is a delicate matter for both parties." The auditor may be legitimately cautious about why the speaker is going out of her way to share her knowledge: is it for the speaker's own good, or for the auditor's? As Kauffeld has reminded us,

We are all, I think, familiar with and resent the prospect that what others want to tell us about our business will amount to little more than meddlesome interference which complicates the task of taking care of our concerns but provides little assistance, because the interference issues from the other's perspective and is not based on an understanding our situation and responsibilities.

The speaker may be equally concerned to avoid the appearance of intruding into the auditor's business. How then can the speaker's knowledge get communicated?

The communicative act of advising is a practical solution to this "delicate" problem. In Kauffeld's analysis,

Where a speaker gives advice, (i) she tells the advisee something which she at least purports to believe he needs to know, and (ii) she openly takes responsibility for trying assist him in determining what to do about his concerns.

The speaker's second undertaking—her acceptance of responsibility for addressing the auditor's concerns—opens the speaker to resentment, criticism and even perhaps reprisal should it become apparent that she isn't out to serve him. The auditor can thus reasonably presume that the speaker would not undertake such a risk unless she was indeed proceeding with his concerns in mind. The open undertaking thus alleviates the concern both speaker and auditor might have about meddling, and opens the way for the auditor to consider the speaker's advice in making up his mind.

Applied to the case of interest in this paper, Kauffeld's account of advising suggests that what citizens are looking for from scientist-advisors is not a value-free *disinterestedness*, but instead a dedication to *their* interests. Citizens expect the scientist-advisor to take responsibility for helping them make decisions that will further their own concerns. From this perspective, the proposed principles of responsible advocacy are not norms for scientific advice; a scientist can give good advice without, for example, providing all the considerations pro and con. Instead, the principles appear to be useful methods for the speaker to provide extra reassurances to her audience that she is indeed speaking with their concerns in mind. Such supererogatory efforts may be necessary to bolster audiences' trust in purported scientist-advisors during policy controversies where the stakes are high, the interests diverse, and the conflicts of interest apparent. Consider:

The scientist-advisor's openness about her own interests (RA 1) positions the audience to better assess whether she is honestly trying to assist them, or is really out for herself. Her willingness to reveal what is normally private information also demonstrates the depth of her concern for them.

The scientist-advisor's openness about the limits of her knowledge (RA 3), about uncertainties (RA 5) and counter-considerations (RA 6) again serve to put the audience in a better position to judge the quality of her advice. Providing this additional information over and above the core of what the audience "needs to know" (point (i) in Kauffeld's analysis above) reinforces the audience's ability to make an autonomous decision, and confirms that the scientist-advisor is not meddling.

Finally, the principle that the scientist-advisor be willing to change her advice when her assessment of the science changes (RA 4) also bolsters the trustworthiness of what she

says. Unless the concerns of the advisor and advisee are manifestly different, it seems odd if an advisor won't take her own advice. And that oddity raises reasonable suspicions that the advice is not well-intended.

In sum, while RA 1–7 are either irrelevant to or bad for scientist-*advocates*, they may often be good working principles for scientist-*advisors* in policy contexts. So when the natural resources scientists talk of “responsible advocacy,” what they really seem to mean is “good advice.”

4. CONCLUSION

The arguments Pro 2–4 (and possibly Pro 1 as well) all give strong reasons—reasons for scientists to contribute to the policy process *somehow*. But, as I have argued, there are many communicative activities through which that contribution can be made.

Advocacy is one. Scientists, like all citizens, have the right to advocate zealously for policies they believe will serve the public good. In fact, scientists can make quite good advocates, since they start with a deep knowledge of the issue and are well-positioned to select and develop the strongest appeals.

But inevitably, such advocacy will have the consequence of reducing the scientists' credibility to zero. Advocates undertake to make a case, not to convey their best judgment. Audiences who even suspect the presence of advocacy will presume that what they hear is the strongest defense of a position, not the best science relevant to it.

When scientists and citizens want scientists' knowledge—not their arguments—respected, scientists must refrain from advocating positions however dear to their hearts and, in their view, well-justified by the best scientific results. This looks like a paradox: the more people know, the less politically effective we allow them to be. As Gill (2001) put it:

When professionals decide to use the power of their expert knowledge to control policy outcomes, the public image of professionalism subtly metamorphoses. It transforms the professional's role from reliable expert into competing interest, and credibility erodes. The erosion of credibility reduces political power and a paradoxical futile cycle ensues. The paradox lies in the fact that the political power of professionals can be retained only if it is not exercised.

This paradox, however, is exactly what we should expect in a democratic polity: authority turns out to be self-limiting. When epistemic authority is exercised, both scientists and citizens have something at risk if their communicative transaction goes awry: scientists, their public repute; citizens, their sound decision-making. In the context of policy controversies, it is not surprising that it is difficult or impossible to get authority to work.

There are alternatives to advocacy—indeed, many alternatives. “It is time,” as Scott and Racklow have put it, “to shift the question from whether conservation professionals should be advocates to how the expertise of scientists and professional societies can be given greater weight in ongoing discussions regarding policies and management actions that affect biological diversity” (J. M. Scott & Rachlow, 2011). In advising and other communicative activities, by laying aside their personal values and views in favor of serving the deliberative process and the interests of the citizens they are addressing, scientists can make a contribution and preserve their manifest trustworthiness, both.

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