

# Keep Science and Scientists Credible: Avoid Stealth Policy Advocacy

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# Keep science and scientists credible...

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I am concerned that policy-biased science is increasingly common in the scientific enterprise, as it undermines the credibility of science and scientists in public policy debates. This situation is especially unfortunate because scientific information is essential in many policy debates; such as, conflicts over scarce water resources; approaches to addressing wild fires; adapting to changing climate; policies toward native versus non-native species; and, balancing risks and benefits of genetically modified organisms.

Science is not value-free, but it should be objective and policy should be based on the best science available. Too often, however, scientific information presented to the public and decision-makers is infused with hidden policy preferences. Such science is termed *normative* and it is a corruption of the practice of good science. Normative science is defined as “information that is developed, presented, or interpreted based on an assumed, usually unstated, preference for a particular policy choice.”

Using normative science in policy deliberations is not merely a form of policy advocacy, but it is stealth advocacy. I use the word stealth because the average person reading or listening to such “scientific” statements is likely unaware of the hidden advocacy. Normative science is a corruption of science and should not be tolerated in the scientific community—without exception.

Scientists are certainly able to assess the likely effects of removing (or maintaining) a particular dam, but scientific information alone is an insufficient justification for removing (or maintaining) a dam. There are biological consequences of dam removal (or maintenance) and those consequences may be substantial from a salmon perspective; however, ecological consequences are just one of many elements that the public and policy-makers must assess when making a policy choice.

The public and policy-makers, not

**“Science is not value-free, but it should be objective and policy should be based on the best science available”**

## Avoid stealth policy advocacy



Scientists can assess the likely effects on salmon runs of removing (or maintaining) a particular dam. But, scientific information alone is an insufficient justification for removing (or maintaining) a dam. Source: U.S. Army Corps of Engineers.

scientists, decide whether preserving salmon runs should trump flood protection, irrigated agriculture, or electricity generation. As the public and policy-makers balance these competing priorities, what they need from scientists are facts and probabilities. What they do not need from scientists are their—or their employer’s—values and policy preferences masked within scientific information disguised as being policy neutral.

There are other common examples in scientific literature and discourse. In working with scientists, I often encounter value-laden terms like degradation, improvement, good, poor, impact, alien, or invasive. Scientists should avoid these normative words in conveying scientific information. Such words imply a preferred ecological state, a desired condition, an accepted benchmark, or a favored class of policy options.

This is not science, it is a form of policy advocacy. It may be subtle, perhaps unintentional, but it is patently stealth policy advocacy.

More specifically, consider the widespread use of concepts such as ecosystem health. It is normative science! Ecosystem health is a value-driven policy construct, but it is often passed off as science to unsuspecting policy-makers and the public. In practice, notions of healthy or damaged ecosystems are subtly calibrated by societal values and preferences.





*Is this a healthy ecosystem? Ecosystem health is a metaphor that is often passed off as policy neutral science to unsuspecting policy-makers and the public, but it is a classic example of normative science. Source: U.S. Department of Agriculture.*

Think what the average person actually hears when scientific data or assessments are packaged or presented under the rubric of ecosystem health. Label your preferred condition of an ecosystem as “healthy” and you have the political high ground. The alternative policy choice must be a “damaged” or “degraded” ecosystem.

In reality, one person’s “damaged” ecosystem is another person’s “improved” ecosystem. For example, a “healthy” ecosystem can be either a malarial infested swamp or the same land converted to an intensively managed agricultural field. Neither condition can be labeled as “healthy” except through the lens of an individual’s values and preferences. These labels are not determinations rooted in science.

Along the same line, why is it that native species are almost always considered preferable to non-native species? Nothing in science says one species is innately better than another, that one species is inherently preferred, or that one species should be protected and another species should be eradicated.

To illustrate, most people lament the apparent sorry state of honeybees in North America, a non-native species from Europe that has become much more abundant than the native bee species. Yes, what people call honeybees in North America are in reality non-native; what many people might ordinarily label as an “invasive species”, but people value the honey bee’s agricultural role.

***“Scientists have much to offer the public and decision-makers, but also have much to lose when they practice stealth policy advocacy.”***

Conversely, zebra mussels, another common and non-native species in North America, are nearly universally regarded as a curse. Where are the advocates for this species? Even with their ability to filter large volumes of water resulting in increased water clarity in lakes where they are abundant, there are no outspoken champions for zebra mussels.

Or, what about North American feral horses—the cultural icon of the Wild American West—another non-native species that enjoys an exalted status by many. Pity the unfortunate government employee tasked with culling the ever-expanding population of this invasive, non-native species. One vocal group regards wild horses as pests that are overgrazing the open range and they should be eradicated. But another group, also vocal and committed, regards mustangs as sacred icons of the Wild

West that ought to be protected even at great cost. Values drive these policy preferences, not science.

Yes, scientific information must remain a cornerstone of public policy decisions about natural resource and ecological issues, but I offer cautionary guidance to scientists.

Become involved with policy issues

and deliberations, but play the appropriate role. Provide facts, probabilities, and analysis, but avoid slipping into normative science. Scientists have much to offer the public and decision-makers, but also have much to lose when they practice stealth policy advocacy.



*Feral horses in North America are non-native, but many support their presence. Nothing in science says one species is innately better than another, or that one should be protected and another eradicated. Source: U.S. Department of Interior.*





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*Dr. Bob Lackey is professor of fisheries science at Oregon State University. In 2008 he retired after 27 years with the Environmental Protection Agency's national research laboratory in Corvallis where he served as Deputy Director, Associate Director for Science, and in other senior leadership positions. Since his very first fisheries and wildlife job mucking out raceways in a California trout hatchery, he has worked on an assortment of environmental and natural resource issues from various positions in government and academia. His professional assignments involved diverse and politically contentious issues, but mostly he has operated at the interface between science and policy. He has published over 100 articles in scientific journals and is a fellow of the American Fisheries Society and the American Institute of Fishery Research Biologists. Dr. Lackey has long been an educator, having taught at five North American universities and currently teaches a graduate course in ecological policy at Oregon State University. Canadian by birth, he is now a U.S.-Canadian dual-citizen living in Corvallis, Oregon.*

