



Environmental Watch

Examining Environmental Claims and Their Costs • February 2008

Conflating Science and Policy on Forests, Fish, Climate and the Environment

by Todd Myers

Claim

“I find it very discouraging to see use of these [tribal casino] funds for the sole purpose of supporting the economic industry that is destroying the environment. In the years that I have been involved in efforts to restore and protect fish and wildlife habitat, the tribal biologists have been some of the strongest advocates for salmon recovery efforts. In many cases where development is threatening the environment, the tribes have used their influence and treaty rights to protect the environment.”

Biologist Wayne Daley, “A Natural Hand,” Seattle Times, February 23, 2008

“What I would challenge you to do is to put a lot of effort into trying to see whether there’s a legal way of throwing our so-called leaders into jail because what they’re doing [by ignoring climate change] is a criminal act. It’s an intergenerational crime in the face of all the knowledge and science from over 20 years.”

Geneticist David Suzuki as quoted in Craig Offman, “Jail politicians who ignore climate science: Suzuki,” National Post, February 7, 2008, <http://www.nationalpost.com/news/story.html?id=290513> (Accessed February 28, 2008)

Facts

One of the most frequent justifications for action on climate change is the reference to what “the scientists” say. In many cases, advocates of what some in Washington are calling a “revolution,” that would involve radically “remaking the economy of the nation, the whole globe,” argue that certain policies must be followed because the scientists say so. David Suzuki, a geneticist, says that those who disagree should fear jail time (although his handlers said his words were only in jest).

Similarly, biologist Wayne Daley wrote in *The Seattle Times* last week that he cannot understand why tribes, with whom he often agrees when it comes to policies on salmon protection, also are taking steps to foster economic growth -- steps he believes hurt salmon.

The error that both Suzuki and Daley commit is conflating science with values. In each case they argue that “science” demands that we follow certain values. There are a number of problems with this and such an approach is likely not only to lead us down an expensive and ineffective policy path but undermines the quality of the science on these issues.

Scientific Myopia, Risk and Uncertainty

While the specialization involved in science is a benefit in producing accurate data, it often makes it difficult for scientists to provide useful policy advice.

First, scientists naturally emphasize their own area of specialty. Not surprisingly, they have chosen an area that interests them and that they care about. In the same way that a lawyer sees the world through legal glasses, scientists see the world through the lens of their own specialty. This



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myopia leads to a set a value priorities that naturally put their own speciality at or near the top. It is not surprising, then, that a fish biologist would be opposed to economic development that impacted salmon habitat.

What is problematic is when scientists forget that they are expressing value preferences, not science. A fish biologist is free to oppose economic development, but they cannot claim that such opposition is based on “science,” when it is really based on the value preferences of that biologist and borne of a career focusing on a particular species.

Those value preferences can also have a negative impact on the quality of their science in three important ways.

First, it can lead them to overestimate their speciality’s role in describing the world. During the 90s, salmon biologists frequently referred to salmon as the “canary in the coal mine,” indicating that as salmon go, so goes human society and nature. This argument was dropped, by the way, when we saw record salmon runs in the early part of this decade.

With regard to climate change, experts tend to emphasize their own work as central. Climatologists generally regard atmospheric changes as central. Astrophysicists tend to emphasize solar activity. One expert on polar issues indicated that he felt recent temperature increases were due in large part to patterns of ice flows at the North Pole. This is expected, but it makes it difficult to sort out what is science and what is a by-product of a narrow view.

Second, scientists may offer policy solutions because they are certain they understand the nature of a particular problem. Indeed, scientists who are unsure about causes are also less likely to offer solutions. The problem arises when scientists overestimate their level of certainty.

In last month’s *Environmental Watch* we noted that the Puget Sound Action Team, in conjunction with the University of Washington’s Climate Impacts Group, released a study in October of 2005 estimating Puget Sound sea level rise at 39 inches by 2100. At the time they called this projection “one of the best understood and predictable components of future climate.”¹ Just over two years later, the estimates had been cut to one-third, 14 inches. The Puget Sound Action Team felt very comfortable demanding far-reaching and costly policies two years ago precisely because they overestimated the certainty of their own projections.

Finally, the corollary to underestimating uncertainty is to overestimate the risk from a particular environmental threat. Scientists, for whom a particular subject is the focus of their career, are likely to have a very low tolerance for threats to the particular creature they study or the topic area of interest to them.

For example, UW geologist David Montgomery testified earlier this year about the Centralia floods, lamenting what he considered were human causes of some of the landslides. In his testimony before the State Senate he argued for changes in a number of activities but said that such events didn’t occur frequently enough for people to change rules relating to development and forestry. In other words, he was admitting that his level of risk tolerance was far lower than the tolerance of the community at large, even those living in the flood zone. The issue at hand, therefore, was not the science but the level of risk tolerance based on what Dr. Montgomery feels is important (geology) and what others feel is important (forestry and economic development).

¹ Puget Sound Action Team, “Uncertain Future: Climate Change and Its Effects on Puget Sound,” October 2005, p. 21

The combination of these factors (myopia, failure to recognize uncertainty and overestimation of risk) presents policymakers and the public with very difficult challenges when trying to use science. The influence of values on science in many ways cannot be avoided. Scientists are human and will always be subject to the strictures of their own values and viewpoint.

Policymakers, and scientists themselves, need to understand those limitations and be careful about how they use science in developing policy approaches to questions that involve science.

Costs

The potential costs of this approach are not hard to imagine. When developing strategies to address environmental problems, policymakers need to have a good understanding of the causes and risks associated with those challenges. If the science being provided is distorted by the personal values and perspective of the scientist, it can justify large expenditures of money on efforts that provide little benefit and drain resources from other important issues. Imagine the difference in costs of a policy to address a 39 inch sea level rise versus a 14 inch increase.

It can also distort the public discussion about issues that involve science. Scientists, rightly, speak with authority when it comes to their areas of expertise. The public and policymakers are less likely, however, to recognize the flaws and weaknesses of scientific proclamations about policy choices. A scientist who argues for a cap-and-trade system to reduce CO₂ emissions is no more qualified to argue than a baseball player, and both are less qualified than an economist to address the pluses and minuses. This is important to understand when making policy decisions. It is a concept that is apparently lost on Dr. Suzuki, Dr. Daley and others.