

11.373 Science, Politics, & Environmental Policy
Day 4: REGULATORY SCIENCE, EXPERTS, AND EXPERTISE

I. Values and Uncertainty in Environmental Science

A main point that comes out of the readings you did for today is that science and values are inextricable in the practice of regulatory science.

What is regulatory science?

How do values influence the practice of environmental science in terms of the approach taken and the concepts that are developed?

--How, for example, have values, social factors, etc., shaped the practice of ecology?

--In what ways have values, etc., shaped the practice of climate science?

As the reading made clear, it's not just that social values shape the practice of science; science also shapes values. How, for example, has the practice of ecology (or other environmental sciences) shaped values?

Values also enter into the practice of environmental science as a result of uncertainty. What are some of the sources of uncertainty in environmental science?

How does the uncertainty inherent in the practice of environmental science relate to the interaction between values and science? (Think, for example, about risk assessment or climate modeling.)

The overall message in the reading is that there is no way of doing regulatory science that is not influenced by values in a variety of ways. In light of this, how do environmental scientists deal with these enormous uncertainties in practice? What are some general ways you can keep the science "scientific"—that is, rigorous, defensible, credible—while acknowledging enormous uncertainties?

II. Scientists as Experts/Scientists as Advocates

What is trans-science?

What is an expert?

What is the *value* of expert judgment?

What makes a scientist credible as an expert?

In general, how do scientists maintain their credibility as experts in the policy process?

What role do expert panels play in policy making?

How, exactly, do *organizations* like the NAS and other expert advisory panels maintain their credibility and authority to speak on policy issues?