



CREDIBLE SCIENCE? CRITERIA FOR EVALUATING GOVERNMENTAL PROCESSES WHICH DEAL WITH THE SUSTAINABLE MANAGEMENT OF WILD LIVING RESOURCES

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Sustainable development, it has been argued, is a process of achieving human development in an inclusive, connected, equitable, prudent and secure manner (1). A key component of the delivery of sustainable management for wild living resources, therefore, must involve both governmental processes which manage, and the scientific knowledge which document, the changes in those resources.

Governmental processes which deal with wild living resources in Australia are extensive and numerous, including for instance, state of the environment reporting, inquiries and agreements concerning forest management, and the national oceans policy and related management programmes. For each, it is of considerable advantage to proponents of the processes (those bureaucrats and politicians involved) to claim that they have been conducted in a scientifically credible way. Given the long-term significance of the processes, and the central role played by science in them, we ask what would constitute a "scientifically-credible process" for assessing a natural resource management issue? When could scientists in general, or natural resource scientists in particular, be satisfied that such a process has been achieved?

We take the viewpoint that science can be described either as a system of logic and philosophy or as a cultural activity. In examining a governmental process there is a distinction that can be made between the higher philosophical questions of "what is science", where debate continues on the relative importance of induction, deduction, falsificationism, empiricism, objectivism and so on, and the more pragmatic questions of good scholarship and best practice in scientific endeavours. In this paper we choose to follow the latter course, documenting some normal cultural activities under which scientific processes operate.

Hull (2) drew our attention to the importance, in examining the scholarly practice in science, of notions of responsibility for one's work, and the sustained checking of that work. These notions involve not only the way a work is performed, but also the way a work is communicated. While explicit methodology is a crucial element, so are publication and the forums which allow for scientific debate, since these venues provide the framework in which the checking can be undertaken, and authenticity of the work conveyed. Checking is best done in a way which is inclusive of those scientists who both agree and are likely to disagree, with any particular work.

From these ideas, we develop for discussion some criteria for assessing whether or not a government process has been scientifically credible:

- has the process provided a framework for scientific debates, or facilitated them in another way such that progress towards a resolution of disagreements can be made?
- has the process involved scientists, and if so what are their affiliations/allegiances?
- has the process used scientific norms of peer review, publication and conferences?
- has the process involved explicit methodology from which conclusions can be justifiably drawn?

As a test case using these criteria, we present an examination of the Regional Forest Agreement for Western Australia, particularly the phases of the process during which scientific information was compiled, assessed and integrated, predominantly the Comprehensive Regional Assessment (Horwitz and Calver 3). Aspects dealing with the issues of biodiversity, endangered species, old-growth and wilderness were examined since they invoked the science of ecology. It is clear that the Regional Forest Agreement



process had involved scientists, albeit selectively, but that it had not facilitated scientific debate, failed to adhere strictly to norms of peer review, and failed to be explicit regarding many methodologies employed. We concluded that this particular process could not be checked, and therefore failed to achieve what could notionally be regarded as "credible science".

References

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2. Hull, D. 1988. *Science as a process*. University of Chicago Press, Chicago.
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