**How can we ensure that ecological limits are to be scientifically valid, politically acceptable and socially effective?**

**Edward Morgan**

Abstract

It is increasingly apparent that humans are over-exploiting natural resources, creating substantial damage to ecological systems and the accompanying risk of their collapse. One way of limiting resource use and prevent system breakdown is to define ecological limits, but it is not clear how ecological limits should be defined. The expectation that science can provide an answer to this problem through knowledge about these systems is an alluring one, but one that proves problematic. Earth jurisprudence emphasises human connectedness to nature rather than dominance over nature, but historically science has helped to foster the sense of human control over nature. Additionally, the complexity of ecological systems results in uncertainty, which means science cannot simply ‘speak truth to power’ and define limits. In fact, defining ecological limits is most likely to be a social and political process as much as a scientific one. Therefore, it is necessary to understand the connections between science and society if scientific understanding and knowledge is to be used effectively. Science may not be a purveyor of value-free knowledge, but it can be the source of understanding necessary to help us understand our limits and reposition our relationship with nature. This paper draws on research into the science–policy interface to understand the problems in using science in social and political settings, and how to overcome these problems in order to ensure that science is used effectively in helping to define ecological limits. It argues that it is important to consider both the nature of science and how it might be used if we are to ensure ecological limits are to be scientifically valid, politically acceptable and socially effective.

Speaker Biography

Edward Morgan is a PhD candidate with the Urban Research Program at Griffith University. His interests lie in the interactions between science and society, and the role science can play in sustainability. His current research is focussed on analysing how and why science is used in water resource management, in order to better understand the role science can play in creating sustainable outcomes. Coming from a background in environmental chemistry, he is interested in how scientific knowledge can cross boundaries both within and beyond the scientific community, and how this can help in the search for sustainability.