

REWILDING COMPLEX ECOSYSTEMS AND LANDSCAPES

JAMES BULLOCK

Rewilding aims to create ecosystems and landscapes whose dynamics are driven by natural processes. This idea has been defined verbally, but its theoretical aspects remain at the early stages of development. I will discuss aspects of rewilding that could be explored by theorists, also drawing on the related topic of ecological restoration.

- 1) Complex systems. Rewilding has been described as an attempt to recreate complex systems, whose key features are complex trophic structures, stochastic disturbances and heightened dispersal.
- 2) Resilience and critical thresholds. Concepts from complex systems science that are linked to non-linearity, such as regime shifts, ecological resilience and ecological feedbacks, could be employed to help explain variation in rewilding outcomes.
- 3) Dispersal. Rewilding is focussed on 'natural colonisation', meaning that outcomes depend critically on dispersal abilities and the permeability of landscapes. Ultimately, development of theory on these and related concepts may help us understand the various trajectories that rewilding may take.