

A paleo-informed perspective on natural baselines for biodiversity and processes: what have 100 years of palaeoecology taught us about where, what and when to conserve?

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The early 1900s were important years for newly emerging scientific disciplines that focused on the environment. The development of palaeoecology, culminating in the Swedish naturalist and geologist Lennart von Post's 1916 lecture in Oslo advocating the use of fossil pollen grains preserved in peatbogs to reconstruct changes in vegetation composition through time, was one example. Another was the emerging narrative in the US on the preservation of wilderness. This culminated in a scientific discipline focused on methods to conserve natural environments through sustainable practices of planned use and renewal. Thus at the same time that the discipline of palaeoecology was gaining first recognition, so too was the discipline of what is now called biodiversity conservation.

This talk will examine how the framing and discipline of biodiversity conservation has developed over the past 100 years, and the relevance of palaeoecology to this emerging discipline. In particular, it will illustrate with examples, the types of essential information that palaeoecological data can provide for the management of nature. This includes information on biodiversity baselines, the underlying ecological processes responsible for maintaining and enhancing biodiversity, and the factors responsible for resilient ecosystems. It will also discuss the role of palaeoecological records in determination of which landscapes to restore and enhance so that that biodiversity can continue to thrive, now and in the future.