

# Ecosystem-scale translocation, a holistic approach to mine restoration

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Ecosystem-scale translocation, where topsoil, vegetation and all the communities they contain are carefully collected and immediately transferred to a reception site, represents an immediate and practical method for restoring complete communities and functioning ecosystems in opencast mining areas.

Ecosystem-scale translocation truly departs from the current species-centred ecological engineering approach towards a community- and ecosystem-scale approach. It contrasts with the classical ecological restoration approach where vegetation replanting, regeneration through soil seed bank and reintroduction of flagship animal species can take decades to achieve often limited goals. Because it aims at preserving intact subsets of ecosystems, ecosystem-scale translocation does not rely on natural recolonisation, which translates into faster recovery of a functioning ecosystem. By moving complete and functioning ecosystems where all niches are already occupied, this approach also limits opportunities for invasion by unwanted species, a recurrent and costly problem in ecological restoration. This new approach could revolutionise the way mining areas are restored worldwide with immediate recovery, better environmental outcomes, and virtually no long-term management costs. In this presentation, I will review examples of small-scale ecosystem translocation experiments and discuss the promises and potential limitations associated with this new approach.