Planting trees the 'right way'

August 12 2024

Credit: Unsplash/CC0 Public Domain

Large-scale global efforts to replace trees for carbon capture and urban greening may be doing more harm than good if they neglect to restore viable ecosystems, a Flinders University expert says.

In a major new publication called "Treewilding," restoration ecologist

Dr. Jake Robinson gives wide-ranging views on the need to understand and revive our vital relationship with trees, including the need to focus on viable land and involve communities to replace the millions of hectares of forests destroyed over the centuries.

"Amidst the ongoing biodiversity crisis, pandemics and climate change, it's crucial to prioritize the restoration of our precious ecosystems. Reforestation efforts are an essential component of this globally," says Dr. Robinson, from the College of Science and Engineering at Flinders University.

"Forest restoration is an intricate rebuilding process, often starting from the soil up, using age-old wisdom and the latest scientific advancements.

"Throughout history, humans have developed deep material, physical and psychological connections with trees and forests, rooted in ancient spiritual relationships. Many of us have lost this connection."

Without effective interventions, 95% of land on Earth is projected to be affected by degradation by 2050.

About 10,000 years ago, nearly 60% of the world's habitable land was covered by forests of various densities. This has accelerated rapidly since 1900, with coverage now down to 30%, and much of this in ecologically poor plantations—with more than 10 million ha of forest still disappearing every year.

Microbiologist Dr. Robinson adds, "We have an unprecedented opportunity to restore our relationship with forests. We now know that forests are as invisible as they are visible.

"Each tree is host to trillions of microbes that work symbiotically to form a functioning ecological unit. Trees also have senses and a form of

memory—they might even be able to pass information on to their progeny via epigenetic means.

"By understanding these underappreciated perspectives, we can forge a new sense of reverence and respect for nature."

From monoculture timber forests and corporate 'greenwashing' to the Trillion Trees, Green Belt Movement and the 'red forests' of Chernobyl, the book gives a range of ecological, social, cultural and scientific insights into the complexities and solutions for reforestation.

A contributor to the book, Australian First Nations historian Bruce Pascoe, says, "There has never been a more important time for the world to understand trees."

"Our peoples generally have a deep spiritual and philosophical connection to the forest," he says in the book. "In essence, we see Earth as our mother and treat her accordingly. This is not just an affirmation. Treating country in such a way is deeply ingrained in our values and beliefs."

Dr. Robinson says 'ecological forestry' might be one of the keys to achieving a "more harmonious balance between human needs and the preservation of remaining forest ecosystems."

"Vast stretches of land we call 'forests' are merely shadows of what forest ecosystems should be. For instance, most plantation forests were designed with one goal in mind: to produce timber.

"Consequently, many attributes of flourishing forest ecosystems—diversity, complexity and resilience—are lacking."

Other steps in the right direction towards a more sustainable future

include:

- Focusing on planting native trees and plants in the 'right place' and using viable rather than marginal land to restore biodiversity.
- Fostering nature connectedness in our children—the next generation of 'forest guardians'—and involving communities in restoration projects.
- Viewing trees themselves as complex ecosystems, not merely street ornaments or a source of timber.
- Supporting Indigenous leadership and land rights—most of the world's biodiversity is protected by First Nations peoples.
- Embracing new food systems and approaches, such as 'syntropic agroforestry'—nurturing biodiversity while growing food.

More information: Jake Robinson, Treewilding, (2024). DOI: 10.53061/GBOY6819

Provided by Flinders University