

Do tree-planting campaigns follow best practices for successful forest restoration?

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Credit: International Fund for Animal Welfare from Pexels

Global tree-planting campaigns have reached fad-like proportions over the past decade, and it's easy to understand their appeal. Healthy forests help in the fight against climate change by absorbing some of our excess

carbon dioxide emissions, and they can provide wildlife habitat and quality-of-life benefits for local human communities too. So why not plant more trees? It seems like an easy win.

But the problem is, there's a huge difference between simply planting a tree and making sure that trees survive and grow over the long-term. And without the necessary ecological understanding or long-term planning and follow-up that goes into successful reforestation projects, tree-planting efforts can end up being useless, wasteful, or even actively harmful to people and the planet.

That's why restoration ecologists, like UC Santa Cruz Environmental Studies Professor Karen Holl, have been working to educate tree-planting organizations and the public about [best practices](#) for successful reforestation. Published in *Conservation Letters*, the [latest paper](#) by Holl's research team set out to examine the possible impact of those education efforts.

"One of the [common problems](#) is that organizations will just say, 'We're going to put this many trees in the ground,' but the important question is, 'What comes afterward?'," Holl said. "There are many documented failures from tree-planting campaigns, so we would hope to see organizations improving their practices and taking on more accountability, including through publicly reporting data."

To examine these issues, UCSC postdoctoral researcher Spencer Schubert led an analysis of publicly available web content for 99 organizations that coordinate large-scale tree-planting programs around the globe. The research team, which included three undergraduates and one graduate student from UCSC, rated each organization based on how well their public information demonstrated a commitment to best practices.

"We reviewed websites as well as annual reports and other linked documents to really get a broad view of the information that organizations reveal to the public," Schubert said. "We wanted to focus on how transparent organizations are about their practices, because that's what allows potential donors or investors to evaluate what these organizations are promising."

Specifically, researchers rated the organizations against a set of [10 guidelines](#) established by Holl's prior work. Those guidelines focus on [community engagement](#), addressing underlying causes of deforestation, preventing unintended harms, and committing to long-term management and monitoring of projects. The more specific an organization was about their goals and demonstrating their impacts in these areas, the higher they were rated.

Study shows some progress, but many challenges remain

Researchers compared the findings of their analysis with those of prior research to see how trends in application of best practices have changed over time. One improvement area was community involvement, which critics have often called out as a missing element.

The team's analysis showed that 91% of organizations now recognize community involvement as a key component of successful reforestation, and almost all organizations discussed benefits that their projects would provide to local communities. However, only 38% of organizations actually reported data demonstrating how communities benefited from projects.

Meanwhile, 78% of organizations successfully provided information about specific drivers of deforestation in their working regions, and 75%

of those discussed how they would address these issues. The study showed some positive progress around monitoring of projects. A [2021 study](#) had previously found that only 18% of organizations mentioned monitoring on their websites, but in the current study, that measure had risen to 70%.

However, only 41% of organizations actually reported data on tree survival rates, and 61% of all organizations failed to specify how long projects would be maintained, monitored, or financed. Only 10% of organizations mentioned required commitments to their projects beyond 10 years. And only 19% discussed any potential negative consequences of tree planting, although those that did also presented strategies to avoid those issues.

"Overall, there are still many gaps in the details and data that we're seeing," Schubert said. "That and the general lack of clarity about long-term management, financing, and protection for these projects raises some serious concerns. This doesn't necessarily mean that reforestation is not being successful, but there is a lot of uncertainty about whether these emerging global tree growing efforts will achieve their desired long-term benefits."

Holl said she did find it heartening that some organizations are clearly beginning to pay more attention to recommendations from the scientific community, and she hopes that trend will continue.

"Things are moving in the right direction with some of these organizations," Holl said. "The next step they'll need to take is to go beyond generalities and be more specific about how they're going to implement best practices, including making longer term commitments and focusing on data collection to back up what they're saying they're going to do."

By deepening their focus on improving practices, tree-planting organizations and their supporters will have the best possible chance of achieving positive impact and avoiding unintended consequences.

More information: Spencer C. Schubert et al, Advances and shortfalls in applying best practices to global tree-growing efforts, *Conservation Letters* (2024). [DOI: 10.1111/conl.13002](https://doi.org/10.1111/conl.13002)

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