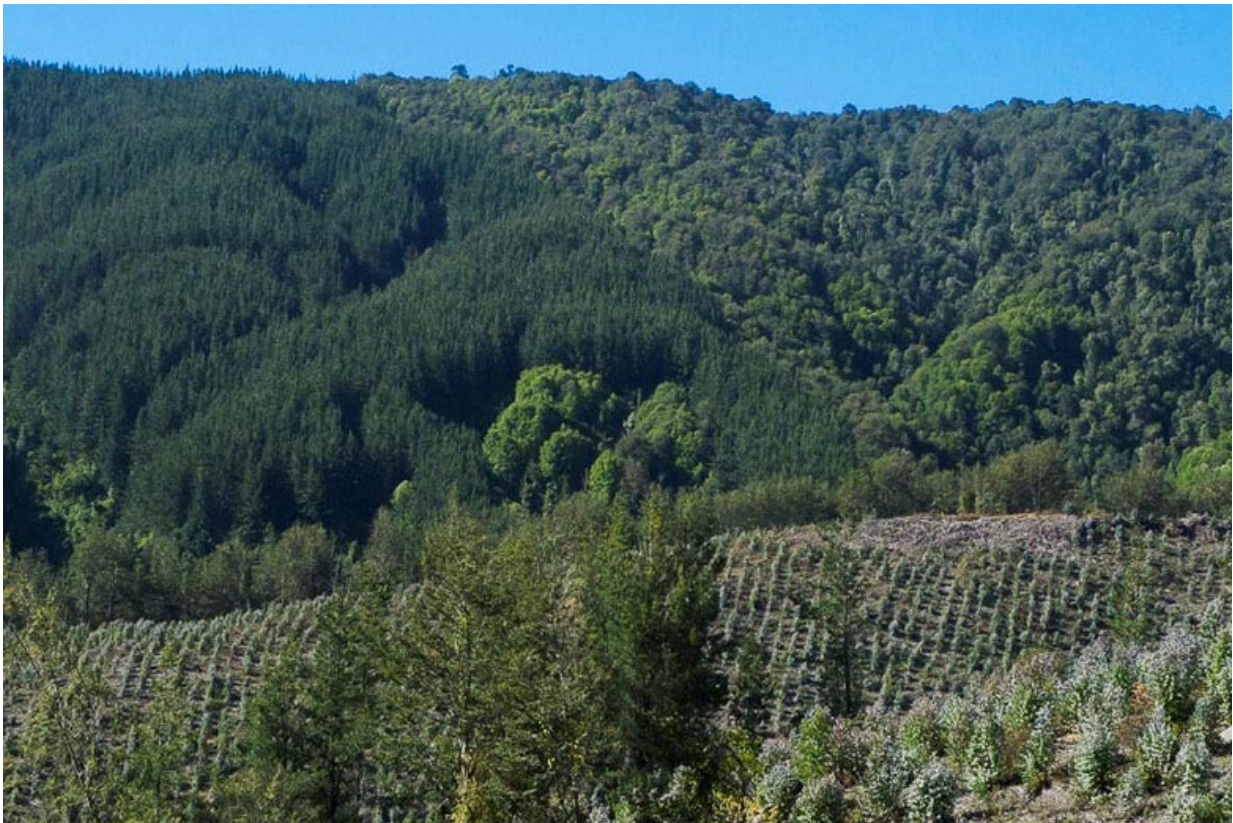


Researchers find effective recipe for slowing deforestation

March 1 2016, by Rob Jordan



Two rotations of plantations and a natural temperate forest in Central Chile. A new Stanford study finds that voluntary, market-driven deforestation efforts are effective.

When you buy food, furniture and other products, how can you be sure

you're not contributing to the disappearance of the world's forests? A variety of eco-certifications exist to inform consumers, but there has been little research to determine their effectiveness. A first-of-its kind Stanford study finds that these certifications represent real improvement in forest product sustainability, with varied levels of effectiveness.

Published in *Proceedings of the National Academy of Sciences* the week of Feb. 29, "Impacts of Nonstate, Market-Driven Governance on Chilean forests" reports that voluntary, market-driven efforts significantly reduced deforestation, with multi-party collaborations having the largest effect.

"Increasingly, people are trying to harness their power as consumers to protect the environment," said lead author Robert Heilmayr, a recent graduate from Stanford's Emmett Interdisciplinary Program in Environment and Resources. "Our research shows that these market-based conservation efforts have reduced deforestation in Chile."

Heilmayr and co-author Eric Lambin, the George and Setsuko Ishiyama Provostial Professor in the School of Earth, Energy & Environmental Sciences, focused on Chile, where a range of governance structures have been employed to slow the conversion of forests to other uses.

The researchers compared the conservation outcomes from a largely industry-developed certification program called CERTFOR, an NGO-instigated deforestation moratorium called Joint Solutions Project (JSP) and a certification program involving considerable cooperation between industry and nongovernmental organizations, Forest Stewardship Council (FSC). All of these voluntary systems rely on price premiums and threats of market exclusion to incentivize responsible environmental practices such as reduced conversion of old-growth forests to plantation monocultures.

Plots of forest owned by corporations that participated only in CERTFOR reduced deforestation by 16 percent on average, while JSP-only participants saw average reductions of 20 percent. Those participating only in FSC, however, reduced deforestation more successfully, by 43 percent.

The increased effectiveness of FSC is likely due to a process that balances stringent environmental requirements with cost-effective solutions, according to Heilmayr and Lambin. This allows for a shared perception among participants that their individual interests have been considered, and they are therefore more likely to follow through on requirements.

The results also suggest that private, market-driven conservation programs are well suited to lower deforestation rates in areas of high deforestation, in contrast to many government policies.

"Traditional conservation policies like national parks often protect remote, pristine locations," Heilmayr said. "Agreements between companies and environmentalists can reduce deforestation in more threatened forests."

As demand for agricultural products, timber and minerals continues to grow, the study's findings provide insights to guide the spread of non-state, market-driven environmental governance schemes.

"In the globalization era, [deforestation](#) is increasingly associated with consumption in distant, international markets," said Lambin, a senior fellow at the Stanford Woods Institute for the Environment. "We need new approaches to environmental governance that regulate the impact of international actors."

More information: Robert Heilmayr et al. Impacts of nonstate,

market-driven governance on Chilean forests, *Proceedings of the National Academy of Sciences* (2016). [DOI: 10.1073/pnas.1600394113](https://doi.org/10.1073/pnas.1600394113)

Provided by Stanford University

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