



Achieving conservation objectives through production forestry: The case of *Acacia koa* on Hawaii Island

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ABSTRACT

The future of Earth's natural capital, and the ecosystem service benefits it supplies humanity, hinges on whether conservation and restoration become economically attractive and commonplace on lands managed for profit. Sustainable forestry is a potential means of making restoration profitable; in most of the world, it remains the only way to reforest large areas while maintaining economic viability for the landowner. Here we explore the potential benefits and limitations of native tree forestry as an economically viable conservation tool in the context of a case study—koa forestry on Hawaii Island. We conducted interviews with practitioners and scientists to evaluate koa forestry as means of restoring natural capital in Hawaii. Our interviews demonstrated strong interest in the ecological and economic potential of koa, but the respondents also cited a litany of concerns. Koa's attractiveness to private landowners is hampered by a lack of silvicultural information (particularly on native trees such as koa), the challenge of balancing profit and biodiversity, wariness of government involvement, and perhaps most importantly, large upfront costs and having to wait several decades for revenue from timber harvest. Establishing new revenue streams for non-timber ecosystem services of koa forests - through government or private sector payments - could greatly enhance the attractiveness of this land use to a diverse set of landowners.

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1. Introduction

Employing innovative, economically viable approaches to restoration on private land is essential, considering that private lands make up about 80% of the territory of most countries (Environmental Law Institute, 2003), and typically the most productive land. Much recent attention has centered on this topic, with authors calling on conservation biologists and policymakers to focus on the "neglected geography" of private lands worldwide (Knight, 1999; Norton, 2000; Environmental Law Institute, 2003; Hilty and Merenlender, 2003; Stoneham et al., 2003; Pierce et al., 2005). The goal is to create win-win opportunities that align economic and other incen-

tives with conservation (Sankovski, 2000; Daily and Ellison, 2002; Rosenszeig, 2003).

There are 0.7 billion ha of degraded land in the world (Grainger, 1998). On much of this land - deforested for mining, timber or cattle, and left with little economic or ecological

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