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# Conserving forest biodiversity across multiple land ownerships: Lessons from the Northwest Forest Plan and the Southeast Queensland regional forests agreement (Australia)

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ABSTRACT

As the area of the world's forests shrinks, the management of production forests is becoming increasingly paramount for biodiversity conservation. In the United States and Australia, public debate and controversy about the management of production forests during the later decades of the 20th century resulted in governments adopting sweeping top-down changes to forest policy, with regional forest plans a cornerstone of this process. This paper reviews the biodiversity conservation outcomes of two such processes, the Southeast Queensland Forests Agreement (Australia) and the Northwest Forest Plan (United States). Several key lessons are identified. First, these plans are significant steps forward in the struggle to conserve forest biodiversity while providing for production of timber. Second, expanding the conservation reserve system by itself does not necessarily ensure biodiversity conservation, especially if reserves are traded off for increased timber harvesting in forests outside of reserves or if certain important elements of biodiversity are not accounted for either by conservation forests or production forests. Third, reserves often need active management to restore diversity in previously-logged forests and reduce fuels that have accumulated as a result of fire exclusion. Fourth, the current plans fall short of the comprehensive whole-of-landscape, multiple-ownership approach needed to support long-term sustainable forestry and biodiversity conservation. Fifth, adaptive management was not adequately institutionalized and sometimes misapplied, although, in the case of the Pacific Northwest, a major regional monitoring strategy was developed and partially implemented. Finally, ecological science suffered in the collision with the socio-political decision-making process due to the limited scope that was left for testing and evaluating the new approaches to forest management. We conclude, based on the evaluation of the two regional plans, that regional biodiversity conservation goals may be better achieved by implementing sustainable forest management practices across all ownerships and involving all stakeholders and the broader community.

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## 1. Introduction

As the area of the world's native forests shrinks, the sustainable management of production forests is increasingly paramount for biodiversity conservation (Lindenmayer and Franklin, 2002). Throughout the latter part of the 20th century, public debate and controversy about management of production forests resulted in divisive protests and disputes in many countries. The "unproductive stand-offs" ultimately resulted in "productive changes" in forest practices. Prominent in these actions were disputes over the fate of old-growth forests in the Pacific Northwest dating from the 1970s and peaking in the early 1990s (Johnson et al., 1999). Similar debates raged concurrently on the other side of the Pacific about the fate of Australia's old-growth eucalypt forests (forests with a high proportion of hollow-bearing trees) and tropical rainforests (Dargavel et al., 1998; McDonald and Lane, 2000). To contain and address these concerns and divisions, federal governments in the United States and Australia adopted sweeping top-down changes to forest policy and planning processes.

In the United States, decades of short-rotation clearcutting (combined with fire suppression and road building) radically altered forest landscapes, dramatically reducing the abundance of mature and old-growth forests, and increasing the abundance of young conifer plantations (Franklin and Forman, 1987). Environmental concerns included the decline in old-growth forests and riparian and stream habitat diversity, loss of large blocks of uncut forests, threats to populations of wildlife and fish species, and changes in scenic quality (Hansen et al., 1991). In 1990, the Northern Spotted Owl (*Strix occidentalis caurina*) was listed as a threatened species under the *Endangered Species Act* (for background on the Act see Clark, 1994), logging was greatly reduced across the federal forests, and controversies erupted around forest management.

When campaigning for office, Bill Clinton promised to find a solution to the crisis, and once elected President, he held an inclusive "forest summit" with representatives of all affected parties. He then assigned Forest Service Wildlife biologist, Jack Ward Thomas, to lead a team of scientists (FEMAT, 1993) to craft a comprehensive ecosystem management plan for federal forest lands in portions of three states that would conserve forest wildlife, bring management into compliance with the law, and resolve the court injunctions that had held up logging of suitable owl habitat. The Forest Ecosystem Management Assessment Team was to produce a set of alternatives for the administration to select a plan that would maintain and/or restore:

- habitat conditions to provide for the viability of the Northern Spotted Owl and Marbled Murrelet (*Brachyamphus marmoratus*) (another at-risk species that nests in Coastal old-growth);
- habitat conditions to support viable populations of other species known to be associated with old-growth forest conditions;
- spawning and rearing habitat on federal lands to support viable populations of anadromous fish species and stocks considered at risk; and
- connected or interactive old-growth forest ecosystems on federal lands.

The Northwest Forest Plan was officially implemented in 1994, following the defeat of legal challenges that help-up its implementation for many months. Recently, a series of 10-year evaluation reports were published that examine the status and trends of key components of the Northwest Forest Plan and evaluate how effective it has been in the first 10 years of the 100 year plan (Lint, 2005; Moeur et al., 2005). Our summary of the Northwest Forest Plan is based largely on those reports.

In Australia, over 75 major inquiries into the environmental impacts of the timber industry since the end of World War II had failed to find a solution to conflicts over management of production forests (Mobbs, 2003). In the 1970s and 1980s, forest disputes escalated, particularly over the ecological impacts of export wood-chipping of native eucalypt forests and the logging of tropical rainforests (McDonald and Lane, 2000). In response, the Commonwealth Government adopted an increasing role in environmental management (Lane, 1999). The National Forest Policy Statement (Commonwealth of Australia, 1992) outlined a shared vision between the Commonwealth and State Governments for the ecologically sustainable management of Australia's forests, and sought to balance the social, economic and environmental values of forests, including biodiversity, both now and in the future.

Regional Forest Agreements were Australia's model of large-scale forest ecosystem management, and were jointly adopted by Commonwealth and State Governments as the mechanism for achieving ecologically sustainable forest management. Ten Regional Forest Agreements were progressively signed between 1997 and 2001, key outcomes being the allocation of approximately 30% of publicly owned commercial forests to an expanded reserve system, strengthening of codes of practice and other mechanisms to ensure the sustainable management of the remaining publicly owned forests, and increased certainty of resource access for the timber industry. While Regional Forest Agreements did manage the conflicts in most regions (Lane, 1999), at least initially, their capacity to deliver long-term conservation of biodiversity is still questioned and conflicts continue in several regions (Lunney, 2004). Most recently, the Tasmanian Regional Forest Agreement has come to prominence with clear-felling of old-growth eucalypt forests, allocated for production under the agreement, a hotly debated issue of the 2004 federal elections.

In Southeast Queensland, an agreement was brokered between the Queensland Government and the peak stakeholder groups – the Queensland Timber Board, the Australian Rainforest Conservation Society, the Queensland Conservation Council and The Wilderness Society – after the State Government withdrew from negotiations with the Commonwealth. The Southeast Queensland Forests Agreement was signed on 16 September 1999, its key objectives being: a world class conservation reserve system; ecologically sustainable management of forests; a competitive and efficient timber industry; and enhanced economic development and employment prospects for rural communities (Norman et al., 2004; McAlpine et al., 2005).

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