



Biodiversity Management:

The Policy Alternatives

An analysis of the efforts to save endangered species and increase wildlife habitat in the Pacific Northwest suggests that improving biodiversity may be the broader and preferable goal. Incentives for land management, rather than regulations, may better satisfy goals of increasing biodiversity and avoiding counterproductive environmental impacts, while enabling landowners to produce timber.

Pressures for Increased Non-Timber Outputs

Efforts to restore the environment increasingly focus on biodiversity management of forest land (biodiversity refers to the complex of life forms, genetic makeup, biological processes, and ecological niches found in nature). The Washington State Forest Practices Board recently adopted some policy changes and will consider more based on the outcome of an accelerated study conducted by its wildlife subcommittee.

The issues are complex. Technology can provide many alternative management prescriptions. Some of these would move forests back to conditions that may, as in

earlier periods, bring on large natural disturbances with very high accompanying environmental and economic costs. Other prescriptions would manage forest structures for more biodiversity with less natural disturbance.

Several recent conferences and papers have articulated the important technical and policy issues. CINTRAFOR has contributed to the discussion of the economic policies that would help convert technology into efficient management through the following events:

▲ *Managing Landscapes for Biodiversity*, September 15, 1992, Tacoma

▲ *Watershed Resources: Balancing Environmental, Social, Political and Economic Factors in Large Basins*, October 14-16, 1992, Portland

▲ *Washington's Forests for the Twenty-first Century*, November 10, 1992, Tacoma

▲ *Landscape Management Systems: Integrating Technology and Policy*, April 6-7, 1993, Tacoma

The Management Opportunity

Should we eliminate all human intervention, or manage biodiversity and timber production at the same time? The structure of forest stands in the Northwest today are unbalanced relative to goals of increasing biodiversity. The number of young highly dense stands, which support the least amount of wildlife, is large. More intensive management of these stands, including commercial thinning and pruning, can accelerate the movement of these stands to structures that resemble old-growth with an understory more suitable to many wildlife species. Deferring harvest of some mature stands and reducing the forest health risk is also important. The list of possible prescriptions is

long. Some lead to increased employment in forest communities, while others postpone the opportunity for harvest and thereby reduce employment. Finding the best alternatives does not depend as much on understanding the new technology as it does on working within the complex social, economic, legal, and political climate to adapt new techniques which produce both timber and non-timber outputs.



Incentives vs. Regulations

Regulatory mandates, such as forest practice requirements for green tree retention, thinning, pruning, or deferring harvests, reduce the motivation of land managers to invest. Mandated regulatory costs drive investment out of the region rather than encourage more investment. It has also been shown that mandated preservation of highly productive forests may cause as much or more environmental damage in other regions of the world, with possible negative global environmental consequences more than offsetting environmental gains sought by local authorities.

Better management requires more investment. An incentive approach, in contrast to mandated regulations, can stimulate investment in forest management and result in both a supply of timber and environmental amenities. Tax incentives, in the form of management contracts, can provide cash flow to forest owners while reducing confiscation risks for those who successfully manage to reach biodiversity goals. Incentives can also contribute to improving biodiversity goals such as achieving a better balance in forest stand structures.

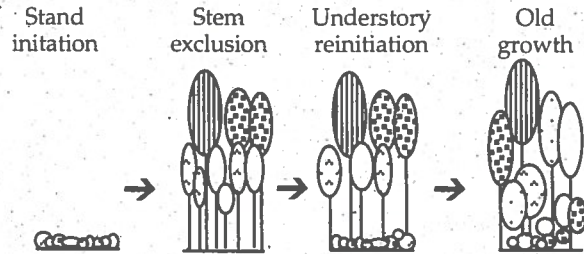
Social Context

Policies directed from on top that don't involve those most greatly impacted have a history of non-acceptance. Whatever change regional communities are required to absorb creates that much greater social unrest and rebellion from authority. Managing private lands for joint timber and non-timber outputs will require a social compact between the stakeholders. Recognizing this need is not difficult, but developing a process that will gain the support of diverse groups—including tree farmers and environmental advocates—has been difficult. Avoiding costly court-controlled battles will achieve benefits for all.

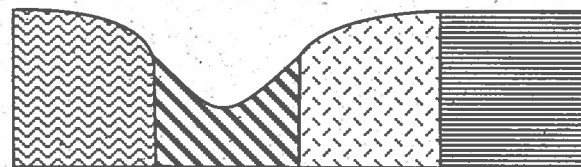
Institutional Structure

Using our institutions to encourage joint production rather than confrontation or court battles is difficult. The courts are not known for resolving disputes prior to conflict. Of greater concern is that regulatory agencies, with goals of maintaining practices that have a common good, are largely limited in authority to regulatory mandates that penalize investment rather than add incentives that encourage investment.

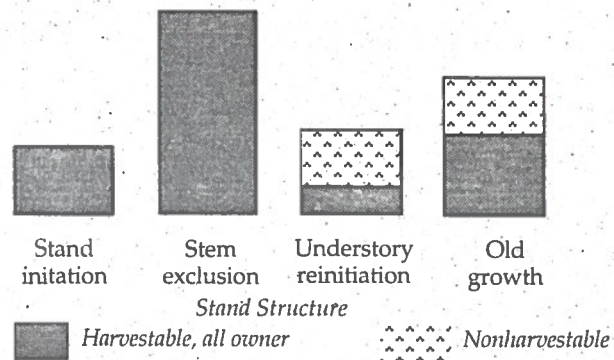
Western Washington forest area by structure and ownership, 1990



Changes in stand structures following disturbances



Mammal species utilizing each structure



Next Steps:

While the awareness of new approaches to improve biodiversity has been raised, developing a consensus support base and getting beyond institutional limitations while applying new technology will require a broad multidisciplinary movement.

For more information, contact CINTRAFOR and ask about the following publications: "Managing Landscapes: The Role of Goals, Regulations, and Incentives," CINTRAFOR SP-14. Forthcoming Proceedings on Landscape Management Conference. Forthcoming Proceedings on Watershed Resources Conference.