days: the political complex of federal and provincial governments, global industry and industry-close NGOs drives the agenda. On a global scale, and as this book shows, the citizen is more and more delivered to the corporate world, without any relevant input. The request made in this book that the public needs to be involved in public land decision-making is already clearly contradicted by the fact that none of its relevant research; or GIS-data are freely available; e.g., as a database for download on the WWW.

Overall, this book is a great reflection on what provincial governments and industry in Alberta can achieve, and what they can not. Smaller typos and wrong references may be forgiven. One may ask the question: who may benefit from this book, who buys it? The original price of over 100 CAN$ for this book was fortunately soon dropped towards a free PDF download. However, as the authors state, "The clearcut generally presents a strong negative image, that is not only perceived as 'ugly' but has also come to symbolize a host of negative traits including a lack of respect for nature, destruction of biodiversity, and ecological integrity, corporate control, and lack of public participation in land use decisions". This book fails to change this situation.

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Forest Dynamics and Disturbance Regimes: Studies from Temperate Evergreen-Deciduous Forests

By Lee E. Frelich. 2002. Cambridge University Press, Cambridge, UK. 266 pages.

Disturbance is ubiquitous in forest ecosystems. Forested landscapes are best viewed as an integration of climatic, biotic, edaphic and geomorphic processes that determine the character of disturbance events occurring over a wide range of temporal and spatial scales. Disturbed by the extremes of either catastrophic, stand-replacing events that may include fire, insect outbreaks, and extensive windthrow, or periodic, small-scale gap processes mediated by fungal pathogens, forests are in constant flux when viewed from a landscape perspective. Such a wide range in the periodicity, intensity and scale of disturbance events, and the diversity of bio-edaphic interactions creates a complex, fluid, heterogeneous landscape.

Lee Frelich, founder and director of the University of Minnesota Center for Hardwood Ecology, introduces the reader to the significant disturbances that have shaped, and continue to shape, the hemlock-hardwood forests of the northern regions of the Lake States (Minnesota, Wisconsin, and Michigan). For the past two decades Dr. Frelich has dedicated himself to understanding the stand- and forest-level dynamics of these deciduous-to-boreal transition forests. He forms part of a long tradition of university and government (United States Forest Service) forest ecology research, much of which is scattered in scientific journals and government reports. *Forest Dynamics and Disturbance Regimes* provides for the first time, in an engaging, well-illustrated, and synthetic format, the fruit of this rich research legacy.

"Under what conditions do forests change or stay the same?" Thus might one summarize the intent of this book. Introductory chapters set the scene by describing the Great Lakes temperate forests and their disturbance regimes dominated by fire, wind, insect outbreaks and mammalian herbivory. Of significance to the practicing forest ecologist will be the chapter on sampling and interpretative techniques used to detect and interpret forest disturbance regimes. Emphasis is placed on the use of tree radial increment patterns as a valuable source of insight into stand disturbance history.

Frelich emphasizes the critical role played by disturbance in both stand development and forest succession. He properly distinguishes between stand development and succession, both of which are often confused in the literature. Disturbance will always initiate a new cycle of stand development in the regenerating, post-disturbance forest. However, disturbance may or may not initiate a species change or a new successional sequence.

Consideration is also given to the differing effects of disturbance on both the stand- and landscape-level. This distinction is important, especially given the wide temporal and spatial scales at which disturbances may occur. Furthermore, instability on the stand level may be interpreted as stability on the landscape level. Interpretation often depends on the scale of investigation.

A particular strength of this work is Frelich's ability to engage the complex interaction of different disturbances. Frelich not only introduces the wide diversity of temporal and spatial patterns of forest change, but even more importantly, highlights often counter-intuitive insights into forest change and continuity. I found the following particularly noteworthy: (1) the nonlinear response of forest species composition to disturbance severity, (2) the cause and development of patchy hardwood-softwood mosaics, (3) clarifying taxonomy of the concept of old-growth, (4) how different forest types can exist on relatively homogeneous sites, and (5) the multiple successional pathways open to any particular forest type. Frelich's final chapter summarizes the notion of forest stability. It provides conceptual mod-

els of forest response to disturbance, 3-D models of succession in different forest types, and a final classification of four different types of forest landscape.

This work is particularly important as humans continue to "disturb" forests, especially by commercial forestry. Before any claims can be made about the desirability of the changes created by human interventions, it is essential to properly comprehend the range of natural forest disturbance regimes and the associated changes in forest structure and tree species composition.

The book addressees the scientific community and would properly be of greatest interest to forest ecologists and to all students of forest change. The judicious mix of empirical case studies, hypothetical examples and conceptual models helps the reader to think "beyond the box." The many line drawings, flow charts and black-and-white photographs help to clarify the different concepts.

As one is reminded in the subtitle, this book focuses exclusively on the temperate evergreen-deciduous forests of the Lake States. While it is certain that many of the concepts developed from research in this forest type are applicable to other forest types, it is wise to resist any quick and easy transfer of ideas. Forests grow in conditions that span a wide ecological spectrum, a situation that often resists our human tendency to categorize and classify. Be that as it may, this book provides rich and substantive insight into this well-studied and much loved forest region at the deciduous-boreal interface.

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The Sacred Balance: A Visual Celebration of Our Place in Nature

By David Suzuki and Amanda McConnell. Greystone Books, Vancouver, British Columbia, 151 pages. CDN $55.

With over 100 pages of illustrations and its large page format, this book may at first glance appear to fit into the "coffee table" book genre. However, a closer read reveals a somewhat more substantial literary content. This book is an interesting juxtaposition of science and art that explores the role of humans in the earth's global ecology. The authors describe aspects of human ecology in ways that make the ideas accessible to the non-scientist, weaving story-telling, poetry, and creative analogies into the text. The book makes lavish use of illustrations to demonstrate ways in which humans are inextricably linked to our global ecosystem. The eclectic collection of photographs portrays life ranging from views of bacteria under a microscope to satellite panoramas of the earth. The images capture some stunning landscapes and unique views of human personality and culture, making this book a worthwhile purchase for its photographic merit alone.

Suzuki and McConnell begin by introducing the view widely held in many aboriginal cultures that the environment is not something separate from humans but rather that we are part of the earth. Viewing humans as part of the ecological community is not a new idea. It was the view espoused by Aldo Leopold and others more than a century ago, and the concept that epitomized the roots of the conservation movement. However, Suzuki and McConnell add a fresh perspective to this paradigm. The authors classify seven elements that connect humans with the earth: water, air, fire, earth, biodiversity, love and spirit. Each of these themes, plus the introduction, forms the basis for the book's organization into eight chapters.

The first section of the introduction skips hastily from big bang theory and the origins of multi-cellular life to biodiversity, global ecology, and human cultural evolution. The rapidity with which complex scientific concepts are very superficially reviewed in the introduction is at times cumbersome. Covering so much ground in a short span of text leaves the reader feeling somewhat like they've covered the history of planet earth in fast-forward. Nevertheless, the authors do make successful albeit brief explanations of many complex concepts through their use of creative analogies. For example, in explaining the uncertainty of the effects of genetically modified organisms, the authors explain,

> "This situation is comparable to pulling Bono out of U2, popping him into the middle of the New York Philharmonic Orchestra, and asking him to 'do his thing' with them. Sounds will emerge, but we certainly cannot anticipate the musical nature of the output."

Such quirky references to popular culture and common human experiences are used creatively throughout the chapters of this book. The second section of the introduction draws on experiences from David Suzuki's professional and private life, and presents an enlightening personal view of our place in nature.

After rushing through a myriad of concepts in the introduction, the proceeding chapters present information in smaller, more digestible chunks, with succinct and thought-provoking chapters exploring each of the seven elements. The authors draw expertise from fields as diverse as biochemistry, toxicology, psychiatry, cosmology, ecology, and anthropology. Each chapter concludes with a series of photographs, poetry, and quotations that further illustrates the chapter theme. Given the somewhat dense introductory chapter, I was surprised to find no concluding chapter providing some interpretation and synopsis of the mix of ideas. This was perhaps deliberate on the part of the authors, leaving it up to the reader to draw their own conclusions. Nevertheless, the concepts of the book are per-