Forest Biodiversity And Its Conservation Practices In India 1st Edition

Discusses the ways in which we can continue to benefit from forests, while conserving their biodiversity.

Latin America and the Caribbean (LAC) region is exceptionally biodiverse. It contains about half of the world’s remaining tropical forests, nearly one-fifth of its coastal habitats, and some of its most productive agricultural and marine areas. But agriculture, fishing and other human activities linked to rapid population and economic growth increasingly threaten that biodiversity. Moreover, poverty, weak regulatory capacity, and limited political will hamper conservation. Given this dilemma, it is critically important to design conservation strategies on the basis of the best available information about both biodiversity and the track records of the various policies that have been used to protect it. This rigorously researched book has three key aims. It describes the status of biodiversity in LAC, the main threats to this biodiversity, and the drivers of these threats. It identifies the main policies being used to conserve biodiversity and assesses their effectiveness and potential for further implementation. It proposes five specific lines of practical action for conserving LAC biodiversity, based on: green agriculture; strengthening terrestrial protected areas and co-management; improving environmental governance; strengthening coastal and marine resource management; and improving biodiversity data and policy evaluation.

This paper synthesizes the existing literature about traditional and local ecological knowledge relating to biodiversity in Pacific Northwest forests in order to assess what is needed to apply this knowledge to forest biodiversity conservation efforts. We address four topics: (1) views and values people have relating to biodiversity, (2) the resource use and management practices of local forest users and their effects on biodiversity, (3) methods and models for integrating traditional and local ecological knowledge into biodiversity conservation on public and private lands, and (4) challenges to applying traditional and local ecological knowledge for biodiversity conservation. We focus on the ecological knowledge of three groups who inhabit the region: American Indians, family forest owners, and commercial nontimber forest product (NTFP) harvesters. Integrating traditional and local ecological knowledge into forest biodiversity conservation is most likely to be successful if the knowledge holders are directly engaged with forest managers and western scientists in on-the-ground projects in which interaction and knowledge sharing occur. Three things important to the success of such efforts are understanding the communication styles of knowledge holders, establishing a foundation of trust to work from, and identifying mutual benefits from knowledge sharing that create an incentive to collaborate for biodiversity conservation. Although several promising models exist for how to integrate traditional and local ecological knowledge into forest management, a number of social, economic, and policy constraints have prevented this knowledge from flourishing and being applied. These constraints should be addressed alongside any strategy for knowledge integration.

The fate of much of the world's terrestrial biodiversity depends upon our ability to improve the management of forest ecosystems that have already been substantially modified by humans. Monitoring is an essential ingredient in meeting this challenge, allowing us to measure the impact of different human activities on biodiversity and identify more responsible ways of managing the environment. Nevertheless many biodiversity monitoring programs are criticised as being little more than 'tick the box' compliance exercises that waste precious resources and erode the credibility of science in the eyes of decision makers and conservation investors. The purpose of this book is to examine the factors that make biodiversity monitoring programs fail or succeed. The first two sections lay out the context and importance of biodiversity monitoring, and shed light on some of the key challenges that have confounded many efforts to date. The third and main section presents an operational framework for developing monitoring programs that have the potential to make a meaningful contribution to forest management. Discussion covers the scoping, design and implementation stages of a forest biodiversity monitoring program, including defining the purpose, goals and objectives of monitoring, indicator selection, and the process of data collection, analysis and interpretation. Underpinning the book is the belief that biodiversity monitoring should be viewed not as a stand-alone exercise in surveillance but rather as an explicit mechanism for learning about how to improve opportunities for conservation. To be successful in this task, monitoring needs to be grounded in clear goals and objectives, effective in generating reliable assessments of changes in biodiversity and realistic in light of real-world financial, logistical and social constraints.

Tanzania is one of the most biologically diverse nations in the world. Traveling from west to east across Tanzania, one encounters an incredible array of ecosystems and species. Beginning at Lakes Victoria, Tanganyika, and Nyasa that form much of the western boundary of Tanzania, one finds the most diverse and some of the most spectacular concentrations of endemic fish in any of the world's lakes. Moving further inland from the lakes, one meets the woodlands and plains of Serengeti, Ngorongoro, Tarangire, and Lake Manyara. The assemblages and movements of large mammals in these protected areas are unparalleled worldwide. Traveling yet further to the east, one comes to Mount Kilimanjaro, the highest mountain in Africa. Mount Kilimanjaro is of sufficient height to not only contain seven major vegetation zones, but also maintain permanent glaciers. Finally, shortly before arriving at the Indian Ocean, one encounters the Eastern Arc Mountains, a series of isolated and geologically ancient mountains, which due to their height and proximity to the Indian Ocean intercept sufficient precipitation to support, in many areas, moist tropical forest. The Eastern Arc Mountains are among the richest sites biologically in all of Africa and harbor unusually high concentrations of endemic species - species whose geographic distribution are restricted to these mountains. Unfortunately, much of Tanzania's biodiversity is threatened by habitat alteration, destruction, and exploitation. The Eastern Arc forests face some of the most severe threats to any of Tanzania's biologically unique sites.

Proceedings of the conference held in Bandar Seri Begawan, April 1993

"Uneven collection of 60 papers; most concern Andean mountain flora, forests, and habitats. Several papers focus on human modifications"--Handbook of Latin American Studies, v. 57.

The purpose of this book is specific and ambitious: to outline the distinctive elements, scope, and usefulness of a new and emerging field of applied ecology named warfare ecology. Based on a NATO Advanced Research Workshop held on the island of Vieques, Puerto Rico, the book provides both a theoretical overview of this new field and case studies that range from mercury contamination during World War I in Slovenia to the ecosystem impacts of the Palestinian occupation, and from the bombing of coral reefs of Vieques to biodiversity loss due to violent conflicts in Africa. Warfare Ecology also includes reprints of several classical papers that set the stage for the new synthesis described by the authors. Written for environmental scientists, military and humanitarian relief professionals, conservation managers, and graduate students in a wide range of fields, Warfare Ecology is a major step forward in understanding the relationship between war and ecological systems.

The Atlantic Forest is one of the 36 hotspots for biodiversity conservation worldwide. It is a unique, large biome (more than 3000 km in latitude; 2500 in longitude), marked by high biodiversity, high degree of endemic species and, at the same time, extremely threatened. Approximately 70% of the Brazilian population lives in the area of this biome, which makes the conflict between biodiversity conservation and the sustainability of the human population a relevant issue. This book aims to cover: 1) the historical characterization and geographic variation of the biome; 2) the distribution of the diversity of some relevant taxa; 3) the main threats to biodiversity, and 4) possible opportunities to ensure the biodiversity conservation, and the economic and social sustainability. Also, it is hoped that this book can be useful for those involved in the development of public policies aimed at the conservation of this important global biome.

Synthesizes the existing literature about traditional and local ecological knowledge relating to biodiversity (BD) in Pacific NW forests in order to assess what is needed to apply this knowledge to forest BD conservation efforts. Four topics are addressed: (1) views and values people have relating to BD; (2) the resource use and mgmt. practices of local forest users and their effects on BD; (3) methods and models for integrating traditional and local ecological knowledge into BD conservation; and (4) challenges to applying traditional and local ecological knowledge for BD conservation. Focuses on the ecological knowledge of three groups who inhabit the region: Native Amer.,family forest owners, and commercial nontimber forest product harvesters.

Biodiversity Refers To The Structural And Functional Variety Of Life-Forms At Genetic, Population, Species, Community And Ecosystem Levels. The Loss Of The Earth'S Biological Diversity Is One Of The Most Critical Environmental And Development Issue. Inventorization Of Plant, Animal And Microbial Diversity And In-Situ And Ex-Situ Conservation Of Natural Resources Are Some Of The Immediate Steps To Be Taken For Conserving The Biological Diversity On Earth. The Present Book Global Biodiversity : Status & Conservation Incorporates 18 Articles On Biodiversity & Its Conservation Covering Holistic Information On The Subject. Chapters On Global Biodiversity; Biodiversity Profile Of India; Conservation Of Biodiversity : An Indian Perspective And Agro-Biodiversity Conservation Provides Detailed Information On The Topics. Articles On Threatened Alpine Flora Of Garhwal Himalaya: Woddy Vegetation In Forest Of Kumbhalagarh Central Hills; Role Of Major Forest Types In The Coastal Environment & Necessity For Their Conservation; Environmental Aspects Of Forest Biodiversity Conservation And Management In Mountain Region Of M.P. Provide Sufficient Information On Forest Regions Of Varied Climate. Article On Vegetational Characteristics Of Grasslands Of Kaziranga National Park, Assam And A Subsistence Support For Socio-Economic Development Of Locals In Nanda Devi Biosphere Reserve Gave Information On These Preserved Heritage. Book Also Covers Chapters On Impact Of Modernization Of Agriculture On Biodiversity In Drylands; Cucurbitanceae Of Bihar ; Diversity & Conservation; Genus-Luffa In India; Seri-Biodiversity And Its Conservation. Articles On Biodiversity Conservation In Sacred Groves And Biodiversity And Human Environment Have Added Value To The Book. Book Includes Articles On Biotechnology And Its Impact On Biodiversity And Its Conservation And Biotechnology : A Safe Technology For Biodiversity Conservation. This Book Will Definitely Serve As An Excellent Reference Material And Practical Guide For Botanists, Ecologists, Environmentalists, Forest Personnels, Students And Researchers.

Maintaining forest biodiversity by combining protection, management and restoration of forest and woodland landscapes is a central component of sustainable development. Evidence that there are threshold levels for how much habitat loss may be tolerated for viable populations of specialised species to be maintained. Policy-makers, businesses and managers pose questions about how to balance use of renewable forest resources and conserve biodiversity. Examples are presented on how biodiversity assessments can be made. Proposes how the critical gaps in our knowledge identified throughout the book could be filled through macroecological research and international co-operation.

Originally published in 2002, Mountain Biodiversity deals with the biological richness, function and change of mountain environments. The book was birthed from the first global conference on mountain biodiversity and was a contribution to the International Year of Mountains in 2002. The book examines biological diversity as essential for the integrity of mountain ecosystems and argues that this dependency is likely to increase as environmental climates and social conditions change. This book seeks to examine the biological riches of all major mountain ranges, from around the world and using existing knowledge on mountain biodiversity, examines a broad range of research in diversity, including that of plants, animals, human and bacterial diversity. The book also examines climate change and mountain biodiversity as well as land use and conservation.

"Deforestation and forest degradation are two of the main causes of the progressing loss of terrestrial biodiversity and are continuing at an alarming rate worldwide, especially in tropical countries. The underlying drivers of forest destruction vary from region to region, but can be linked mainly to human activities such as land use pressure and related policies. The Convention on Biological Diversity (CBD) considers protected areas (PA) as a cornerstone in its strategy for reducing the current loss of species and habitats in all types of ecosystems and therefore calls for a global PA network. Recognising the unsatisfactory spatial coverage and degree of effectiveness of existing PA in forests (FPA), the 9th Conference of the Parties to the CBD (COP9) reconfirmed the importance of national and regional FPA networks and the sustainable financing of FPA. Forests require particular attention regarding conservation due to their exceptional biodiversity, large cover area and their role in the adaptation and mitigation of global climate change. The present report has the objective of supporting the implementation of the recent COP9 decision on FPA through scientific analyses and practical policy-advice. Based on the evaluation of existing concepts for the selection, management and financing of FPA, it develops recommendations for the creation of a global FPA network. The character of the proposed network is discussed and suggestions are made for its realisation under the CBD, in particular concerning FPA selection, financing mechanisms and implementation."--Publisher's description.

This timely book contributes to discussions on the best legal practices to use to promote conservation, protection and

sustainable use of biological diversity in forest and marine areas. The breadth of issues explored across these two themes is immense, and the book identifies both key differences, and striking commonalities between them.
Global forest communities cover only about 30% of land areas, but they provide important ecosystem services, such as watershed protection, carbon sequestration, and oxygen production, as well as renewable forest products for human subsistence and markets. Forests also support the majority of the world's terrestrial biodiversity. Although land conversion for agriculture and pastureland has historically resulted in fragmentation and declining forested areas, forests worldwide are now experiencing change at an unprecedented rate due to various anthropogenic activities and growing human populations. Global warming trends are altering snowpack and hydrology, fostering outbreaks of native forest pests, and accelerating the loss of older tree age classes. Modeling suggests that future fire regimes in temperate regions will have shorter return intervals, with more severe wildfires. In addition, a by-product of trade and travel globalization has been the accelerated transport of plants and animals, and plant and animal diseases, around the world. Exotic species have altered community composition, especially where foundation tree species are affected. Every forest community worldwide is challenged by some of these problems. In this Special Issue of the journal Forests we explore the unique biodiversity supported by forest communities, how forest communities are rapidly changing, and conservation approaches to preserving forest biodiversity.
The term biodiversity has become a mainstream concept that can be found in any newspaper at any given time. Concerns on biodiversity protection are usually linked to species protection and extinction risks for iconic species, such as whales, pandas and so on. However, conserving biodiversity has much deeper implications than preserving a few (although important) species. Biodiversity in ecosystems is tightly linked to ecosystem functions such as biomass production, organic matter decomposition, ecosystem resilience, and others. Many of these ecological processes are also directly implied in services that the humankind obtains from ecosystems. The first part of this book will introduce different concepts and theories important to understand the links between ecosystem function and ecosystem biodiversity. The second part of the book provides a wide range of different studies showcasing the evidence and practical implications of such relationships.
IUCN's 5th World Parks Congress (2003) concluded that parks should not exist as unique islands, but need to be planned and managed as an integral part of the broader landscape. Ecological networks provide an operational model for conserving biodiversity that is based on ecological principles and allow a degree of human use of the landscape. This publication illustrates the development of several ecological networks around the world, demonstrating their benefits both for conservation and sustainable development.
Economic valuation of biodiversity and ecosystem services is possibly the most powerful tool for halting the loss of biodiversity while maintaining incomes and livelihoods. Yet rarely have such approaches been applied to tropical forest ?hotspots?, which house the vast majority of the planets plant and animal species. This ground-breaking work is the most comprehensive and detailed examination of the economics of environmental valuation and biodiversity conservation to date. Focusing on the Western Ghats of India, one of the top biodiversity hotspots in the world, this volume looks at a cross-section of local communities living within or near sanctuaries and reserve forests such as coffee growers, indigenous people and farmers-cum-pastoralists to assess the use and non-use values that people derive from tropical forests. It also looks at the extent of their dependence on forests for various goods and services, and examines their perceptions and attitudes towards biodiversity conservation and wildlife protection. The book concludes with an assessment of the institutional alternatives and policies for promoting biodiversity conservation through economic valuation methods.Related titlesEconomics for Collaborative Environmental Management (2005) 1-84407-095-6
The `Global Biodiversity Strategy' signed in 1992 in Rio de Janeiro, and the resolutions at the Ministerial Conferences on the Protection of Forests in Europe in Strasbourg, 1990, and Helsinki, 1993, commit the signatory states to monitor nationally the state of biodiversity and to sustain the characteristic natural variation in the country. Sustainability and long-term planning are the two terms best describing the philosophy of traditional forest management practices. However, the traditional planning techniques are not primarily developed to maintain sustainability of biodiversity. The gap between the international commitments and the practices in forest assessment and management is obvious. This publication presents experience in methodology for assessing and monitoring the variation of ecosystems and habitats in relation to biodiversity conservation and for integrating biodiversity in regional planning of forest management and land use. The state of the art in the field of natural resource assessments with special reference to forest biodiversity is reviewed, progress in integrating data on biodiversity in forest management planning is presented and the information needs regarding biodiversity conservation and the question to what degree assessment methods for forest biodiversity can be simplified for practical applications are discussed. The book is intended for researchers and practitioners in the field of forest and environmental planning and environmental policies.
Timber production is often the most economic form of land use in areas of tropical forest; forest preservation is rarely so. This book attempts to bridge the current gap between conservation requirements and commercial interests, indicating the possibilities for integrated management of tropical forests. The aim is to create a practical approach for the management of production forest as a supplement to totally-protected forest in the conservation of tropical biodiversity.
This book provides complete, comprehensive, and broad subject-based reviews for students, teachers, researchers, policymakers, conservationists, and NGOs interested in the biodiversity and conservation of woody plants. Forests cover approximately 31 percent of the world’s total landmass; 93 percent is natural forest and only 7 percent consists of planted trees. Forest decline is progressing at an alarming rate worldwide. In addition to human activities (logging, deforestation, and exploiting forest lands for agriculture and industrial use), a number of other factors – including pests and diseases, drought, soil acidity, radiation, and ozone – are cumulatively contributing to global forest decline. The present situation forces us to focus on forest conservation strategies

for the present and future. Gene conservation and maintaining genetic diversity in forest ecosystems are crucial to the preservation of forest genetic resources. This calls for integrated action to implement both the in situ (on site) preservation of forest stands and ex situ (distant from the original site) strategies for the conservation of woody plants' genetic resources. Selected priority areas include: 1) assessing patterns of genetic diversity and threats, 2) understanding the biological processes regulating genetic diversity, 3) assessing the impact of human activities and climate change on genetic diversity, and 5) finding methods for prioritizing species and populations for the conservation of forest trees genetic resources. All chapters were written by leading scientists in their respective fields, which include: woody plant diversity, ecology and evolution; assessment of genetic diversity in forest tree populations; conservation planning under climate change; and in situ and ex situ strategies, including biotechnological approaches, for the conservation of woody plants genetic resources.

Annotation A collection of papers regarding the conservation of Costa Rica's tropical dry forest, which is disappearing more rapidly than its rain forest, due to ease of conversion to agriculture.

The loss of the earth's biological diversity is widely recognized as a critical environmental problem. That loss is most severe in developing countries, where the conditions of human existence are most difficult. Conserving Biodiversity presents an agenda for research that can provide information to formulate policy and design conservation programs in the Third World. The book includes discussions of research needs in the biological sciences as well as economics and anthropology, areas of critical importance to conservation and sustainable development. Although specifically directed toward development agencies, non-governmental organizations, and decisionmakers in developing nations, this volume should be of interest to all who are involved in the conservation of biological diversity.

Agroforestry -- the practice of integrating trees and other large woody perennials on farms and throughout the agricultural landscape -- is increasingly recognized as a useful and promising strategy that diversifies production for greater social, economic, and environmental benefits. Agroforestry and Biodiversity Conservation in Tropical Landscapes brings together 46 scientists and practitioners from 13 countries with decades of field experience in tropical regions to explore how agroforestry practices can help promote biodiversity conservation in human-dominated landscapes, to synthesize the current state of knowledge in the field, and to identify areas where further research is needed. Agroforestry and Biodiversity Conservation in Tropical Landscapes is the first comprehensive synthesis of the role of agroforestry systems in conserving biodiversity in tropical landscapes, and contains in-depth review chapters of most agroforestry systems, with examples from many different countries. It is a valuable source of information for scientists, researchers, professors, and students in the fields of conservation biology, resource management, tropical ecology, rural development, agroforestry, and agroecology.

This book focuses on the diverse impact of forest history in general, and of forest continuity, fragmentation and past management in particular, on the diversity and distribution of species. The implications for the conservation of biodiversity in forests are also addressed. Chapters have been developed from papers presented at a conference held in Leuven in January 2003. The emphasis is on temperate forests in Europe and North America, but the information may also be applicable to other regions or biomes. The book will be of significant interest to researchers working within the areas of forestry, ecology, conservation and environmental history.

As the United Nations Decade on Biodiversity 2011–2020 comes to a close and countries prepare to adopt a post-2020 global biodiversity framework, this edition of The State of the World's Forests (SOFO) examines the contributions of forests, and of the people who use and manage them, to the conservation and sustainable use of biodiversity. Forests cover just over 30 percent of the global land area, yet they provide habitat for the vast majority of the terrestrial plant and animal species known to science. Unfortunately, forests and the biodiversity they contain continue to be under threat from actions to convert the land to agriculture or unsustainable levels of exploitation, much of it illegal. The State of the World's Forests 2020 assesses progress to date in meeting global targets and goals related to forest biodiversity and examines the effectiveness of policies, actions and approaches, in terms of both conservation and sustainable development outcomes. A series of case studies provide examples of innovative practices that combine conservation and sustainable use of forest biodiversity to create balanced solutions for both people and the planet.

This timely book considers appropriate legal practices to use to promote conservation, protection and sustainable use of biological diversity in forest and marine areas. The breadth of issues explored across these two themes is immense, and the book identifies both key differences, and striking commonalities between them. Law-makers, managers and users often have little understanding of either the complexity or the true value of biological diversity and of what is needed to preserve forest and marine ecosystems, and to keep inter-relationships between species within them healthy. Regulators face significant and practical challenges, requiring the adoption of legal frameworks in the context of scientific uncertainty. This book provides critical and comparative reflections on the role of law in both of these biodiversity contexts. Key issues not previously addressed through the law are considered - for example, the lack of international governance of peat; and the moral problem of labelling certain species as 'alien' or 'invasive'. Learned contributors draw valuable lessons for those seeking to protect biodiversity and understand its governance, from analysis of experiences gained forging international and national legal frameworks. With a blend of local and global perspectives, across a wide range of countries and policies, the book will appeal to academics and students in law, international, regional and domestic policymakers, lawmakers, NGOs and conservation agencies.

A comprehensive overview of wood-inhabiting fungi, insects and vertebrates, discussing habitat requirements along with strategies for maintaining biodiversity.

Forests play important role in combating desertification, preventing erosion problems, other protective functions, climatic change and acting as carbon reservoirs and sinks. Forests, the biodiversity they contain and the ecological function they maintain, are a heritage of mankind. The vital role of forests in protecting fragile ecosystems, watersheds and freshwater reservoirs and as storehouses of rich biodiversity should be recognized. Forests contain not only woody species and wild animals but also a wealth of other species of actual or potentially socio-economic importance at the global, national and local levels, including wild relatives of important crop species. Biodiversity is the variety and variability of plant, animal and micro organism in a ecosystem. Biodiversity, in wild and domesticated forms, is the source for most of humanity food, medicine, clothing and housing, most of the cultural diversity and most of the intellectual and spiritual inspirations. In other words, it is the very basis of man s being. Currently, there is severe and widespread loss of biodiversity because of a variety of factors and therefore its conservation is of utmost importance. Conservation and development are partners

in the process of environmental protection. To maintain and increase the ecological, biological, climatic, socio-cultural and economic contributions of forests, their conservation and management are urgently required. Biological diversity (biodiversity) is also to be preserved to achieve sustainable development. The book is a sincere effort of the authors to provide compiled information on the subject matter of forest environment and diversity. It includes the impact of forests on environment, basic concept, status and extent of biodiversity, its loss and suggests ways and means of conservation for achieving sustainable development. Contents Chapter 1: Introduction; Chapter 2: Land Use, Forest Area and Population; Chapter 3: History of Forestry in India; Chapter 4: Ecological Perceptions; Chapter 5: Ecology of Indian Forests; Chapter 6: Forests and Environments; Chapter 7: Ecosystem Theory and Application; Chapter 8: Forests and Environment: Soil Erosion and Floods; Chapter 9: Wildlife and Biosphere Reserves; Chapter 10: Atmosphere; Chapter 11: Socio-Economic Effects and Constraints; Chapter 12: Women and Environment; Chapter 13: Macro Issues: Pressure on Forests; Chapter 14: Forestry and Rural Development; Chapter 15: Peoples Participation in Afforestation; Chapter 16: Environmental Considerations; Chapter 17: The Environmental Scenario; Chapter 18: Environmental Problems; Chapter 19: Introduction to Environmental Impact Assessment; Chapter 20: Methods of Impact Analysis; Chapter 21: Some Case Studies of Environmental Impact Assessment; Chapter 22: Pollution: An Appraisal; Chapter 23: Air Pollution; Chapter 24: Water Pollution; Chapter 25: Biological Diversity; Chapter 26: Management of Forests for Wildlife; Chapter 27: Conservation of Biodiversity; Chapter 28: Action Plan for National Biodiversity Strategy; Chapter 29: Social Biota for Biodiversity; Chapter 30: Biodiversity Loss and Threat; Chapter 31: Biological Diversity Convention; Chapter 32: Conservation of Biodiversity in Indian Scenario; Chapter 33: Diversity in Community; Chapter 34: Bioresources Protection; Chapter 35: Biodiversity of Threatened Species of Medicinal Plants in India: An Appraisal; Chapter 36: Vegetative Propagation; Chapter 37: Tree Improvement through Biotechnological Tools; Chapter 38: Forest Resources and its Management; Chapter 39: Production and Receipt of Forest Products. C

One of the highest priorities for human societies in the 21st century, under the challenges of predicted great environmental changes, is to conserve all kinds of biodiversity across the planet. Among all the biota that exist on Earth, forest ecosystems demonstrate a high degree of biodiversity, being thought to comprise the most diverse ecosystems, as most of the terrestrial species in the world dwell in these ecosystems. Forest biodiversity is interlinked to a web of socio-economic factors, providing an array of goods and services that range from timber and non-timber forest resources to mitigating climate change and conservation of genetic resources; therefore, it is innately linked to ecosystems and human well-being. However, in recent decades, the decrease in forest biodiversity has been a crucial and ongoing environmental issue that needs special attention and adapted ecosystem management. This Special Issue book on forest biodiversity (FB) includes a selected number of research works from all over the world dealing with emerging issues, for understanding FB and its needs for conservation, ecological processes, disturbances, climate change and ecosystems resilience, structural complexity and ecosystem functions, ecological theories and silvicultural practices, and ecosystems stability. More specifically, it includes papers focused on the indicators and methods for assessing and monitoring forest biodiversity, evaluation of practices, planting and silvicultural treatments, and management and monitoring methods, with an overall goal to provide new insights on forest biodiversity conservation, conservation of forest biodiversity in protected areas, treatments of endangered or threatened forest habitats, and sustainable management of forest resources.

While most efforts at biodiversity conservation have focused primarily on protected areas and reserves, the unprotected lands surrounding those area--the "matrix"--are equally important to preserving global biodiversity and maintaining forest health. In Conserving Forest Biodiversity, leading forest scientists David B. Lindenmayer and Jerry F. Franklin argue that the conservation of forest biodiversity requires a comprehensive and multiscaled approach that includes both reserve and nonreserve areas. They lay the foundations for such a strategy, bringing together the latest scientific information on landscape ecology, forestry, conservation biology, and related disciplines as they examine:the importance of the matrix in key areas of ecology such as metapopulation dynamics, habitat fragmentation, and landscape connectivitygeneral principles for matrix managementusing natural disturbance regimes to guide human disturbancelandscape-level and stand-level elements of matrix management the role of adaptive management and monitoringsocial dimensions and tensions in implementing matrix-based forest managementIn addition, they present five case studies that illustrate aspects and elements of applied matrix management in forests. The case studies cover a wide variety of conservation planning and management issues from North America, South America, and Australia, ranging from relatively intact forest ecosystems to an intensively managed plantation.Conserving Forest Biodiversity presents strategies for enhancing matrix management that can play a vital role in the development of more effective approaches to maintaining forest biodiversity. It examines the key issues and gives practical guidelines for sustained forest management, highlighting the critical role of the matrix for scientists, managers, decisionmakers, and other stakeholders involved in efforts to sustain biodiversity and ecosystem processes in forest landscapes.