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Edition

Ecology Concepts And Applications 2nd Canadian Edition

This book began life as a series of lectures given to second and third year undergraduates at Oxford University. These lectures were designed to give students insights as to how marine ecosystems functioned, how they were being affected by natural and human interventions, and how we might be able to conserve them and manage them sustainably for the good of people, both recreationally and economically. This book presents 10 chapters, beginning with principles of oceanography important to ecology, through discussions of the magnitude of marine biodiversity and the factors

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influencing it, the functioning of marine ecosystems at within trophic levels such as primary production, competition and dispersal, to different trophic level interactions such as herbivory, predation and parasitism. The final three chapters look at the more applied aspects of marine ecology, discussion fisheries, human impacts, and management and conservation. Other textbooks covering similar topics tend to treat the topics from the point of view of separate ecosystems, with chapters on reefs, rocks and deep sea. This book however is topic driven as described above, and each chapter makes full use of examples from all appropriate marine ecosystems. The book is illustrated throughout with many full colour diagrams and high quality photographs. The book is

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aimed at undergraduate and graduate students at colleges and universities, and it is hoped that the many examples from all over the world will provide global relevance and interest. Both authors have long experience of research and teaching in marine ecology. Martin Speight ' s first degree was in marine zoology at UCNW Bangor, and he has taught marine ecology and conservation at Oxford for 25 years. His research students study tropical marine ecology from the Caribbean through East Africa to the Far East. Peter Henderson is a Senior Research Associate at the University of Oxford, and is Director of Pisces Conservation in the UK. He has worked on marine and freshwater fisheries, as well as ecological and economic impacts and exploitation of the sea in North and South America as

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well as Europe.

Enlarged, enhanced and internationalized edition of the first restoration ecology textbook to be published, with foreword by Dr. Steven Whisnant of Texas A&M University and Chair of the Society of Ecological Restoration. Since 2006, when the first edition of this book appeared, major advances have taken place in restoration science and in the practice of ecological restoration. Both are now accepted as key components of the increasingly urgent search for sustainability at global, national, and community levels – hence the phrase 'New Frontier' in the title. While the first edition focused on ecosystems and landscapes in Europe, this new edition covers biomes and contexts all over the world. Several new chapters deal with broad issues such as

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biological invasions, climate change, and agricultural land abandonment as they relate to restoration science and ecological restoration. Case studies are included from Australia, North America, and the tropics. This is an accessible textbook for senior undergraduate and graduate level students, and early career scientists. The book also provides a solid scientific background for managers, volunteers, and mid-career professionals involved in the practice of ecological restoration. Review of the first edition: "I suspect that this volume will find its way onto the shelves of many restoration researchers and practitioners and will be used as a key text in graduate courses, where it will help fill a large void. My own copy is already heavily bookmarked, and will be a constant source of research ideas

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and lecture material." (Environmental Conservation) Companion Website: A companion website with downloadable figures is available at <http://www.wiley.com/go/vanandel/restorationecology>" www.wiley.com/go/vanandel/restorationecology/a

Occupancy Estimation and Modeling: Inferring Patterns and Dynamics of Species Occurrence, Second Edition, provides a synthesis of model-based approaches for analyzing presence-absence data, allowing for imperfect detection. Beginning from the relatively simple case of estimating the proportion of area or sampling units occupied at the time of surveying, the authors describe a wide variety of extensions that have been developed since the early 2000s. This provides an improved insight about species and community ecology, including,

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detection heterogeneity; correlated detections; spatial autocorrelation; multiple states or classes of occupancy; changes in occupancy over time; species co-occurrence; community-level modeling, and more. Occupancy Estimation and Modeling: Inferring Patterns and Dynamics of Species Occurrence, Second Edition has been greatly expanded and detail is provided regarding the estimation methods and examples of their application are given. Important study design recommendations are also covered to give a well rounded view of modeling. Provides authoritative insights into the latest in occupancy modeling Examines the latest methods in analyzing detection/no detection data surveys Addresses critical issues of imperfect detectability and its effects on species occurrence estimation

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Discusses important study design considerations such as defining sample units, sample size determination and optimal effort allocation

Theoretical Ecology: concepts and applications continues the authoritative and established sequence of theoretical ecology books initiated by Robert M. May which helped pave the way for ecology to become a more robust theoretical science, encouraging the modern biologist to better understand the mathematics behind their theories. This latest instalment builds on the legacy of its predecessors with a completely new set of contributions. Rather than placing emphasis on the historical ideas in theoretical ecology, the Editors have encouraged each contribution to: synthesize historical

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theoretical ideas within modern frameworks that have emerged in the last 10-20 years (e.g. bridging population interactions to whole food webs); describe novel theory that has emerged in the last 20 years from historical empirical areas (e.g. macroecology); and finally to cover the rapidly expanding area of theoretical ecological applications (e.g. disease theory and global change theory). The result is a forward-looking synthesis that will help guide the field through a further decade of discovery and development. It is written for upper level undergraduate students, graduate students, and researchers seeking synthesis and the state of the art in growing areas of interest in theoretical ecology, genetics, evolutionary ecology, and mathematical biology.

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Limnoecology

Concepts and Applications

Terrestrial Information Extraction and
Applications

Marine Ecology

Foundations, Concepts, Applications

Seaweed Ecology and Physiology

Freshwater Ecology, Second Edition, is

a broad, up-to-date treatment of everything from the basic chemical and physical properties of water to advanced unifying concepts of the community ecology and ecosystem relationships as found in continental waters. With 40% new and expanded coverage, this text covers applied and basic aspects of limnology, now with more emphasis on wetlands and reservoirs than in the previous edition. It features 80 new and updated figures, including a section of color plates, and

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500 new and updated references. The authors take a synthetic approach to ecological problems, teaching students how to handle the challenges faced by contemporary aquatic scientists. This text is designed for undergraduate students taking courses in Freshwater Ecology and Limnology; and introductory graduate students taking courses in Freshwater Ecology and Limnology. Expanded revision of Dodds' successful text. New boxed sections provide more advanced material within the introductory, modular format of the first edition. Basic scientific concepts and environmental applications featured throughout. Added coverage of climate change, ecosystem function, hypertrophic habitats and secondary

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production. Expanded coverage of physical limnology, groundwater and wetland habitats. Expanded coverage of the toxic effects of pharmaceuticals and endocrine disrupters as freshwater pollutants More on aquatic invertebrates, with more images and pictures of a broader range of organisms Expanded coverage of the functional roles of filterer feeding, scraping, and shredding organisms, and a new section on omnivores. Expanded appendix on standard statistical techniques. Supporting website with figures and tables - <http://www.elsevierdirect.com/companion.jsp?ISBN=9780123747242>

After the great success now in its 2nd Edition: This textbook covers all aspects of catalysis, including

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computational methods, industrial applications and green chemistry
This book deals with exergy and its applications to various energy systems and applications as a potential tool for design, analysis and optimization, and its role in minimizing and/or eliminating environmental impacts and providing sustainable development. In this regard, several key topics ranging from the basics of the thermodynamic concepts to advanced exergy analysis techniques in a wide range of applications are covered as outlined in the contents. Offers comprehensive coverage of exergy and its applications, along with the most up-to-date information in the area with recent developments Connects exergy with three essential areas in terms of energy,

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environment and sustainable development Provides a number of illustrative examples, practical applications, and case studies Written in an easy-to-follow style, starting from the basics to advanced systems Wildlife-Habitat Relationships goes beyond introductory wildlife biology texts to provide wildlife professionals and students with an understanding of the importance of habitat relationships in studying and managing wildlife. The book offers a unique synthesis and critical evaluation of data, methods, and studies, along with specific guidance on how to conduct rigorous studies. Now in its third edition, Wildlife-Habitat Relationships combines basic field zoology and natural history, evolutionary biology,

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ecological theory, and quantitative tools in explaining ecological processes and their influence on wildlife and habitats. Also included is a glossary of terms that every wildlife professional should know. Michael L. Morrison is professor and Caesar Kleberg Chair in Wildlife Ecology and Conservation in the Department of Wildlife and Fisheries Sciences at Texas A&M University in College Station. Bruce G. Marcot is wildlife ecologist with the USDA Forest Service in Portland, Oregon. R. William Mannan is professor of wildlife ecology at the University of Arizona in Tucson.

Principles and Applications
Ecological Climatology
Inferring Patterns and Dynamics of
Species Occurrence

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A Practical Guide to Concepts and
Techniques

Exergy

Catalysis

In its first edition, this book helped to define the emerging field of ecological economics. This new edition surveys the field today. It incorporates all of the latest research findings and grounds economic inquiry in a more robust understanding of human needs and behavior.

Humans and ecological systems, it argues, are inextricably bound together in complex and long-misunderstood ways. According to ecological economists, conventional economics does not

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reflect adequately the value of essential factors like clean air and water, species diversity, and social and generational equity. By excluding biophysical and social systems from their analyses, many conventional economists have overlooked problems of the increasing scale of human impacts and the inequitable distribution of resources. This introductory-level textbook is designed specifically to address this significant flaw in economic thought. The book describes a relatively new “transdiscipline” that incorporates insights from the biological, physical, and social sciences. It provides students with

a foundation in traditional neoclassical economic thought, but places that foundation within an interdisciplinary framework that embraces the linkages among economic growth, environmental degradation, and social inequity. In doing so, it presents a revolutionary way of viewing the world. The second edition of Ecological Economics provides a clear, readable, and easy-to-understand overview of a field of study that continues to grow in importance. It remains the only stand-alone textbook that offers a complete explanation of theory and practice in the discipline. Advanced Remote Sensing is an

application-based reference that provides a single source of mathematical concepts necessary for remote sensing data gathering and assimilation. It presents state-of-the-art techniques for estimating land surface variables from a variety of data types, including optical sensors such as RADAR and LIDAR. Scientists in a number of different fields including geography, geology, atmospheric science, environmental science, planetary science and ecology will have access to critically-important data extraction techniques and their virtually unlimited applications. While rigorous enough for the

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most experienced of scientists, the techniques are well designed and integrated, making the book's content intuitive, clearly presented, and practical in its implementation. Comprehensive overview of various practical methods and algorithms Detailed description of the principles and procedures of the state-of-the-art algorithms Real-world case studies open several chapters More than 500 full-color figures and tables Edited by top remote sensing experts with contributions from authors across the geosciences

"This volume provides a series of essays on open questions in

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ecology with the overarching goal being to outline to the most important, most interesting or most fundamental problems in ecology that need to be addressed. The contributions span ecological subfields, from behavioral ecology and population ecology to disease ecology and conservation and range in tone from the technical to more personal meditations on the state of the field. Many of the chapters start or end in moments of genuine curiosity, like one which takes up the question of why the world is green or another which asks what might come of a thought experiment in which we "turn-off" evolution entirely"--

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This is a comprehensive textbook for A-level students and first-year undergraduates taking courses in biology, geography and Earth sciences.

**Evolution, Application,
Integration**

Applications with R

Wetland Ecology

Concepts and Environmental

Applications of Limnology

Ecology

**Spatial Ecology and Conservation
Modeling**

Fully revised and updated to include new topical study areas, the second edition of the successful text the Ecology of Insects provides a balanced

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treatment of the theory and practice of pure and applied insect ecology. Includes new topical areas of insect ecology and provides greater coverage of physiological, genetic, molecular, and ecosystem aspects of insect ecology. Concepts include the foundations of evolutionary ecology and population dynamics in ecosystem science as they are applied to topics such as climate change, conservation and biodiversity, epidemiology and pest management. Fully updated and revised throughout, this new edition refers to primary literature and real world

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examples. To access the artwork from the book, please visit: <http://www.blackwellpublishing.com/speightinsects>.

From Empty-World Economics to Full-World Economics Ecological economics explores new ways of thinking about how we manage our lives and our planet to achieve a sustainable, equitable, and prosperous future.

Ecological economics extends and integrates the study and management of both "nature's household" and "humankind's household"—An Introduction to Ecological Economics, Second Edition, the first update and expansion of this classic text in 15 years, describes new

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approaches to achieving a sustainable and desirable human presence on Earth. Written by the top experts in the field, it addresses the necessity for an innovative approach to integrated environmental, social, and economic analysis and management, and describes policies aimed at achieving our shared goals. Demands a Departure from Business as Usual The book begins with a description of prevailing interdependent environmental, economic, and social issues and their underlying causes, and offers guidance on designing policies and instruments capable of adequately coping with these

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problems. It documents the historical development of the disciplines of economics and ecology, and explores how they have evolved so differently from a shared conceptual base. Structured into four sections, it also presents various ideas and models in their proper chronological context, details the fundamental principles of ecological economics, and outlines prospects for the future. What's New in the Second Edition: Includes several new pieces and updates in each section Adds a series of independently authored "boxes" to expand and update information in the current text

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Addresses the historical development of economics and ecology and the recent progress in integrating the study of humans and the rest of nature
Covers the basic concepts and applications of ecological economics in language accessible to a broad audience
An Introduction to Ecological Economics, Second Edition can be used in an introductory undergraduate or graduate course; requires no prior knowledge of mathematics, economics, or ecology; provides a unified understanding of natural and human-dominated ecosystems; and reintegrates the market economy within society

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and the rest of nature.

This introductory general ecology text features a strong emphasis on helping students grasp the main concepts of ecology while keeping the presentation more applied than theoretical. An evolutionary perspective forms the foundation of the entire discussion. The book begins with the natural history of the planet, considers portions of the whole in the middle chapters, and ends with another perspective of the entire planet in the concluding chapter. Its unique organization of focusing only on several key concepts in each chapter sets it apart from the competition. .

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A synthesis of concepts and examples of how physiological processes influence seaweed communities worldwide, authored by experts in the field.

Wildlife Habitat Management

Wildlife-Habitat Relationships

Learning Landscape Ecology

Occupancy Estimation and

Modeling

From Individuals to Ecosystems

Ecology of Insects

Ecology: Evolution,

Application, Integration,

Second Edition, takes a

unique evolutionary approach

to ecology, focusing on the

concepts of the discipline

and the human impact on

ecosystems. Helping students

develop their scientific

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reasoning skills, this text teaches them not only what we know about the field, but how we know it.

Ecology: Concepts and Applications, 8th edition by Molles and Sher places great emphasis on helping students grasp the main concepts of ecology while keeping the presentation more applied than theoretical. An evolutionary perspective forms the foundation of the entire discussion. The book begins with the natural history of the planet, considers portions of the whole in the middle chapters, and ends with another perspective of the entire planet in the

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concluding chapter. Its unique organization of focusing only on several key concepts in each chapter sets it apart from other ecology texts. Users who purchase Connect receive access to the full online ebook version of the textbook.

A definitive guide to the depth and breadth of the ecological sciences, revised and updated The revised and updated fifth edition of Ecology: From Individuals to Ecosystems – now in full colour – offers students and practitioners a review of the ecological sciences. The previous editions of this book earned the authors the

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prestigious 'Exceptional Life-time Achievement Award' of the British Ecological Society – the aim for the fifth edition is not only to maintain standards but indeed to enhance its coverage of Ecology. In the first edition, 34 years ago, it seemed acceptable for ecologists to hold a comfortable, objective, not to say aloof position, from which the ecological communities around us were simply material for which we sought a scientific understanding. Now, we must accept the immediacy of the many environmental problems that threaten us and the responsibility of ecologists

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to play their full part in addressing these problems. This fifth edition addresses this challenge, with several chapters devoted entirely to applied topics, and examples of how ecological principles have been applied to problems facing us highlighted throughout the remaining nineteen chapters. Nonetheless, the authors remain wedded to the belief that environmental action can only ever be as sound as the ecological principles on which it is based. Hence, while trying harder than ever to help improve preparedness for addressing the environmental problems of the years ahead, the book

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remains, in its essence, an exposition of the science of ecology. This new edition incorporates the results from more than a thousand recent studies into a fully up-to-date text. Written for students of ecology, researchers and practitioners, the fifth edition of Ecology: From Individuals to Ecosystems is an essential reference to all aspects of ecology and addresses environmental problems of the future. In recent years, conflicts between ecological conservation and economic growth forced a reassessment of the motivations and goals of wildlife and forestry

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management. Focus shifted from game and commodity management to biodiversity conservation and ecological forestry. Previously separate fields such as forestry, biology, botany, and zoology merged into a common framework known as conservation biology and resource professionals began to approach natural resource problems in an interdisciplinary light.

Wildlife Habitat Management: Concepts and Applications in Forestry presents an integrated reference combining silvicultural and forest planning principles with principles of habitat ecology and conservation

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biology. With extensive references and case studies drawn from real situations, this book begins with general concepts such as habitat selection, forest composition, influences on habitat patterns, and the dynamics of disturbance ecology. It considers management approaches for specific habitats including even-aged and uneven-aged systems, riparian areas, and dead wood and highlights those approaches that will conserve and manage biodiversity. The author discusses assessment and prioritization policies, monitoring techniques, and ethical and legal issues

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that can have worldwide impact. Detailed appendices provide a glossary, scientific names, and tools for measuring and interpreting habitat elements. Writing in a species-specific manner, the author emphasizes the need to consider the potential effects of management decisions on biodiversity conservation and maintains a holistic approach throughout the book. Drawing from the author's more than 30 years working and teaching in natural resources conservation, *Wildlife Habitat Management: Concepts and Applications in Forestry* provides a synopsis of

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current preservation techniques and establishes a common body of knowledge from which to approach the conservation of biodiversity in the future.

Concepts and Green Applications

The New Frontier

The Ecology of Lakes and Streams

Ecology: Concepts and Applications

Foundations of Restoration Ecology

Restoration Ecology

Molecular Ecology provides a comprehensive introduction to the many diverse aspects of this subject. The book unites theory with examples from a wide range of taxa in a logical

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and progressive manner, and its accessible writing style makes subjects such as population genetics and phylogenetics highly comprehensible to its readers. The first part of the book introduces the essential underpinnings of molecular ecology, starting with a review of genetics and a discussion of the molecular markers that are most frequently used in ecological research. This leads into an overview of population genetics in ecology. The second half of the book then moves on to specific applications of molecular ecology, covering phylogeography, behavioural ecology and conservation genetics. The final chapter looks at molecular ecology in a wider context by using a number of case studies that are relevant to

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various economic and social concerns, including wildlife forensics, agriculture, and overfishing * comprehensive overview of the different aspects of molecular ecology * attention to both theoretical and applied concerns * accessible writing style and logical structure * numerous up-to-date examples and references This will be an invaluable reference for those studying molecular ecology, population genetics, evolutionary biology, conservation genetics and behavioural ecology, as well as researchers working in these fields. In the course of evolution, a great variety of root systems have learned to overcome the many physical, biochemical and biological problems brought about by soil. This

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development has made them a fascinating object of scientific study. This volume gives an overview of how roots have adapted to the soil environment and which roles they play in the soil ecosystem. The text describes the form and function of roots, their temporal and spatial distribution, and their turnover rate in various ecosystems. Subsequently, a physiological background is provided for basic functions, such as carbon acquisition, water and solute movement, and for their responses to three major abiotic stresses, i.e. hard soil structure, drought and flooding. The volume concludes with the interactions of roots with other organisms of the complex soil ecosystem, including symbiosis,

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competition, and the function of roots as a food source.

This book provides an introduction to the diversity of aquatic environments and moves away from the traditional split between marine and freshwater systems, emphasising their common features and ecological similarities.

Fred Van Dyke's new textbook, *Conservation Biology: Foundations, Concepts, Applications, 2nd Edition*, represents a major new text for anyone interested in conservation.

Drawing on his vast experience, Van Dyke's organizational clarity and readable style make this book an invaluable resource for students in conservation around the globe.

Presenting key information and well-selected examples, this student-

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friendly volume carefully integrates the science of conservation biology with its implications for ethics, law, policy and economics.

Structure and function of running waters

Theoretical Ecology

Biology 2e

Freshwater Ecology

Marine Microbiology

Advanced Remote Sensing

This text provides a synthesis of the existing field of wetland ecology using a few central themes, including key environmental factors that produce wetland

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community types and some unifying problems such as assembly rules, restoration and conservation.

This book introduces an interdisciplinary framework to understand the interaction between terrestrial ecosystems and climate change. It reviews basic meteorological, hydrological and ecological concepts to examine the physical, chemical and biological processes by which terrestrial ecosystems

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affect and are affected by climate. The textbook is written for advanced undergraduate and graduate students studying ecology, environmental science, atmospheric science and geography. The central argument is that terrestrial ecosystems become important determinants of climate through their cycling of energy, water, chemical elements and trace gases. This coupling between climate and vegetation is explored

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at spatial scales from plant cells to global vegetation geography and at timescales of near instantaneous to millennia. The text also considers how human alterations to land become important for climate change. This restructured edition, with updated science and references, chapter summaries and review questions, and over 400 illustrations, including many in colour, serves as an essential student guide.

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Silviculture: Concepts and Applications reflects a belief that all the tools of silviculture have a useful role in modern forestry. Through careful analysis and creative planning, foresters can address a wide array of commodity and nonmarket interests and opportunities while maintaining dynamic and resilient forests. A landowner's needs, circumstances, and site conditions guide a silviculturist's

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judgment and decision making in finding the best ways to integrate the biologic-ecologic, economic-financial, and managerial-administrative requirements at hand. The Third Edition of this influential text provides a foundational basis for rigorous discussion of techniques. The inclusion of numerous real-world examples and balanced coverage of past and current practices broadens the

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concept of silviculture and the ways that managers can use it to address both traditional and emerging interests in forests. A thorough discussion of new and proven interpretations increasingly directs the attention of foresters toward the role silviculture plays in creating, maintaining, rehabilitating, and restoring forests that can sustain an expanding variety of ecosystem services.

Ecology: Concepts and

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Applications by Molles places great emphasis on helping students grasp the main concepts of ecology while keeping the presentation more applied than theoretical. An evolutionary perspective forms the foundation of the entire discussion. The book begins with the natural history of the planet, considers portions of the whole in the middle chapters, and ends with another perspective of the entire planet in the

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concluding chapter. Its unique organization of focusing only on several key concepts in each chapter sets it apart from other ecology texts. Users who purchase Connect Plus receive access to the full online ebook version of the textbook.

An Introduction to
Ecological Economics,
Second Edition
Principles and
Conservation
Ecology & Applications
Energy, Environment and
Sustainable Development

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Concepts and
Applications, Third
Edition

Introduction to
Restoration Ecology

The third edition of this bestselling text has been rigorously updated to reflect major new discoveries and concepts since 2011, especially progress due to extensive application of high-throughput sequencing, single cell genomics and analysis of large datasets. Significant advances in understanding the diversity and evolution of bacteria, archaea, fungi, protists, and

viruses are discussed and their importance in marine processes is explored in detail. Now in full colour throughout, all chapters have been significantly expanded, with many new diagrams, illustrations and boxes to aid students' interest and understanding. Novel pedagogy is designed to encourage students to explore current high-profile research topics. Examples include the impacts of rising CO₂ levels on microbial community structure and ocean processes, interactions of microbes

with plastic pollution, symbiotic interactions, and emerging diseases of marine life. This is the only textbook addressing such a broad range of topics in the specific area of marine microbiology, now a core topic within broader Marine Science degrees. A Companion Website provides additional online resources for instructors and students, including a summary of key concepts and terminology for each chapter, links to further resources, and flashcards to aid self-assessment.

Filled with numerous exercises this practical guide provides a real hands-on approach to learning the essential concepts and techniques of landscape ecology. The knowledge gained enables students to usefully address landscape-level ecological and management issues. A variety of approaches are presented, including: group discussion, thought problems, written exercises, and modelling. Each exercise is categorised as to whether it is for individual, small group, or whole class study.

Concepts of Biology is designed for the single-semester introduction to biology course for non-science majors, which for many students is their only college-level science course. As such, this course represents an important opportunity for students to develop the necessary knowledge, tools, and skills to make informed decisions as they continue with their lives. Rather than being mired down with facts and vocabulary, the typical non-science major student needs information presented in a

way that is easy to read and understand. Even more importantly, the content should be meaningful. Students do much better when they understand why biology is relevant to their everyday lives. For these reasons, Concepts of Biology is grounded on an evolutionary basis and includes exciting features that highlight careers in the biological sciences and everyday applications of the concepts at hand. We also strive to show the interconnectedness of topics within this extremely broad

discipline. In order to meet the needs of today's instructors and students, we maintain the overall organization and coverage found in most syllabi for this course. A strength of Concepts of Biology is that instructors can customize the book, adapting it to the approach that works best in their classroom. Concepts of Biology also includes an innovative art program that incorporates critical thinking and clicker questions to help students understand--and apply--key concepts.

Running waters are enormously diverse, ranging from torrential mountain brooks, to large lowland rivers, to great river systems whose basins occupy subcontinents. While this diversity makes river ecosystems seem overwhelmingly complex, a central theme of this volume is that the processes acting in running waters are general, although the settings are often unique. The past two decades have seen major advances in our knowledge of the ecology of streams and rivers. New

paradigms have emerged, such as the river continuum and nutrient spiraling. Community ecologists have made impressive advances in documenting the occurrence of species interactions. The importance of physical processes in rivers has attracted increased attention, particularly the areas of hydrology and geomorphology, and the inter-relationships between physical and biological factors have become better understood. And as is true for every area of ecology during the closing years of

the twentieth century it has become apparent that the study of streams and rivers cannot be carried out by excluding the role of human activities, nor can we ignore the urgency of the need for conservation. These developments are brought together in Stream Ecology: Structure and function of running waters, designed to serve as a text for advanced undergraduate and graduate students, and as a reference book for specialists in stream ecology and related fields.

Stream Ecology

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***Concepts and Applications in
Forestry***

Concepts of Biology

Conservation Biology

Molecular Ecology

Loose Leaf for Ecology:

Concepts and Applications

***This book provides a
foundation for modern applied
ecology. Much of current
ecology research and
conservation addresses
problems across landscapes
and regions, focusing on
spatial patterns and
processes. This book is aimed
at teaching fundamental
concepts and focuses on
learning-by-doing through the***

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use of examples with the software R. It is intended to provide an entry-level, easily accessible foundation for students and practitioners interested in spatial ecology and conservation.

Written for upper-division undergraduates and first-year graduate students, this new textbook offers a real-life introduction to the field of restoration ecology and an interdisciplinary overview of the theory behind it. The text is organized around a restoration process that has been tested and revised by the authors in their restoration

ecology courses taught at the University of Wisconsin-Madison over the past thirty years. Success in ecological restoration requires not only technical proficiency but also skill in the social, cultural, and political arenas. Introduction to Restoration Ecology can help students develop the skills they need to succeed in all of these areas and is a much-needed new resource. This concise, readable introduction to limnology (the science of investigating the structure and function of inland waters), places the subject in the context of

modern ecology. Unlike most ecological textbooks, which use examples taken almost exclusively from terrestrial systems, this book integrates the fields of limnology and ecology by presenting empirical data drawn entirely from freshwater ecosystems in order to advance ecological theories (limnoecology). This second edition builds upon the strengths of the first with the structure of the book following the same hierarchical concept of ecology, from habitat properties, individuals, populations, coupled populations and communities

to ecosystems. However, it has been thoroughly revised throughout to incorporate findings from new technologies and methods (notably the rapid development of molecular genetic methods and stable isotope techniques) that have allowed a rapid and ongoing development of the field. There is a new emphasis on food webs, species diversity and ecosystem functioning, climate change, and conservation management. Key ecological questions are examined in the light of the latest experimental evidence.

Throughout the text evolutionary theory is applied to an understanding of freshwater ecosystems, thereby filling a niche between traditional limnology and evolutionary ecology. This accessible text is suitable for both undergraduate and graduate students taking courses in limnology, freshwater ecology, and aquatic biology as well as the many professional limnologists, ecologists and conservation biologists requiring a concise but authoritative overview of the topic

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***"Society for Ecological
Restoration"--Cover.***

***Unsolved Problems in Ecology
Silviculture***

***Ecological Economics,
Second Edition***

***Ecology of Aquatic Systems
Root Ecology***