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History of Landscape Ecology in the United States - Gary W. Barrett 2015-06-23

This book describes the emergence of landscape ecology, its current status as a new integrative science, and how distinguished scholars in the field of landscape ecology view the future regarding new challenges and career opportunities. Over the past thirty years, landscape ecology has utilized development in technology and methodology (e.g., satellites, GIS, and systems technologists) to monitor large temporal-spatial scale events and phenomena. These events include changes in vegetative cover and composition due to both natural disturbance and human cause—changes that have academic, economic, political, and social manifestations. There is little doubt, due to the temporal-spatial scale of this integrative science, that scholars in fields of study ranging from anthropology to urban ecology will desire to compare their fields with landscape ecology during this intellectually and technologically fertile time. *History of Landscape Ecology in the United States* brings to light the vital role that landscape ecologists will play in the future as the human population continues to increase and fragment the natural environment. Landscape ecology is known as a synthesized intersection of disciplines; but new theories, concepts, and principles have emerged that form the foundation of a new transdiscipline.

Land Mosaics - Richard T. Forman 1995-11-09

An analysis and synthesis of the ecology of heterogeneous land areas.

Key Topics in Landscape Ecology - Jianguo Wu 2007-03-29

Landscape ecology is a relatively new area of study, which aims to understand the pattern of interaction of biological and cultural communities within a landscape. This book brings together leading figures from the field to provide an up-to-date survey of recent advances, identify key research problems and suggest a future direction for development and expansion of knowledge. Providing in-depth reviews of the principles and methods for understanding landscape patterns and changes, the book illustrates concepts with examples of innovative applications from different parts of the world. Forming a current 'state-of-the-science' for the science of landscape ecology, this book forms an essential reference for graduate students, academics, professionals and practitioners in ecology, environmental science, natural resource management, and landscape planning and design.

The Essential Urban Farmer - Novella Carpenter 2012-01-10

The "how-to" guide for a new generation of farmers from the author of *Farm City* and a leading urban garden educator. In this indispensable guide, *Farm City* author Novella Carpenter and Willow Rosenthal share their experience as successful urban farmers and provide practical blueprints—complete with rich visual material—for novice and experienced growers looking to bring the principles of ethical food to the city streets. *The Essential Urban Farmer* guides readers from day one to market day, advising on how to find the perfect site, design a landscape, and cultivate crops. For anyone who has ever grown herbs on windowsills, or tomatoes on fire escapes, this is an invaluable volume with the potential to change our menus, our health, and our cities forever.

Applying Landscape Ecology in Biological Conservation - Kevin Gutzwiller 2011-06-27

This book provides a current synthesis of principles and applications in landscape ecology and conservation biology. Bringing together insights from leaders in landscape ecology and conservation biology, it explains how principles of landscape ecology can help us understand, manage and maintain biodiversity. Gutzwiller also identifies gaps in current knowledge and provides research approaches to fill those voids.

Landscape Ecology in Theory and Practice - Monica G. Turner 2007-05-08

An ideal text for students taking a course in landscape ecology. The book has been written by very well-known practitioners and pioneers in the new field of ecological analysis. Landscape ecology has emerged during

the past two decades as a new and exciting level of ecological study.

Environmental problems such as global climate change, land use change, habitat fragmentation and loss of biodiversity have required ecologists to expand their traditional spatial and temporal scales and the widespread availability of remote imagery, geographic information systems, and desk top computing has permitted the development of spatially explicit analyses. In this new text book this new field of landscape ecology is given the first fully integrated treatment suitable for the student.

Throughout, the theoretical developments, modeling approaches and results, and empirical data are merged together, so as not to introduce barriers to the synthesis of the various approaches that constitute an effective ecological synthesis. The book also emphasizes selected topic areas in which landscape ecology has made the most contributions to our understanding of ecological processes, as well as identifying areas where its contributions have been limited. Each chapter features questions for discussion as well as recommended reading.

Ecology of Cities and Towns - Mark J. McDonnell 2009-06-25

Assesses the current status, and future challenges and opportunities, of the ecological study, design and management of cities and towns.

Landscape Ecological Analysis - Jeffrey M. Klopatek 2012-12-06

Growth in the field of landscape ecology has included the development of methods and results that can be applied to an impressive range of environmental issues. This book addresses a broad spectrum of political, theoretical and applied aspects that often arise in the design and execution of landscape studies. The concepts of geographical scale and hierarchy arising within the confines of landscape ecology are examined, and a series of techniques are presented to address problems in spatial and temporal analysis. This book will provide the reader with a current perspective on this rapidly evolving science.

Ecological Urbanism - Mohsen Mostafavi 2010-04-15

With the aim of projecting alternative and sustainable forms of urbanism, the book asks: What are the key principles of an ecological urbanism? How might they be organized? And what role might design and planning play in the process? While climate change, sustainable architecture, and green technologies have become increasingly topical, issues surrounding the sustainability of the city are much less developed. The premise of the book is that an ecological approach is urgently needed both as a remedial device for the contemporary city and an organizing principle for new cities. Ecological urbanism approaches the city without any one set of instruments and with a worldview that is fluid in scale and disciplinary approach. Design provides the synthetic key to connect ecology with an urbanism that is not in contradiction with its environment. The book brings together design practitioners and theorists, economists, engineers, artists, policy makers, environmental scientists, and public health specialists, with the goal of reaching a more robust understanding of ecological urbanism and what it might be in the future. Contributors include: Homi Bhabha, Stefano Boeri, Chuck Hoberman, Rem Koolhaas, Sanford Kwinter, Bruno Latour, Nina-Marie Lister, Moshen Mostafavi, Matthias Schuler, Sissel Tolaas, Charles Waldheim

Integrating Landscape Ecology Into Natural Resource Management - Daniel Moshe Kaplan 2002-08

The rapidly increasing global population has dramatically increased the demands for natural resources and has caused significant changes in quantity and quality of natural resources. To achieve sustainable resource management, it is essential to obtain insightful guidance from emerging disciplines such as landscape ecology. This text addresses the links between landscape ecology and natural resource management. These links are discussed in the context of various landscape types, a diverse set of resources and a wide range of management issues. A large number of landscape ecology concepts, principles and methods are introduced. Critical reviews of past management practices and a number of case studies are presented. This text provides many guidelines for managing

natural resources from a landscape perspective and offers useful suggestions for landscape ecologists to carry out research relevant to natural resource management. In addition, it will be an ideal supplemental text for graduate and advanced undergraduate ecology courses.

Road Ecology - Richard T.T. Forman 2003

Road Ecology links ecological theories and concepts with transportation planning, engineering, and travel behavior. With more than 100 illustrations and examples from around the world, it is an indispensable and pioneering work for anyone involved with transportation.

Ecology of Fragmented Landscapes - Sharon K. Collinge 2009-06

Ask airline passengers what they see as they gaze out the window, and they will describe a fragmented landscape: a patchwork of desert, woodlands, farmlands, and developed neighborhoods. Once-contiguous forests are now subdivided; tallgrass prairies that extended for thousands of miles are now crisscrossed by highways and byways. Whether the result of naturally occurring environmental changes or the product of seemingly unchecked human development, fractured lands significantly impact the planet's biological diversity. In *Ecology of Fragmented Landscapes*, Sharon K. Collinge defines fragmentation, explains its various causes, and suggests ways that we can put our lands back together. Researchers have been studying the ecological effects of dismantling nature for decades. In this book, Collinge evaluates this body of research, expertly synthesizing all that is known about the ecology of fragmented landscapes. Expanding on the traditional coverage of this topic, Collinge also discusses disease ecology, restoration, conservation, and planning. Not since Richard T. T. Forman's classic *Land Mosaics* has there been a more comprehensive examination of landscape fragmentation. *Ecology of Fragmented Landscapes* is critical reading for ecologists, conservation biologists, and students alike.

Habitat Fragmentation and Landscape Change - David B.

Lindenmayer 2013-02-22

Habitat loss and degradation that comes as a result of human activity is the single biggest threat to biodiversity in the world today. *Habitat Fragmentation and Landscape Change* is a groundbreaking work that brings together a wealth of information from a wide range of sources to define the ecological problems caused by landscape change and to highlight the relationships among landscape change, habitat fragmentation, and biodiversity conservation. The book: synthesizes a large body of information from the scientific literature considers key theoretical principles for examining and predicting effects examines the range of effects that can arise explores ways of mitigating impacts reviews approaches to studying the problem discusses knowledge gaps and future areas for research and management *Habitat Fragmentation and Landscape Change* offers a unique mix of theoretical and practical information, outlining general principles and approaches and illustrating those principles with case studies from around the world. It represents a definitive overview and synthesis on the full range of topics that fall under the widely used but often vaguely defined term "habitat fragmentation."

Urban Ecology - Ian Douglas 2014-10-30

Urban Ecology: An Introduction seeks to open the reader's mind and eyes to the way in which nature permeates everyday urban living, and how it has to be understood, cared for, and managed in order to make our towns and cities healthier places to visit and in which to live and work. The authors examine how nature can improve our physical and mental health, the air we breathe and the waters we use, as well as boosting our enjoyment of parks and gardens. *Urban Ecology* sets out the science that underlies the changing natural scene and the tools used to ensure that cities become both capable of adapting to climate change and more beautiful and resilient. The book begins with a discussion of the nature of urban places and the role of nature in towns and cities. Part 1 looks at the context and content of urban ecology, its relationship to other foci of interest within ecology and other environmental sciences, and the character of city landscapes and ecosystems. In Part 2 the authors set out the physical and chemical components of urban ecosystems and ecological processes, including urban weather and climate, urban geomorphology and soils, urban hydrology and urban biogeochemical cycles. In Part 3 urban habitats, urban flora and fauna, and the effects of, deliberate and inadvertent human action on urban biota are examined. Part 4 contains an exploration of the identification and assessment of ecosystem services in urban areas, emphasising economic evaluation, the importance of urban nature for human health and well-being, and restoration ecology and creative conservation. Finally, in Part 5 the tasks for urban ecologists in optimising and sustaining urban ecosystems, providing for nature in cities, adapting to climate change and in developing the urban future in a more sustainable manner are set out.

Within the 16 chapters of the book – in which examples from around the world are drawn upon – the authors explore current practice and future alternatives, set out procedures for ecological assessment and evaluation, suggest student activities and discussion topics, provide recommended reading and an extensive bibliography. The book contains more than 150 tables and over 150 photographs and diagrams.

Landscape Ecology: A Widening Foundation - Vittorio Ingegnoli 2013-04-17

The urgent need for a sustainable environment has resulted in the increased recognition of the field of landscape ecology amongst policy makers working in the area of nature conservation, restoration and territorial planning. Nonetheless, the question of what is precisely meant by the term landscape ecology is still unresolved. No doubt, a proper foundation of the discipline must first be cemented. This book develops such a foundation. In doing so it provides all the diverse applications of the discipline with a solid framework and proposes an effective diagnostic methodology to investigate the ecological state and the pathologies of the landscape.

Landscape Boundaries - Andrew J. Hansen 2012-12-06

The emergence of landscape ecology during the 1980s represents an important maturation of ecological theory. Once enamored with the conceptual beauty of well-balanced, homogeneous ecosystems, ecologists now assert that much of the essence of ecological systems lies in their lumpiness. Patches with differing properties and behaviors lie strewn across the landscape, products of the complex interactions of climate, disturbance, and biotic processes. It is the collective behavior of this patchwork of ecosystems that drives pattern and process of the landscape. This realization of the importance of patch dynamics in itself, however, is not an end point. Rather, it is a passage to a new conceptual framework, the internal workings of which remain obscure. The next tier of questions includes: What are the fundamental pieces that compose a landscape? How are these pieces bounded? To what extent do these boundaries influence communication and interaction among patches of the landscape? Will consideration of the interactions among landscape elements help us to understand the workings of landscapes? At the core of these questions lies the notion of the ecotone, a term with a lineage that even predates ecosystem. Late in the nineteenth century, F. E. Clements realized that the transition zones between plant communities had properties distinct from either of the adjacent communities. Not until the emergence of patch dynamics theory, however, has the central significance of the ecotone concept become apparent.

Science for the Sustainable City - Steward T. A. Pickett 2019-10-22

A presentation of key findings and insights from over two decades of research, education, and community engagement in the acclaimed Baltimore Ecosystem Study. In a world of more than seven billion people—who mostly reside in cities and towns—the Baltimore Ecosystem Study is recognized as a pioneer in modern urban social-ecological science. After two decades of research, education, and community engagement, there are insights to share, generalizations to examine, and research needs to highlight. This timely volume synthesizes the key findings, melds the perspectives of different disciplines, and celebrates the benefits of interacting with diverse communities and institutions in improving Baltimore's ecology. These widely applicable insights from Baltimore contribute to our understanding the ecology of other cities, provide a comparison for the global process of urbanization, and inform establishment of urban ecological research elsewhere. Comprehensive, interdisciplinary, and highly original, it gives voice to the wide array of specialists who have contributed to this living urban laboratory.

Learning Landscape Ecology - Sarah E. Gergel 2006-04-18

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.

Principles of Ecological Landscape Design - Travis Beck 2013-02

Today, there is a growing demand for designed landscapes—from public parks to backyards—to be not only beautiful and functional, but also sustainable. Sustainability means more than just saving energy and resources. It requires integrating the landscapes we design with ecological systems. With *Principles of Ecological Landscape Design*, Travis Beck gives professionals and students the first book to translate the science of ecology into design practice. This groundbreaking work explains key ecological concepts and their application to the design and

management of sustainable landscapes. It covers biogeography and plant selection, assembling plant communities, competition and coexistence, designing ecosystems, materials cycling and soil ecology, plant-animal interactions, biodiversity and stability, disturbance and succession, landscape ecology, and global change. Beck draws on real world cases where professionals have put ecological principles to use in the built landscape. The demand for this information is rising as professional associations like the American Society of Landscape Architects adopt new sustainability guidelines (SITES). But the need goes beyond certifications and rules. For constructed landscapes to perform as we need them to, we must get their underlying ecology right. Principles of Ecological Landscape Design provides the tools to do just that.

Ecology of Urban Environments - Kirsten M. Parris 2016-03-02

Provides an accessible introduction to urban ecology, using established ecological theory to identify generalities in the complexity of urban environments. Examines the bio-physical processes of urbanization and how these influence the dynamics of urban populations, communities and ecosystems. Explores the ecology of humans in cities. Discusses practical strategies for conserving biodiversity and maintaining ecosystem services in urban environments. Includes case studies with questions to improve retention and understanding.

Towns, Ecology, and the Land - Richard T. T. Forman 2019-02-07

A pioneering book highlighting the dynamic environmental dimensions of towns and villages and spatial connections with surrounding land.

Changing Senses of Place - Christopher M. Raymond 2021-08-05

Global challenges ranging from climate change and ecological regime shifts to refugee crises and post-national territorial claims are rapidly moving ecosystem thresholds and altering the social fabric of societies worldwide. This book addresses the vital question of how to navigate the contested forces of stability and change in a world shaped by multiple interconnected global challenges. It proposes that senses of place is a vital concept for supporting individual and social processes for navigating these contested forces and encourages scholars to rethink how to theorise and conceptualise changes in senses of place in the face of global challenges. It also makes the case that our concepts of sense of place need to be revisited, given that our experiences of place are changing. This book is essential reading for those seeking a new understanding of the multiple and shifting experiences of place.

The Baltimore School of Urban Ecology - J. Morgan Grove 2015-01-01

The first "urban century" in history has arrived: a majority of the world's population now resides in cities and their surrounding suburbs. Urban expansion marches on, and the planning and design of future cities requires attention to such diverse issues as human migration, public health, economic restructuring, water supply, climate and sea-level change, and much more. This important book draws on two decades of pioneering social and ecological studies in Baltimore to propose a new way to think about cities and their social, political, and ecological complexity. Readers will gain fresh perspectives on how to study, build, and manage cities in innovative and sustainable ways.

Landscape Ecology - Richard T. T. Forman 1986-02-10

This important new work--the first of its kind--focuses on the distribution patterns of landscape elements or ecosystems; the flows of animals, plants, energy, mineral nutrients and water; and the ecological changes in the landscape over time. Includes over 1,200 references from current ecology, geography, forestry, and wildlife biology literature.

Urban Regions - Richard T. T. Forman 2008-06-12

With land planning, socioeconomics and natural systems as foundations, this book combines urban planning and ecological science in examining urban regions. Writing for graduate students, academic researchers, planners, conservationists and policy makers, and with the use of informative urban-region color maps, Richard Forman analyzes 38 urban regions from 32 nations, including London, Chicago, Ottawa, Brasilia, Cairo, Seoul, Bangkok, Canberra, and a major case study of the Greater Barcelona region. Alternative patterns of urbanization spread (including sprawl) are evaluated from the perspective of nature and people, stating land-use principles extracted from landscape ecology, transportation and hydrology. Good, bad and interesting spatial patterns for creating sustainable land mosaics are pinpointed, and urban regions are considered in broader contexts, from climate change to biodiversity loss, disasters and sense of place.

Landscape Ecology Principles in Landscape Architecture and Land-Use Planning - Wenche Dramstad 1996-09

This concise handbook lists and illustrates key principles in the field, presenting specific examples of how the principles can be applied in a range of scales and diverse types of landscapes around the world.

Chapters cover: patches - size, number, and location edges and boundaries corridors and connectivity mosaics summaries of case studies from around the world

Ecology and Design - Bart Johnson 2002

Ecology and Design: Frameworks for Learning explains why design professors (primarily in the landscape architecture field) should teach ecology as a standard part of their courses and provides examples from professors who already teach ecology and design in this way. More academics are beginning to understand the need to teach students about ecology in the design fields, but materials to facilitate that teaching are lacking. Some professors give up due to lack of support from academic institution, resistance from students, and/or lack of materials. Although academics are beginning to see the importance of this approach, there are few books available on this subject. In addition, the contributors are some of the most respected and well-recognized names in the field.

Redesigning the American Lawn - F. Herbert Bormann 2001-01-01

This new edition, which is being reissued in a more artistic format and with many additional illustrations, updates the original text and adds a chapter showing what progress has been made in the ecological management of landscapes over the past decade."--BOOK JACKET.

Conservation Biology for All - Navjot S. Sodhi 2010

Conservation Biology for All provides cutting-edge but basic conservation science to a global readership. A series of authoritative chapters have been written by the top names in conservation biology with the principal aim of disseminating cutting-edge conservation knowledge as widely as possible. Important topics such as balancing conservation and human needs, climate change, conservation planning, designing and analyzing conservation research, ecosystem services, endangered species management, extinctions, fire, habitat loss, and invasive species are covered. Numerous textboxes describing additional relevant material or case studies are also included. The global biodiversity crisis is now unstoppable; what can be saved in the developing world will require an educated constituency in both the developing and developed world. Habitat loss is particularly acute in developing countries, which is of special concern because it tends to be these locations where the greatest species diversity and richest centres of endemism are to be found. Sadly, developing world conservation scientists have found it difficult to access an authoritative textbook, which is particularly ironic since it is these countries where the potential benefits of knowledge application are greatest. There is now an urgent need to educate the next generation of scientists in developing countries, so that they are in a better position to protect their natural resources.

Urban Regions - Richard T. T. Forman 2008

A pioneering book bulging with promising land patterns for students, planners, conservationists and policy makers.

Cities That Think like Planets - Marina Alberti 2016-08-25

As human activity and environmental change come to be increasingly recognized as intertwined phenomena on a rapidly urbanizing planet, the field of urban ecology has risen to offer useful ways of thinking about coupled human and natural systems. On the forefront of this discipline is Marina Alberti, whose innovative work offers a conceptual framework for uncovering fundamental laws that govern the complexity and resilience of cities, which she sees as key to understanding and responding to planetary change and the evolution of Earth. Bridging the fields of urban planning and ecology, Alberti describes a science of cities that work on a planetary scale and that links unpredictable dynamics to the potential for innovation. It is a science that considers interactions - at all scales - between people and built environments and between cities and their larger environments. Cities That Think like Planets advances strategies for planning a future that may look very different from the present, as rapid urbanization could tip the Earth toward abrupt and nonlinear change. Alberti's analyses of the various hybrid ecosystems, such as self-organization, heterogeneity, modularity, multiple equilibria, feedback, and transformation, may help humans participate in guiding the Earth away from inadvertent collapse and toward a new era of planetary co-evolution and resilience.

Urban Ecosystems - Frederick R. Adler 2013-04-25

An accessible introduction to the unifying principles of ecology through the exploration of urban ecosystems.

Writing for an Endangered World - Lawrence BUELL 2009-06-30

The environmental imagination does not stop short at the edge of the woods. Nor should our understanding of it, as Lawrence Buell makes powerfully clear in his new book that aims to reshape the field of literature and environmental studies. Emphasizing the influence of the physical environment on individual and collective perception, his book

thus provides the theoretical underpinnings for an ecocriticism now reaching full power, and does so in remarkably clear and concrete ways. Writing for an Endangered World offers a conception of the physical environment--whether built or natural--as simultaneously found and constructed, and treats imaginative representations of it as acts of both discovery and invention. A number of the chapters develop this idea through parallel studies of figures identified with either "natural" or urban settings: John Muir and Jane Addams; Aldo Leopold and William Faulkner; Robinson Jeffers and Theodore Dreiser; Wendell Berry and Gwendolyn Brooks. Focusing on nineteenth- and twentieth-century writers, but ranging freely across national borders, his book reimagines city and country as a single complex landscape. Reviews of this book: Author of the widely influential *The Environmental Imagination*, Buell is a major figure in contemporary ecocriticism. Here, in broadening the scope of his earlier book, Buell blurs the usual distinction between natural and built environments. Exploring how a variety of texts imagine urban, rural, ocean, and desert places, he convincingly argues that literary imagination is powerfully shaped by--and shapes--a single, complex environment that is both found and constructed...Buell's book is important: it points ecocriticism in profoundly new and welcome directions. --W. Conlogue, *Choice*

Resilience in Ecology and Urban Design - S.T.A. Pickett 2013-01-13

The contributors to this volume propose strategies of urgent and vital importance that aim to make today's urban environments more resilient. Resilience, the ability of complex systems to adapt to changing conditions, is a key frontier in ecological research and is especially relevant in creative urban design, as urban areas exemplify complex systems. With something approaching half of the world's population now residing in coastal urban zones, many of which are vulnerable both to floods originating inland and rising sea levels, making urban areas more robust in the face of environmental threats must be a policy ambition of the highest priority. The complexity of urban areas results from their spatial heterogeneity, their intertwined material and energy fluxes, and the integration of social and natural processes. All of these features can be altered by intentional planning and design. The complex, integrated suite of urban structures and processes together affect the adaptive resilience of urban systems, but also presupposes that planners can intervene in positive ways. As examples accumulate of linkage between sustainability and building/landscape design, such as the Shanghai Chemical Industrial Park and Toronto's Lower Don River area, this book unites the ideas, data, and insights of ecologists and related scientists with those of urban designers. It aims to integrate a formerly atomized dialog to help both disciplines promote urban resilience.

Safe Passages - Jon P. Beckmann 2012-04-20

Safe Passages brings together in a single volume the latest information on the emerging science of road ecology as it relates to mitigating interactions between roads and wildlife. This practical handbook of tools and examples is designed to assist individuals and organizations thinking about or working toward reducing road-wildlife impacts. The book provides: an overview of the importance of habitat connectivity with regard to roads current planning approaches and technologies for mitigating the impacts of highways on both terrestrial and aquatic species different facets of public participation in highway-wildlife connectivity mitigation projects case studies from partnerships across North America that highlight successful on-the-ground implementation of ecological and engineering solutions recent innovative highway-wildlife mitigation developments Detailed case studies span a range of scales, from site-specific wildlife crossing structures, to statewide planning for habitat connectivity, to national legislation. Contributors explore the cooperative efforts that are emerging as a result of diverse organizations—including transportation agencies, land and wildlife management agencies, and nongovernmental organizations—finding common ground to tackle important road ecology issues and problems. *Safe Passages* is an important new resource for local-, state-, and national-level managers and policymakers working on road-wildlife issues, and will appeal to a broad audience including scientists, agency personnel, planners, land managers, transportation consultants, students, conservation organizations, policymakers, and citizens engaged in road-wildlife mitigation projects.

Handbook of Road Ecology - Rodney van der Ree 2015-06-15

Winner of the IENE Project Award 2016. This authoritative volume brings together some of the world's leading researchers, academics, practitioners and transportation agency personnel to present the current status of the ecological sustainability of the linear infrastructure – primarily road, rail and utility easements – that dissect and fragment landscapes globally. It outlines the potential impacts, demonstrates how

this infrastructure is being improved, and how broad ecological principles are applied to mitigate the impact of road networks on wildlife. Research and monitoring is an important aspect of road ecology, encompassing all phases of a transportation project. This book covers research and monitoring to span the entire project continuum – starting with planning and design, through construction and into maintenance and management. It focuses on impacts and solutions for species groups and specific regions, with particular emphasis on the unique challenges facing Asia, South America and Africa. Other key features: Contributions from authors originating from over 25 countries, including from all continents Each chapter summarizes important lessons, and includes lists of further reading and thoroughly up to date references Highlights principles that address key points relevant to all phases in all road projects Explains best-practices based on a number of successful international case studies Chapters are "stand-alone", but they also build upon and complement each other; extensive cross-referencing directs the reader to relevant material elsewhere in the book *Handbook of Road Ecology* offers a comprehensive summary of approximately 30 years of global efforts to quantify the impacts of roads and traffic and implement effective mitigation. As such, it is essential reading for those involved in the planning, design, assessment and construction of new roads; the management and maintenance of existing roads; and the modifying or retrofitting of existing roads and problem locations. This handbook is an accessible resource for both developed and developing countries, including government transportation agencies, Government environmental/conservation agencies, NGOs, and road funding and donor organisations.

Urban Ecology - Richard T. T. Forman 2014-02-13

The first richly illustrated worldwide portrayal of urban ecology, tying together organisms, built structures, and the physical environment around cities.

Urban Ecology - John Marzluff 2008-01-03

Urban Ecology is a rapidly growing field of academic and practical significance. Urban ecologists have published several conference proceedings and regularly contribute to the ecological, architectural, planning, and geography literature. However, important papers in the field that set the foundation for the discipline and illustrate modern approaches from a variety of perspectives and regions of the world have not been collected in a single, accessible book. *Foundations of Urban Ecology* does this by reprinting important European and American publications, filling gaps in the published literature with a few, targeted original works, and translating key works originally published in German. This edited volume will provide students and professionals with a rich background in all facets of urban ecology. The editors emphasize the drivers, patterns, processes and effects of human settlement. The papers they synthesize provide readers with a broad understanding of the local and global aspects of settlement through traditional natural and social science lenses. This interdisciplinary vision gives the reader a comprehensive view of the urban ecosystem by introducing drivers, patterns, processes and effects of human settlements and the relationships between humans and other animals, plants, ecosystem processes, and abiotic conditions. The reader learns how human institutions, health, and preferences influence, and are influenced by, the others members of their shared urban ecosystem.

Human Ecology - Frederick R. Steiner 2016-02-16

Humans have always been influenced by natural landscapes, and always will be—even as we create ever-larger cities and our developments fundamentally change the nature of the earth around us. In *Human Ecology*, noted city planner and landscape architect Frederick Steiner encourages us to consider how human cultures have been shaped by natural forces, and how we might use this understanding to contribute to a future where both nature and people thrive. Human ecology is the study of the interrelationships between humans and their environment, drawing on diverse fields from biology and geography to sociology, engineering, and architecture. Steiner admirably synthesizes these perspectives through the lens of landscape architecture, a discipline that requires its practitioners to consciously connect humans and their environments. After laying out eight principles for understanding human ecology, the book's chapters build from the smallest scale of connection—our homes—and expand to community scales, regions, nations, and, ultimately, examine global relationships between people and nature. In this age of climate change, a new approach to planning and design is required to envision a livable future. *Human Ecology* provides architects, landscape architects, urban designers, and planners—and students in those fields— with timeless principles for new, creative thinking about

how their work can shape a vibrant, resilient future for ourselves and our planet.

Principles and Methods in Landscape Ecology - Almo Farina

2008-01-22

Landscape ecology is an integrative and multi-disciplinary science and *Principles and Methods in Landscape Ecology* reconciles the geological, botanical, zoological and human perspectives. In particular, new paradigms and theories such as percolation, metapopulation, hierarchies, source-sink models have been integrated in this last edition with the recent theories on bio-complexity, information and cognitive sciences.

Methods for studying landscape ecology are covered including spatial geometry models and remote sensing in order to create confidence toward techniques and approaches that require a high experience and long-time dedication. *Principles and Methods in Landscape Ecology* is a textbook useful to present the landscape in a multi-vision perspective for undergraduate and graduate students of biology, ecology, geography, forestry, agronomy, landscape architecture and planning. Sociology, economics, history, archaeology, anthropology, ecological psychology are some sciences that can benefit of the holistic vision offered by this textbook.