

Biological Diversity And Conservation Reinforcement Study Guide

Only a green world, rich in plants, can sustain us and the millions of other species with which we share this planet. But, in an era of global change, nature is on the retreat. Like the communities they form, many plant species are becoming rarer, threatened even to the point of extinction. The worldwide community of almost three thousand botanic gardens are holders of the most diverse living collections of plants and have the unique potential to conserve plant diversity. Conservation biology is a fast moving and often controversial field, and, as the contributions within these pages from experts in the field demonstrate, plant conservation is multifaceted, mirroring the complexity of the biodiversity it aims to protect, and striving not just to protect threatened plants but to preserve ecosystem services and secure the integrity of the biosphere.

This volume is an important contribution to both theoretical and practical approaches to solving contradictions and conflicts between the approaches, principles, objectives and regulations of international environmental agreements. The issue of the coordination and streamlining of environmental agreements is of growing importance regarding the increasing number of international regulations on the one hand and the urgency for effective instruments in the light of continuing environmental degradation on the other. This study will become an essential reference for scholars as well as practitioners working in the field of international environmental law.

Results of regular monitoring of the species diversity and structure of plant communities is used by conservation biologists to help understand impacts of perturbations caused by humans and other environmental factors on ecosystems worldwide. Changes in plant communities can, for example, be a reflection of increased levels of pollution, a response to long-term climate change, or the result of shifts in land-use practices by the human population. This book presents a series of essays on the application of plant biodiversity monitoring and assessment to help prevent species extinction, ecosystem collapse, and solve problems in biodiversity conservation. It has been written by a large international team of researchers and uses case studies and examples from all over the world, and from a broad range of terrestrial and aquatic ecosystems. The book is aimed at any graduate students and researchers with a strong interest in plant biodiversity monitoring and assessment, plant community ecology, biodiversity conservation, and the environmental impacts of human activities on ecosystems.

The Urban Climate Change Research Network's Second Assessment Report on Climate Change in Cities (ARC3.2) is the second in a series of global, science-based reports to examine climate risk, adaptation, and mitigation efforts in cities. The book explicitly seeks to explore the implications of changing climatic conditions on critical urban physical and social infrastructure sectors and intersectoral concerns. The primary purpose of ARC3.2 is to inform the development and implementation of effective urban climate change policies, leveraging ongoing and planned investments for populations in cities of developing, emerging, and developed countries. This volume, like its predecessor, will be invaluable for a range of audiences involved with climate change and cities: mayors, city officials and policymakers; urban planners; policymakers charged with developing climate change mitigation and adaptation programs; and a broad spectrum of researchers and advanced students in the environmental sciences.

Cultural and Spiritual Values of Biodiversity

Ecoagriculture

High-level Pan-European Conference on Agriculture and Biodiversity

Biology and Conservation of the First Panda

Monitoring, Assessment and Conservation

Plant Biodiversity

Perspectives on Biodiversity

Evolutionary biology has long sought to explain how new traits and new species arise. Darwin maintained that competition is key to understanding this biodiversity and held that selection acting to minimize competition causes competitors to become increasingly different, thereby promoting new traits and new species. Despite Darwin's emphasis, competition's role in diversification remains controversial and largely underappreciated. In their synthetic and provocative book, evolutionary ecologists David and Karin Pfennig explore competition's role in generating and maintaining biodiversity. The authors discuss how selection can lessen resource competition or costly reproductive interactions by promoting trait evolution through a process known as character displacement. They further describe character displacement's underlying genetic and developmental mechanisms. The authors then consider character displacement's myriad downstream effects, ranging from shaping ecological communities to promoting new traits and new species and even fueling large-scale evolutionary trends. Drawing on numerous studies from natural populations, and written for a broad audience, *Evolution's Wedge* seeks to inspire future research into character displacement's many implications for ecology and evolution.

This publication sets wetlands in their scientific, economic and legal context, before describing the main legal issues involved in implementing the Ramsar Convention. Parts 3-6 take an increasingly broad focus, dealing respectively with site-specific and bioregional approaches to wetland management, generally-applicable techniques for managing damaging processes and activities and, lastly, regional and international frameworks for cooperation. The book complements the recent work of scientists and economists by describing how laws and institutions can work for (or against) wetland conservation and wise use. Each chapter makes the link between international legal obligations and national or local mechanisms for delivering implementation. Drawing on national practice around the world, the book illustrates how different legal approaches and techniques can be adapted to widely-varying national conditions and capabilities. Key components for legal and institutional frameworks suited to the challenge of wise use implementations are set out in the conclusion.

Why "the balance of nature"? Resilience. Temporal variability and the individual species. The effects of food-web structure. The variability of the environment. Nonlinear dynamics, strange attractors, and chaos. Extinctions. Species differences and community structure as explanations of why introductions fail. Patterns in species composition. Food-web structure and community persistence. Community assembly; or why are there so many kinds of communities? Small-scale experimental removals of species. Food webs and resistance. Changes in total density and species composition. The consequences of introductions and extinctions. Multispecies models and their limitations. Conclusions and caveats.

Today's scientists offer a variety of perspectives on such theoretical issues as people's preference for trees that are climbable, fears of snakes and spiders as opposed to a lack of fear of knives, guns, and cars, and other topics.

The Role of Habitat Restoration

Economics and Biological Diversity

Introduction to Conservation Genetics

The Status of Biodiversity in the United States

THE STATE OF THE WORLD'S FOREST GENETIC RESOURCES

Human Population

Valuing Its Role in an Everchanging World

The Princeton Guide to Ecology is a concise, authoritative one-volume reference to the field's major subjects and key concepts.

Edited by eminent ecologist Simon Levin, with contributions from an international team of leading ecologists, the book contains more than ninety clear, accurate, and up-to-date articles on the most important topics within seven major areas: autecology, population ecology, communities and ecosystems, landscapes and the biosphere, conservation biology, ecosystem services, and biosphere management. Complete with more than 200 illustrations (including sixteen pages in color), a glossary of key terms, a chronology of milestones in the field, suggestions for further reading on each topic, and an index, this is an essential volume

for undergraduate and graduate students, research ecologists, scientists in related fields, policymakers, and anyone else with a serious interest in ecology. Explains key topics in one concise and authoritative volume Features more than ninety articles

written by an international team of leading ecologists Contains more than 200 illustrations, including sixteen pages in color

Includes glossary, chronology, suggestions for further reading, and index Covers autecology, population ecology, communities and ecosystems, landscapes and the biosphere, conservation biology, ecosystem services, and biosphere management

This practical and bold book unifies multiple aspects of plant conservation into a single coherent concept, linking theory and methodology.

This publication contains a number of reports prepared for a high-level conference on issues relating to biological and landscape diversity in European agricultural policies, held in Paris in June 2002. The conference made recommendations to states and relevant organisations and provided input to policy work and programmes within the framework of the Convention on Biological Diversity, the Ministerial Conference on Environment for Europe, the Convention to Combat Desertification and the EU's Common Agricultural Policy and national policy developments.

The first detailed collation of the evolution, ecology and conservation of some of South America's least-known, and most endangered, primates.

Red Panda

Evolution's Wedge

Using Law to Advance Wetland Conservation and Wise Use

The Evolution and Implementation of the Convention on Biological Diversity

In the Light of Evolution

Plant Conservation

Wetlands, Water, and the Law

From the lush forests of Appalachia to the frozen tundra of Alaska, and from the tallgrass prairies of the Midwest to the subtropical rainforests of Hawaii, the United States harbors a remarkable array of ecosystems. These ecosystems in turn sustain an exceptional variety of plant and animal life. For species such as salamanders and freshwater turtles, the United States ranks as the global center of diversity. Among the nation's other unique biological features are California's coast redwoods, the world's tallest trees, and Nevada's Devils Hole pupfish, which survives in a single ten-by-seventy-foot desert pool, the smallest range of any vertebrate animal. Precious Heritage draws together for the first time a quarter century of information on U.S. biodiversity developed by

natural heritage programs from across the country. This richly illustrated volume not only documents those aspects of U.S. biodiversity that are particularly noteworthy, but also considers how our species and ecosystems are faring, what is threatening them, and what is needed to protect the nation's remaining natural inheritance. Above all, Precious Heritage is a celebration of the extraordinary biological diversity of the United States.

As anthropogenic environmental changes spread and intensify across the planet, conservation biologists have to analyze dynamics at large spatial and temporal scales. Ecological and evolutionary processes are then closely intertwined. In particular, evolutionary responses to anthropogenic environmental change can be so fast and pronounced that conservation biology can no longer afford to ignore them. To tackle this challenge, areas of conservation biology that are disparate ought to be integrated into a unified framework. Bringing together conservation genetics, demography, and ecology, this book introduces evolutionary conservation biology as an integrative approach to managing species in conjunction with ecological interactions and evolutionary processes. Which characteristics of species and which features of environmental change foster or hinder evolutionary responses in ecological systems? How do such responses affect population viability, community dynamics, and ecosystem functioning? Under which conditions will evolutionary responses ameliorate, rather than worsen, the impact of environmental change?

Biology for AP® courses covers the scope and sequence requirements of a typical two-semester Advanced Placement® biology course. The text provides comprehensive coverage of foundational research and core biology concepts through an evolutionary lens. Biology for AP® Courses was designed to meet and exceed the requirements of the College Board's AP® Biology framework while allowing significant flexibility for instructors. Each section of the book includes an introduction based on the AP® curriculum and includes rich features that engage students in scientific practice and AP® test preparation; it also highlights careers and research opportunities in biological sciences.

Economics and biological diversity; Values and benefits of biological diversity; Economic incentives: what they are and how they can be used to promote conservation of biological diversity; The use of economic incentives to promote conservation of biological resources at the community level; The use of incentives at the national level; International aspects of incentives systems; Mechanisms for funding incentives packages; Guidelines for using incentives to conserve biological diversity; Case studies: Perverse economic incentives; Economic incentives at the community level; The use of incentives at the national and international levels.

Biodiversity and Climate Change

Its Influences on Biological Diversity

The Root Causes of Biodiversity Loss

Evolutionary Biology and Conservation of Titis, Sakis and Uacaris

International Law and the Conservation of Biological Diversity

The Role of Botanic Gardens

Biology for AP ® Courses

The publication was prepared based on information provided by 86 countries, outcomes from regional and subregional consultations and commissioned thematic studies. It includes: •an overview of definitions and concepts related to Forest Genetic Resources (FGR) and a review of their value; •a description of the main drivers of changes; •the presentation of key emerging technologies; •an analysis of the current status of FGR conservation, use and related developments; •recommendations addressing the challenges and needs. By the FAO Commission on Genetic Resources for Food and Agriculture.

Conservation biology is fast emerging as a major new discipline, which incorporates biological principles in the design of effective strategies for the sustainable management of populations, species and entire ecosystems. This beautifully illustrated textbook introduces students to conservation biology, the science of preserving biodiversity. It begins by taking the reader on a tour of the many and varied ecosystems of our planet, providing a setting in which to explore the factors that have led to the alarming loss of biodiversity that we now see. In particular the fundamental problems of habitat loss and fragmentation, habitat disturbance and the non-sustainable exploitation of species in both aquatic and terrestrial ecosystems are explored. The methods that have been developed to address these problems, from the most traditional forms of conservation, to new approaches at genetic to landscape scales are then discussed, showing how the science can be put into practice.

This book brings together the views of some of the most creative scientists of our time, each attempting to amplify and refine the concept of biophilia. Contributors to this volume include Jared Diamond, Aaron Katcher, Richard Nelson and others.

Resource-management decisions, especially in the area of protecting and maintaining biodiversity, are usually incremental, limited in time by the ability to forecast conditions and human needs, and the result of tradeoffs between conservation and other management goals. The individual decisions may not have a major effect but can have a cumulative major effect. Perspectives on Biodiversity reviews current understanding of the value of biodiversity and the methods that are useful in assessing that value in particular circumstances. It recommends and details a list of components-including diversity of species, genetic variability within and among species, distribution of species across the ecosystem, the aesthetic satisfaction derived from diversity, and the duty to preserve and protect biodiversity. The book also recommends that more information about the role of biodiversity in sustaining natural resources be gathered and summarized in ways useful to managers. Acknowledging that decisions about biodiversity are necessarily qualitative and change over time because of the nonmarket nature of so many of the values, the committee recommends periodic reviews of management decisions.

Governing Global Biodiversity

Supporting Species Survival In The Wild

Paris (France), 5-7 June 2002 : Compendium of Background Reports

Guidelines for reintroductions and other conservation translocations

Effective Conservation Science

Additional Case Studies from Around the Globe

Ex Situ Plant Conservation

An essential, up-to-date look at the critical interactions between biological diversity and climate change that will serve as an immediate call to action. The physical and biological impacts of climate change are dramatic and broad-ranging. People who care about the planet and manage natural resources urgently need a synthesis of our rapidly growing understanding of these issues. In this all-new sequel to the 2005 volume *Climate Change and Biodiversity*, leading experts in the field summarize observed changes, assess what the future holds, and offer suggested responses. From extinction risk to ocean acidification, from the future of the Amazon to changes in ecosystem services, and from geoengineering to the power of ecosystem restoration, this book captures the sweep of climate change transformation of the biosphere.

Reintroduction of Fish and Wildlife Populations provides a practical step-by-step guide to successfully planning, implementing, and evaluating the reestablishment of animal populations in former habitats or their introduction in new environments. In each chapter, experts in reintroduction biology outline a comprehensive synthesis of core concepts, issues, techniques, and perspectives. This manual and reference supports scientists and managers from fisheries and wildlife professions as they plan reintroductions, initiate releases of individuals, and manage restored populations over time. Covering a broad range of taxonomic groups, ecosystems, and global regions, this edited volume is an essential guide for academics, students, and professionals in natural resource management.

The world is losing species and biodiversity at an unprecedented rate. The causes go deep and the losses are driven by a complex array of social, economic, political and biological factors at different levels. Immediate causes such as over-harvesting, pollution and habitat change have been well studied, but the socioeconomic factors driving people to degrade their environment are less well understood. This book examines the underlying causes. It provides analyses of a range of case studies from Brazil, Cameroon, China, Danube River Basin, India, Mexico, Pakistan, Philippines, Tanzania and Vietnam, and integrates them into a new and interdisciplinary framework for understanding what is happening. From these results, the editors are able to derive policy conclusions and recommendations for operational and institutional approaches to address the root causes and reverse the current trends. It makes a contribution to the understanding of all those - from ecologists and conservationists to economists and policy makers - working on one of the major challenges we face.

There is a considerable gap between the science of conservation biology and the design and execution of biodiversity conservation projects in the field. Science is often failing to inform the practice of conservation, which remains largely experience-based. The main reason is the poor accessibility of evidence on the effectiveness of different interventions. This is the basis for this book adopting an 'evidence-based approach', modelled on the systematic reviews used in health sciences and now being applied to many policy arenas. Evidence-based Conservation brings together a series of case studies, written by field practitioners, that provides the evidence-base for evaluating how effective conservation and poverty alleviation strategies can be better implemented. A series of systematic reviews uses experiences and data from fifteen integrated conservation and development projects conducted in the Lower Mekong region, specifically in Vietnam, Laos and Cambodia. They provide wide-ranging overviews of the effectiveness of protected areas and how innovative tools and methods for monitoring and evaluation can be utilised for more effective outcomes. Results are in the form of management and policy recommendations, based on the quality of evidence and the cost-utility of the intervention. By bridging the gap between field practice and conservation, the analysis should lead to more effective integrated conservation and development interventions. The book represents one of the first attempts to apply the evidence-based approach to conservation and development.

Marine Biodiversity, Climatic Variability and Global Change

Evidence-based Conservation

The Life Industry

Bridging the Gap Between Global Commitment and Local Action

Biodiversity Monitoring and Conservation

Precious Heritage

Evolutionary Conservation Biology

The tools of control; The practice-bioprospecting or biopiracy; Which way now.

Predictions about the success of the Convention on Biological Diversity (CBD) are pessimistic. It has now become commonplace to bemoan the scope, ambition, and deeply political nature of a convention that addresses issues ranging from ecosystems protection to the exploitation of genetic resources, from conservation to justice, and from commerce to scientific knowledge. Ten years after its adoption, how can we assess the difference that the CBD has made? Is it in danger of collapsing under its own weight or is it building the foundations of new patterns of relations between societies and nature? What achievements can we record and what challenges does it face? In this book, which is unique in its scope, diversity and the wealth of information it contains, contributors from a variety of academic disciplines tackle an issue of enduring importance to the protection of biodiversity and enhance our understanding of humanity's capacity to reconcile its various aspirations and halt the destructive path upon which it is set.

In this volume the dynamic patterns of human density and distribution are examined in relation to the viability of native species and the integrity of their habitats. Social, biological, and earth scientists describe their models, outline their conclusions from field studies, and review the contributions of other scientists whose work is essential to this field. The book starts with general theories and broad empirical relationships that help explain dramatic changes in the patterns of the occurrence of species, changes that have developed in parallel with human population growth, migration and settlement. In the following chapters specific biomes and ecosystems are highlighted as the context for human interactions with other species. A discussion of the key themes and findings covered rounds out the volume. All in all, the work presents our species, *Homo sapiens*, as what we truly have been and will likely remain—an influential, and often the most influential,

constituent in nearly every major ecosystem on Earth.

This impressive author team brings the wealth of advances in conservation genetics into the new edition of this introductory text, including new chapters on population genomics and genetic issues in introduced and invasive species. They continue the strong learning features for students - main points in the margin, chapter summaries, vital support with the mathematics, and further reading - and now guide the reader to software and databases. Many new references reflect the expansion of this field. With examples from mammals, birds,...

Competition and the Origins of Diversity

Lessons from the Lower Mekong

Global Re-introduction Perspectives

Reintroduction of Fish and Wildlife Populations

Volume X: Comparative Phylogeography

Plant Conservation Science and Practice

Biodiversity loss in terrestrial environments associated with human activities has been appreciated as a major issue for some years now. What is less well documented is the effect of such activities, including climate change, on marine biodiversity. This pioneering book is the first to address this important but neglected topic, which is likely to be the key challenge for marine scientists in the near future. Using a multidisciplinary and a holistic approach, the book reveals how climatic variability controls biodiversity at time scales ranging from synoptic meteorological events to millions of years and at spatial scales ranging from local sites to the whole ocean. It shows how global change, including anthropogenic climate change, ocean acidification and more direct human influences such as exploitation, pollution and eutrophication may alter biodiversity, ecosystem functioning and regulating and provisioning services. The author proposes a theory termed the 'macroecological theory on the arrangement of life', which explains how biodiversity is organized and how it responds to climatic variability and anthropogenic climate change. The book concludes with recommendations for further research and theoretical development to identify oceanic areas in need of observation and gaps in current scientific knowledge. Many references and comparisons with the terrestrial realm are included in all chapters to better understand the universality of the relationships between biodiversity, climate and the environment. The book will serve as a textbook for all students and researchers of marine science and environmental change, but will also be accessible to the more general reader.

Weaving together philosophical, historical, legal, scientific and personal viewpoints, this book gives a rich sample of the vast web which makes up our cultural, spiritual and social diversity. It demonstrates how many cultures see Nature as an extension of society, and how sensitive stewardship is an integral part of existence.

This work presents a thorough analysis of the biodiversity concept in international law and commentary on the 1992 United Nations Convention on Biological Diversity which was opened for signature following the 1992 UN Conference on Environment and Development. This Convention is the first international treaty explicitly to address all aspects of biodiversity ranging from the conservation and sustainable use of biological resources, to access to biotechnology and the safety of activities related to modified living organisms. The work extends beyond the ambit of the Convention itself to examine the conservation of biodiversity in international law generally, including measures for the protection of the terrestrial, marine and Antarctic environment and particular features relating to sustainable use of biological resources, ex-situ conservation and plant genetic resources. It further analyses the controversial issue of intellectual property rights, the problems of implementation in the European Union and the United States, differences between developing and developed states and the role of indigenous peoples. This major new work has been written by members of the Committee on Environmental Law of the British Branch of the International Law Association following an earlier study on the subject of International Law and Global Climate Change (Graham & Trotman, 1991). It is the first major study of the Convention of the context in which it was negotiated, and of the prospects for its implementation, following the entry into force of the Convention on 29 December 1993.

Although food-production systems for the world's rural poor typically have had devastating effects on the planet's wealth of genes, species, and ecosystems, that need not be the case in the future. In *Ecoagriculture*, two of the world's leading experts on conservation and development examine the idea that agricultural landscapes can be designed more creatively to take the needs of human populations into account while also protecting, or even enhancing, biodiversity. They present a thorough overview of the innovative concept of "ecoagriculture" - the management of landscapes for both the production of food and the conservation of wild biodiversity. The book:examines the global impact of agriculture on wild biodiversitydescribes the challenge of reconciling biodiversity conservation and agricultural goalsoutlines and discusses the ecoagriculture approachpresents diverse case studies that illustrate key strategiesexplores how policies, markets, and institutions can be re-shaped to support ecoagricultureWhile focusing on tropical regions of the developing world -- where increased agricultural productivity is most vital for food security, poverty reduction, and sustainable development, and where so much of the world's wild biodiversity is threatened -- it also draws on lessons learned in developed countries. Dozens of examples from around the world present proven strategies for small-scale, low-income farmers involved in commercial production.Ecoagriculture explores new approaches to agricultural production that complement natural environments, enhance ecosystem function, and improve rural livelihoods. It features a wealth of real-world case studies that demonstrate the applicability of the ideas discussed and how the principles can be applied, and is an important new work for policymakers, students, researchers, and anyone concerned with conserving biodiversity while sustaining human populations.

Second Assessment Report of the Urban Climate Change Research Network

Opportunities in Biology

Strategies to Feed the World and Save Wild Biodiversity

The Princeton Guide to Ecology

Data Not Dogma

Ecological Issues in the Conservation of Species and Communities

Conflicts in International Environmental Law

Red Panda: Biology and Conservation of the First Panda provides a broad-based overview of the biology of the red panda, Ailurus fulgens. A carnivore that feeds almost entirely on vegetable material and is colored chestnut red, chocolate brown and cream rather than the expected black and white. This book gathers all the information that is available on the red panda both from the field and captivity as well as from cultural aspects, and attempts to answer that most fundamental of questions, "What is a red panda?" Scientists have long focused on the red panda's controversial taxonomy. Is it in fact an Old World procyonid, a very strange bear or simply a panda? All of these hypotheses are addressed in an attempt to classify a unique species and provide an in-depth look at the scientific and conservation-based issues urgently facing the red panda today. Red Panda not only presents an overview of the current state of our knowledge about this intriguing species but it is also intended to bring the red panda out of obscurity and into the spotlight of public attention. Wide-ranging account of the red panda (Ailurus fulgens) covers all the information that is available on this species both in and ex situ Discusses the status of the species in the wild, examines how human activities impact on their habitat, and develops projections to translate this in terms of overall panda numbers Reports on status in the wild, looks at conservation issues and considers the future of this unique species Includes contributions from long-standing red panda experts as well as those specializing in fields involving cutting-edge red panda research. As the impacts of anthropogenic activities increase in both magnitude and extent, biodiversity is coming under increasing pressure. Scientists and policy makers are frequently hampered by a lack of information on biological systems, particularly information relating to long-term trends. Such information is crucial to developing an understanding as to how biodiversity may respond to global environmental change. Knowledge gaps make it very difficult to develop effective policies and legislation to reduce and reverse biodiversity loss. This book explores the gap between global commitments to biodiversity conservation, and local action to track biodiversity change and implement conservation action. High profile international political commitments to improve biodiversity conservation, such as the targets set by the Convention on Biological Diversity, require innovative and rapid responses from both science and policy. This multi-disciplinary perspective highlights barriers to conservation and offers novel solutions to evaluating trends in biodiversity at multiple scales.

Biodiversity-the genetic variety of life-is an exuberant product of the evolutionary past, a vast human-supportive resource (aesthetic, intellectual, and material) of the present, and a rich legacy to cherish and preserve for the future. Two urgent challenges, and opportunities, for 21st-century science are to gain deeper insights into the evolutionary processes that foster biotic diversity, and to translate that understanding into workable solutions for the regional and global crises that biodiversity currently faces. A grasp of evolutionary principles and processes is important in other societal arenas as well, such as education, medicine, sociology, and other applied fields including agriculture, pharmacology, and biotechnology. The ramifications of evolutionary thought also extend into learned realms traditionally reserved for philosophy and religion. The central goal of the In the Light of Evolution (ILE) series is to promote the evolutionary sciences through state-of-the-art colloquia-in the series of Arthur M. Sackler colloquia sponsored by the National Academy of Sciences-and their published proceedings. Each installment explores evolutionary perspectives on a particular biological topic that is scientifically intriguing but also has special relevance to contemporary societal issues or challenges. This tenth and final edition of the In the Light of Evolution series focuses on recent developments in phylogeographic research and their relevance to past accomplishments and future research directions.

Guidelines for reintroductions and other conservation translocationsIUCNReintroduction of Fish and Wildlife PopulationsUniv of California Press

Conservation Biology

Developing and Using Economic Incentives to Conserve Biological Resources

Biodiversity, People and Profits

The Biophilia Hypothesis

The Balance of Nature?

Climate Change and Cities

Biology has entered an era in which interdisciplinary cooperation is at an all-time high, practical applications follow basic discoveries more quickly than ever before, and new technologies--recombinant DNA, scanning tunneling microscopes, and more--are revolutionizing the way science is conducted. The potential for scientific breakthroughs with significant implications for society has never been greater. Opportunities in Biology reports on the state of the new biology, taking a detailed look at the disciplines of biology; examining the advances made in medicine, agriculture, and other fields; and pointing out promising research opportunities. Authored by an expert panel representing a variety of viewpoints, this volume also offers recommendations on how to meet the infrastructure needs--for funding, effective information systems, and other support--of future biology research. Exploring what has been accomplished and what is on the horizon, Opportunities in Biology is an indispensable resource for students, teachers, and researchers in all

subdisciplines of biology as well as for research administrators and those in funding agencies.

This edited volume assembles some of the most intriguing voices in modern conservation biology. Collectively they highlight many of the most challenging questions being asked in conservation science today, each of which will benefit from new experiments, new data, and new analyses. The book's principal aim is to inspire readers to tackle these uncomfortable issues head-on. A second goal is to be reflective and consider how the field has reacted to challenges, and to what extent these challenges advance conservation science. A concluding chapter will synthesize common themes that emerge from the experiences of the authors in these debates and discuss how best to guard against confirmation bias. The hope is that this book will lead to greater conservation of ecosystems and biodiversity by harnessing the engine of constructive scientific scepticism in service of better results.

Faced with widespread and devastating loss of biodiversity in wild habitats, scientists have developed innovative strategies for studying and protecting targeted plant and animal species in "off-site" facilities such as botanic gardens and zoos. Such ex situ work is an increasingly important component of conservation and restoration efforts. Ex Situ Plant Conservation, edited by Edward O. Guerrant Jr., Kayri Havens, and Mike Maunder, is the first book to address integrated plant conservation strategies and to examine the scientific, technical, and strategic bases of the ex situ approach. The book examines where and how ex situ investment can best support in situ conservation. Ex Situ Plant Conservation outlines the role, value, and limits of ex situ conservation as well as updating best management practices for the field, and is an invaluable resource for plant conservation practitioners at botanic gardens, zoos, and other conservation organizations; students and faculty in conservation biology and related fields; managers of protected areas and other public and private lands; and policymakers and members of the international community concerned with species conservation.