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KEY=BIODIVERSITY - SHAYLEE WALLS

REGENTS EXAMS AND ANSWERS: LIVING ENVIRONMENT REVISED EDITION

Barrons Educational Series **Barron’s Regents Exams and Answers: Living Environment provides essential review for students taking the Living Environment Regents, including actual exams administered for the course, thorough answer explanations, and comprehensive review of all topics. All Regents test dates for 2020 have been canceled. Currently the State Education Department of New York has released tentative test dates for the 2021 Regents. The dates are set for January 26-29, 2021, June 15-25, 2021, and August 12-13th. This edition features: Four actual Regents exams to help students get familiar with the test format Comprehensive review questions grouped by topic, to help refresh skills learned in class Thorough explanations for all answers Score analysis charts to help identify strengths and weaknesses Study tips and test-taking strategies Looking for additional practice and review? Check out Barron’s Regents Living Environment Power Pack two-volume set, which includes Let’s Review Regents: Living Environment in addition to the Regents Exams and Answers: Living Environment book.**

REVIEWING THE LIVING ENVIRONMENT

This review book provides a complete review of a one-year biology course that meets the NYS Living Environment Core Curriculum.Includes four recent Regents exams.

POPULATION DYNAMICS AND LABORATORY ECOLOGY

Elsevier **Population Dynamics and Laboratory Ecology highlights the contributions laboratory studies are making to our understanding of the dynamics of ecological and evolutionary systems. Chapters address the scientific rationale for laboratory ecology, its historical role within the broader discipline, and recent advances in research. The book presents results from a wide range of laboratory systems including insects, mites, plankton, protists, and microbes. A common theme throughout the book is the value of microcosm studies in advancing our knowledge of ecological and evolutionary principles. Each chapter is authored by scientists who are leading experts in their fields. The book addresses fundamental questions that are of interest to biologists whether they work in the laboratory or field or whether they are primarily empiricists or theorists. Details a scientific rationale for laboratory systems in ecological and evolutionary studies Offers a view on historical role of laboratory studies Includes examples of recent research advances in ecology and evolution using laboratory systems, ranging from insects to microbes Integrates mathematics, statistics and experimental studies**

THE LIVING ENVIRONMENT

BRIEF REVIEW FOR NEW YORK 2005 EDITION

THE LIVING ENVIRONMENT

BRIEF REVIEW FOR NEW YORK 2006 EDITION

From basic cell structures to scientific inquiry and lab skills, this brief review guides students through their preparation for The Living Environment Regents Examination. The book is organized into nine topics, each covering a major area of the curriculum, and includes a recap of core content as well as review and practice questions, vocabulary, and six recent Regents Examinations.

BRIEF REVIEW FOR NEW YORK

THE LIVING ENVIRONMENT

LET'S REVIEW BIOLOGY-THE LIVING ENVIRONMENT

Barrons Educational Series **This high school classroom supplement to the main biology text prepares students in New York State to succeed on the Regents Exam. It presents a subject review, practice ques-tions with answers, and two complete Regents Biology Exam with answer keys. When combined with Barron's Regents Exams and Answers, Biology, it provides students with the most comprehensive test preparation available anywhere. Topics reviewed include ecology, biological organization, formation and structure of the ecosystem, and the interaction between human beings and the biosphere.**

URBANIZATION AND AFFORDANCES THAT PROMOTE WELL-BEING FOR (URBAN) PEOPLE AND FOR A HEALTHY BIOSPHERE

Frontiers Media SA **The world is urbanizing at an unprecedented rate. It is estimated that in the near future urban landscapes for another ca. 2.7 billion people will be built on planet Earth, approximately converting land equivalent to the size of South Africa. Such land conversion, coupled with citizen densification, increasing in-equalities, shifting diets, and emerging technologies, challenge human well-being and pose ever-increasing demand for resources generated by the Biosphere. This Research Topic concentrates on the various ways urbanization can promote individual well-being (mental, physical, and social health) as well as ecological health (a healthy Biosphere). What kind of affordances for human health promotion can urbanization include? What kinds of affordances for a psychological connection with nature can urbanization include? What kinds of nudges for pro-environmental behavior and consumption (decreasing detrimental consumption behaviors) can be actively designed in urban settings? The Research Topic at hand uses a transactional approach, where an affordance can be understood as a non-deterministic in-situ precondition for a human activity, enabled by relations between abilities of an individual with features of an environment. We encourage a broad definition of the concept of affordances, where 'the environment' must not be restricted to the material biophysical environment alone, but also could be combined with social immaterial features. We see that the transactional approach of this Research Topic posits that meaning arises in relations between humans**

and their environment, that it will be equally applicable to natural and designed environments, and that it doesn't regard dichotomies like city-contra-nature or social-contra-ecological. Hence, this Research Topic is interested in if the transactional approach can be used as a conceptual tool, not only for promotion of mental, physical, and social health in cities, but simultaneously for unraveling relations at the micro scale in cities which can be used for solutions that also promote a healthy Biosphere.

LET'S REVIEW REGENTS: LIVING ENVIRONMENT REVISED EDITION

Barrons Educational Series **Barron's Let's Review Regents: Living Environment gives students the step-by-step review and practice they need to prepare for the Regents exam. This updated edition is an ideal companion to high school textbooks and covers all Biology topics prescribed by the New York State Board of Regents. All Regents test dates for 2020 have been canceled. Currently the State Education Department of New York has released tentative test dates for the 2021 Regents. The dates are set for January 26-29, 2021, June 15-25, 2021, and August 12-13th. You'll get one recent Regents exam and question set with explanations of answers and wrong choices. The edition also features teachers' guidelines for developing New York State standards-based learning units. Two comprehensive study units cover the following material: Unit One explains the process of scientific inquiry, including the understanding of natural phenomena and laboratory testing in biology Unit Two focuses on specific biological concepts, including cell function and structure, the chemistry of living organisms, genetic continuity, the interdependence of living things, the human impact on ecosystems, and several other pertinent topics Looking for additional review? Check out Barron's Regents Living Environment Power Pack two-volume set, which includes Regents Exams and Answers: Living Environment in addition to Let's Review Regents: Living Environment.**

REGENTS LIVING ENVIRONMENT POWER PACK REVISED EDITION

Simon and Schuster **Barron's two-book Regents Living Environment Power Pack provides comprehensive review, actual administered exams, and practice questions to help students prepare for the Biology Regents exam. This edition includes: Four actual Regents exams Regents Exams and Answers: Living Environment Four actual, administered Regents exams so students can get familiar with the test Comprehensive review questions grouped by topic, to help refresh skills learned in class Thorough explanations for all answers Score analysis charts to help identify strengths and weaknesses Study tips and test-taking strategies Let's Review Regents: Living Environment Extensive review of all**

topics on the test Extra practice questions with answers One actual Regents exam

THE SPECIES-AREA RELATIONSHIP

THEORY AND APPLICATION

Cambridge University Press **Provides a comprehensive synthesis of a fundamental phenomenon, the species-area relationship, addressing theory, evidence and application.**

UTILIZING WILD GRASS BIODIVERSITY IN WHEAT IMPROVEMENT

15 YEARS OF WIDE CROSS RESEARCH AT CIMMYT

CIMMYT

EMOTION AND ITS RELATIONSHIP TO ACCEPTANCE, FOOD CHOICE, AND CONSUMPTION: THE NEW PERSPECTIVE

MDPI **Food is a source of nutrients but it also provides basic pleasure and aesthetic experiences. Acceptance, food choice, and consumption are affected by many factors, including both intrinsic and extrinsic factors and cues, as well as consumer characteristics. Food-elicited emotions are becoming a critical component in designing products that meet consumers' needs and expectations. Several studies have reported on the presence of emotional responses to food and the relationships of these to product acceptability, preference, and choice. This Special Issue brings together a small range of studies with a diversity of approaches that provide good examples of the complex and multidisciplinary nature of this subject matter.**

BIODIVERSITY AND CLIMATE CHANGE

TRANSFORMING THE BIOSPHERE

Yale University Press **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. Edited by distinguished conservationist Thomas E. Lovejoy and climate change biologist Lee Hannah, this comprehensive volume includes the latest research and explores emerging topics. From extinction risk to ocean acidification, the future of the Amazon to changes in ecosystem services, and geoengineering to the power of ecosystem restoration, this volume captures the sweep of climate change transformation of the biosphere. An authoritative, up-to-date reference, this is the new benchmark synthesis for climate change scientists, conservationists, managers, policymakers, and educators.

MANUAL OF CLINICAL MICROBIOLOGY

American Society for Microbiology Press **The most authoritative, comprehensive reference in the field. • Sets the standard for state-of-the-science laboratory practice. • A collaborative effort of 22 editors and more than 260 authors from around the world, all experienced researchers and practitioners in medical and diagnostic microbiology. • Includes 149 chapters of the latest research findings, infectious agents, methods, practices, and safety guidelines. • Indispensable to clinical microbiologists, laboratory technologists, and infectious disease specialists in hospitals, clinics, reference laboratories, and more**

PLANT PATHOLOGY CONCEPTS AND LABORATORY EXERCISES, SECOND EDITION

CRC Press **Revised and updated with new concepts, case studies, and laboratory exercises, Plant Pathology Concepts and Laboratory Exercises, Second Edition supplies highly detailed and accurate information in a well-organized and accessible format. New additions to the second edition include five new topic and exercise chapters on soilborne pathogens, molecular tools, biocontrol, and plant-fungal interactions, information on in vitro pathology, an appendix on plant pathology careers, and how to use and care for the microscope. An accompanying cd-rom contains figures from the text as well as supplemental full-color photos and PowerPoint slides. Unique Learning Tools Retaining the informal style of the previous edition, this volume begins each topic with a concept box to highlight important ideas. Several laboratory exercises support each topic and cater to a wide range of skill sets from basic to complex. Procedure boxes for the experimental exercises give detailed outlines and comments on the experiments, step by step instruction, anticipated results, and thought provoking questions. Case studies of specific diseases and processes are**

presented as a bulleted list supplying essential information at a glance. Comprehensive Coverage Divided into six primary parts, this valuable reference introduces basic concepts of plant pathology with historical perspectives, fundamental ideas of disease, and disease relationships with the environment. It details various disease-causing organisms including viruses, prokaryotic organisms, plant parasitic nematodes, fungi, plant parasitic seed plants, and other biotic and abiotic diseases. Exploring various plant-pathogen interactions including treatments of molecular attack strategies, extracellular enzymes, host defenses, and disruption of plant function, the book presents the basic ideas of epidemiology, control strategies, and disease diagnosis.

ADVANCES IN MARINE BIOLOGY

Elsevier **This new volume of Advances in Marine Biology contains reviews on a wide range of important subjects such as: Benthic foraminifera (Protista) and Deep-Water Palaeoceanography; Breeding Biology of the Intertidal Sand Crab Emerita (Decapoda, Anomura); Coral Bleaching and Fatty acid trophic markers in the marine environment. Advances in Marine Biology has been providing in-depth and up-to-date reviews on all aspects of Marine Biology since 1963 -- over 40 years of outstanding coverage! The series is well-known for both its the excellence of its reviews as well as the strength of its thematic volumes devoted to a particular field in detail, such as 'The Biochemical Ecology of Marine Fishes' and 'Molluscan Radiation'. Series Encompasses 40 Years of Coverage Up-to-date Reviews on Wide-Ranging Topics**

GENETICS, EVOLUTION, AND CONSERVATION OF NEOTROPICAL FISHES

Frontiers Media SA **Fish represent the most ancestral and specious group of vertebrates, and occupy more diverse aquatic environments around the world. Ichthyofauna is extremely diverse, especially in megadiverse countries occupying biogeographical regions such as the Neotropical Region, which covers an extensive area between North and South America. Much of this biodiversity will be extinct, even before science knows any aspect of its biology. Like this, Neotropical fish genetics started in the end of the 70’s with papers studying the chromosomes of Hoplias malabaricus (Family Erythrinidae) and the karyotype variation among three genera of the family Anostomidae. The topic at that time was concentrated in two Institutions from the state of São Paulo, Southeastern Brazil. In the middle 80’s, the first Symposium on Neotropical Fish Cytogenetics was organized. Nowadays, the field of Neotropical Fish Genetics is present in Brazil, Colombia, Argentina, Uruguai, Venezula, Chile, and Equador, as well as outside South America in**

Panama, Mexico, USA, Canada, Czech Republic, Germany, and Spain. The research developed in cytogenetics has focused mainly on karyotype evolution and cytotaxonomy, chromosome structure and, more recently, cytogenomics. In relation to the use of molecular markers, support has been sought for the management of populations for conservation or production in captivity. In addition, many studies have been carried out with the aim of establishing supra-specific phylogenetic relationships and clarifying species distribution scenarios by phylogeographic modeling. The genome and transcriptome of some model species begin to emerge as extremely promising and informative areas for neotropical fish. In 2017, the Neotropical fish genetics research community celebrates the 30th anniversary of its main Meeting (today entitled Symposium on Neotropical Fish Genetics and Cytogenetics). This Research Topic is part of this celebration and aims at reporting the state of the art and its current advances in the frontier of knowledge in genetics, evolution, and conservation of neotropical fish, as well as to detect the challenges to be overcome in the next years.

BIODIVERSITY AND DYNAMICS OF ECOSYSTEMS IN NORTH EURASIA: PT. 1. WATER ECOSYSTEMS OF NORTH EURASIA. PT. 2. LAKE BAIKAL AS A NATURAL LABORATORY FOR STUDYING SPECIES, BIODIVERSITY, AND EVOLUTION. PT. 3. BIODIVERSITY AND DYNAMICS OF ECOSYSTEMS OF NORTH-EASTERN ASIA (2 V.)

FIELD AND LABORATORY METHODS IN ANIMAL COGNITION

A COMPARATIVE GUIDE

Cambridge University Press **Would you ask a honeybee to point at a screen and recognise a facial expression? Or ask an elephant to climb a tree? While humans and non-human species may inhabit the same world, it's likely that our perceptual worlds differ significantly. Emphasising Uexkll's concept of 'umwelt', this volume offers practical advice on how animal cognition can be successfully tested while avoiding anthropomorphic conclusions. The chapters describe the capabilities of a range of animals - from ants, to lizards to chimpanzees - revealing how to successfully investigate animal cognition across a variety of taxa. The book features contributions from leading cognition researchers, each offering a series of examples and practical tips drawn from their own experience. Together, the authors synthesise information on current field and laboratory methods, providing researchers and graduate students with methodological advice on how to formulate research questions, design experiments and adapt studies to different taxa.**

HABITATS AND BIOTA OF THE GULF OF MEXICO: BEFORE THE DEEPWATER HORIZON OIL SPILL

VOLUME 2: FISH RESOURCES, FISHERIES, SEA TURTLES, AVIAN RESOURCES, MARINE MAMMALS, DISEASES AND MORTALITIES

Springer **This book is open access under a CC BY-NC 2.5 license. The Gulf of Mexico is an open and dynamic marine ecosystem rich in natural resources but heavily impacted by human activities, including agricultural, industrial, commercial and coastal development. The Gulf of Mexico has been continuously exposed to petroleum hydrocarbons for millions of years from natural oil and gas seeps on the sea floor, and more recently from oil drilling and production activities located in the water near and far from shore. Major accidental oil spills in the Gulf are infrequent; two of the most significant include the Ixtoc I blowout in the Bay of Campeche in 1979 and the Deepwater Horizon Oil Spill in 2010. Unfortunately, baseline assessments of the status of habitats and biota in the Gulf of Mexico before these spills either were not available, or the data had not been systematically compiled in a way that would help scientists assess the potential short-term and long-term effects of such events. This 2-volume series compiles and summarizes thousands of data sets showing the status of habitats and biota in the Gulf of Mexico before the Deepwater Horizon Oil Spill. Volume 2 covers historical data on commercial and recreational fisheries, with an analysis of marketing trends and drivers; ecology, populations and risks to birds, sea turtles and marine mammals in the Gulf; and diseases and mortalities of fish and other animals that inhabit the Gulf of Mexico.**

FUNGAL BIOFILMS AND RELATED INFECTIONS

ADVANCES IN MICROBIOLOGY, INFECTIOUS DISEASES AND PUBLIC HEALTH VOLUME 3

Springer **This book covers the latest data available to understand the mechanisms causing the formation of single species fungal biofilms or polymicrobial biofilms involving fungal species; specific chapters present hot topics such as resistance mechanisms and composition and role of the matrix. Moreover, it reviews updated data on biofilms that contain yeasts or filamentous fungi and develop in the human body or in water and may cause infections. The latest available data for both diagnostic and treatment of infections associated to fungi growing in biofilms is also presented. The activity of antifungal and disinfectant agents against fungal biofilms is discussed in specific chapters and future treatments on natural sources are suggested. This book bridges the gap between basic and applied research. It is the**

result of many years of research work done by laboratories worldwide, all known for their expertise on fungal biofilms.

INDEX MEDICUS

Vols. for 1963- include as pt. 2 of the Jan. issue: Medical subject headings.

FRONTIERS IN ECOLOGY AND EVOLUTION 2019 HIGHLIGHTS

Frontiers Media SA **A measure of the success of a journal is that each new issue, or digital alert, includes a couple of papers that pique your interest, perhaps adding a new perspective to your research questions. The collection of papers in this Frontiers in Ecology and Evolution: 2019 Highlights eBook represents a sample of published papers that attracted the interest of the Specialty Chief Editors and members of the editorial office. While the collection is largely eclectic, it does represent the breadth and methods of enquiry that are published in Frontiers in Ecology and Evolution. We hope that some of the contributions in this collection similarly interest you.**

MEIOFAUNA BIODIVERSITY AND ECOLOGY

MDPI **Sedimentary habitats cover the vast majority of the ocean floor and constitute the largest ecosystem on Earth. These systems supply fundamental services to human beings, such as food production and nutrient recycling. It is well known that meiofauna are an abundant and ubiquitous component of sediments, even though their biodiversity and importance in marine ecosystem functioning remain to be fully investigated. In this book, the meiofaunal biodiversity trends in marine habitats worldwide are documented, along with the collection of empirical evidence on their role in ecosystem services, such as the production, consumption, and decomposition of organic matter, and energy transfer to higher and lower trophic levels. Meiofaunal activities, like feeding and bioturbation, induce changes in several physico-chemical and biological properties of sediments, and might increase the resilience of the benthic ecosystem processes that are essential for the supply of ecosystem goods and services required by humans. As a key component of marine habitats, the taxonomical and functional aspects of the meiofaunal community are also used for the ecological assessment of the sediments' quality status, providing important information on the anthropogenic impact of benthos.**

MICROBES IN TIME

INCORPORATING BACTERIA INTO ECOSYSTEM DEVELOPMENT THEORY

It is widely theorized that population and community processes such as competition, predation, and dispersal influence rates of resource flux within ecosystems. Likewise, the properties of an ecosystem, such as resource availability and space, can feed back onto populations and communities, driving their dynamics and evolutionary trajectories. However, empirical research connecting community and ecosystem-level processes remains a critical missing link between these two disciplines. My dissertation attempts to resolve some of these deficiencies by capitalizing on the tractability and replicability of experimental and natural microbial communities. I use these systems to test a number of theories of community-ecosystem feedbacks. In chapter 1, I test the theory that a bioregion's time-integrated area and productivity positively drive the extent of diversification in a radiating lineage. This theory of time-integration was developed in response to mismatches in the taxonomic diversity observed in a region (e.g., an island) compared to values predicted from species-area or species-productivity relationships. Time-integration implies that if a region's historical area and productivity were higher than they are today, then its unexpectedly large biodiversity (for its contemporary area and/or productivity) might be explained by historical conditions favoring radiation and a persistence of many or all of these clades as area and/or productivity decreased. To test this theory, I used the bacterium Pseudomonas fluorescens SBW25 -- a model system for adaptive radiation. I set up independent replicate microcosms that were randomly assigned to different volumes and productivities and transferred every few days so as to experience different environmental histories. By tracking these diversifying communities over time, I demonstrate that time-integrated productivity was the single best predictor of a community's extant diversity whereas "snapshot" measures of contemporary volume and productivity are much less useful predictors. I interpret these results in the context of population growth parameters and extinction rates. In chapter 2, I present the results of a field study of natural microbial digestive communities occupying leaves of the carnivorous pitcher plant Darlingtonia californica. I combine microscopy, biochemical assays, and community sequencing with respirometry and stable isotope pulse-chase experiments to examine how microbial community succession influences rates of detrital turnover, respiration, and nitrogen cycling in developing micro-ecosystems. I demonstrate that microbial community development and turnover in D. californica proceeds in parallel over time with communities becoming more similar to one another. These communities have considerably predictable dynamics such that the bacterial communities from one population can be used to quite accurately predict the ages of pitcher leaves in a different population and year. Furthermore, and in accordance with general successional theory, bacterial communities tended to display unimodal patterns in species

diversity over time. This trend appeared driven by differences in the predicted functional properties of bacterial communities. I also encountered unimodal trends in rates of decomposition by the digestive community and nitrogen uptake efficiency by the host leaf. Bacterial diversity and bacterial and midge larvae biomass were positively associated with rates of decomposition, which in turn were positively associated with the efficiency of nitrogen uptake by the host leaf. This study is among the first to demonstrate predictable successional patterns and biodiversity-ecosystem functioning relationships in natural microbial communities. In chapter 3, I present the results of a laboratory experiment demonstrating a decrease in the strength of biodiversity-ecosystem function (BEF) relationships and competitive interactions during succession in Darlingtonia californica leaves. It is often assumed that as ecosystems develop, competition-colonization tradeoffs or niche differences favor the gradual establishment of a biota more successful at competing for resources, leading to increased rates of competitive exclusion and shifting BEF relationships. My approach involved collecting bacterial strains from a cohort of leaves every 11 days over a one-year period and assembling them into communities of varying richness levels such that each community contained either 1, 2, 5, or 10 taxa also isolated from leaves of the same age. By employing an experimental design that allowed for the estimation of individual species' effects as well as their interactions, I show that the relationship between community richness and carbon mineralization rates are most positive during early succession (22-55 days) and gradually decrease over time. Furthermore, diffuse competition was greatest during these same time periods. Together, these results suggest that the effects of species additions or removals on ecosystem processes can vary across time. Chapter 4 presents an experiment testing a long-held assumption regarding the natural history of Darlingtonia californica. Specifically, I test the centuries-old assumption that the unique forked 'fishtail appendage' found on leaves of D. californica play an important role in the plant's capture of arthropod prey. In a series of field experiments, I manipulated the presence/absence of the appendage on developing pitcher leaves and compared their prey compositions and biomass. I found that the absence of the fishtail appendage does not significantly impact prey capture success at the level of the individual leaf or within an entire population of leaves. Therefore, contrary to widespread beliefs, the fishtail appendage does not appear to be a critical adaptation enabling carnivory in this species. Instead, I propose three alternative scenarios for the evolutionary maintenance of this structure: 1) as a vestigial structure, 2) as a photosynthetic structure and 3) as a structure serving a potentially mutualistic role with the local insect community.

THE ORIGINS OF CREATIVITY

Penguin UK **'An intellectual hero ... A superb celebrator of science in all its manifestations' Ian McEwan 'Darwin's great successor' Jeffrey Sachs The legendary biologist Edward O. Wilson offers his most philosophically probing work to date 'Creativity is the unique and defining trait of our species; and its ultimate goal, self-understanding,' begins Edward Wilson's sweeping examination of the humanities and their relationship to the sciences. By studying fields as diverse as paleontology, evolutionary biology and neuroscience, Wilson demonstrates that human creativity began not 10,000 years ago, as we have long assumed, but over 100,000 years ago in the Paleolithic Age. Chronicling the evolution of creativity from primates to humans, Wilson shows how the humanities, in large part spurred on by the invention of language, have played a previously unexamined role in defining our species. Exploring a surprising range of creative endeavors - the instinct to create gardens; the use of metaphors and irony in speech; or the power of music and song - Wilson proposes a transformational 'Third Enlightenment' in which the blending of science and the humanities will enable us to gain a deeper understanding of the human condition, and how it ultimately originated.**

CORNELL UNIVERSITY RESOURCE GUIDE FOR AGRICULTURAL EDUCATION

SELECTED WATER RESOURCES ABSTRACTS

WILDLIFE REVIEW

ECOLOGICAL PARADIGMS LOST

ROUTES OF THEORY CHANGE

Elsevier **This edited volume in the Theoretical Ecology series addresses the historical development and evolution of theoretical ideas in the field of ecology. Not only does Ecological Paradigms Lost recount the history of the discipline by practitioners of the science of ecology, it includes commentary on these historical reflections by philosophers of science. Even though the theories discussed are, in many cases, are at the forefront of research, the language and approach make this material accessible to non-theoreticians. The book is structured in 5 major sections including population ecology, epidemiology, community ecology, evolutionary biology and ecosystem ecology. In each section a chapter by an eminent, experienced ecologist is complemented by analysis from a newer, cutting-edge researcher.**

Reflection on the past and future of ecology A historical overview of major ideas in the field of ecology Pairing of historical views by ecologists along with a philosophical commentary directed at the practicing scientists' views by a philosopher of science Historical analysis by practicing ecologists including anectodal experiences that are rarely recorded Based on a very popular symposium at the 2002 Ecological Society of America annual meeting in Tucson, AZ

ESA NEWSLETTER

CUMULATED INDEX MEDICUS

DISCOVERY-BASED LEARNING IN THE LIFE SCIENCES

John Wiley & Sons **For nearly a decade, scientists, educators, and policy makers have issued a call to college biology professors to transform undergraduate life sciences education. As a gateway science for many undergraduate students, biology courses are crucial to address many of the challenges we face, such as climate change, sustainable food supply and fresh water, and emerging public health issues. While canned laboratories and cook-book approaches to college science education do teach students to operate equipment, make accurate measurements, and work well with numbers, they do not teach students how to take a scientific approach to an area of interest about the natural world. Science is more than just techniques, measurements, and facts; science is critical thinking and interpretation, which are essential to scientific research. Discovery-Based Learning in the Life Sciences presents a different way of organizing and developing biology teaching laboratories to promote both deep learning and understanding of core concepts, while still teaching the creative process of science. In eight chapters, this text guides undergraduate instructors in creating their own discovery-based experiments. The first chapter introduces the text, delving into the necessity of science education reform. The chapters that follow address pedagogical goals and desired outcomes, incorporating discovery-based laboratory experiences, realistic constraints on such laboratory experiments, model scenarios, and alternative ways to enhance student understanding. The book concludes with a reflection on four imperatives in life science research-- climate, food, energy, and health-- and how we can use these laboratory experiments to address them. Discovery-Based Learning in the Life Sciences is an invaluable guide for undergraduate instructors in the life sciences aiming to revamp their curriculum, inspire their students, and prepare them for careers as educated global citizens. Provides several concrete and implementable discovery-driven laboratory schemes that faculty can adopt for their own courses Expands upon how one can go about revising or changing an existing course**

curriculum to incorporate a discovery-based approach Explores novel approaches to unify classroom content goals with student experiential approaches to learning the processes of science that are found in the laboratory Gives examples of successful approaches at both the introductory and the intermediate levels of instruction in the life sciences that can be readily adapted for use in multiple settings

MOLECULAR APPROACHES TO THE STUDY OF THE OCEAN

Springer Science & Business Media **Marine biological science is now studied at the molecular level and although research scientists depend on information gained using molecular techniques, there is no book explaining the philosophy of this approach. Molecular Approaches to the Study of the Ocean introduces the reasons why molecular technology is such a powerful tool in the study of the oceans, describing the types of techniques that can be used, why they are useful and gives examples of their application. Molecular biological techniques allow phylogenetic relationships to be explored in a manner that no macroscopic method can; although the book deals with organisms near the base of the marine food web, the ideas can be used in studies of macroorganisms as well as those in freshwater environments.**

WILDLIFE-HABITAT RELATIONSHIPS IN OREGON AND WASHINGTON

This volume provides information about the terrestrial, freshwater, and marine habitats of Oregon and Washington and the wildlife that depend upon them; it also supports broader and more consistent conservation planning, management, and research. The 27 chapters identify 593 wildlife species, define some 300 wildlife terms, profile wildlife communities, review introduced and extirpated species and species at risk, and discuss management approaches. The volume includes color and bandw photographs, maps, diagrams, and illustrations; and the accompanying CD-ROM contains additional wildlife data (60,000 records), maps, and seven matrixes that link wildlife species with their respective habitat types. Johnson is a wildlife biologist, engineer, and habitat scientist; and O'Neill is director of the Northwest Habitat Institute; they worked together on this publication project as its managing directors. Annotation copyrighted by Book News Inc., Portland, OR

CIVIC ECOLOGY

ADAPTATION AND TRANSFORMATION FROM THE GROUND UP

MIT Press **Offer stories of ... emerging grassroots environmental stewardship, along with an interdisciplinary framework for understanding and studying it as a growing international phenomenon.--Back cover.**

ISSUES IN LIFE SCIENCES: MOLECULAR BIOLOGY: 2011 EDITION

ScholarlyEditions **Issues in Life Sciences: Molecular Biology / 2011 Edition is a ScholarlyEditions™ eBook that delivers timely, authoritative, and comprehensive information about Life Sciences—Molecular Biology. The editors have built Issues in Life Sciences: Molecular Biology: 2011 Edition on the vast information databases of ScholarlyNews.™ You can expect the information about Life Sciences—Molecular Biology in this eBook to be deeper than what you can access anywhere else, as well as consistently reliable, authoritative, informed, and relevant. The content of Issues in Life Sciences: Molecular Biology: 2011 Edition has been produced by the world's leading scientists, engineers, analysts, research institutions, and companies. All of the content is from peer-reviewed sources, and all of it is written, assembled, and edited by the editors at ScholarlyEditions™ and available exclusively from us. You now have a source you can cite with authority, confidence, and credibility. More information is available at http://www.ScholarlyEditions.com/.**

MY BROTHER CHARLIE

Scholastic Inc. **From bestselling author and actress Holly Robinson Peete--a heartwarming story about a boy who happens to be autistic, based on Holly's son, who has autism. "Charlie has autism. His brain works in a special way. It's harder for him to make friends. Or show his true feelings. Or stay safe." But as his big sister tells us, for everything that Charlie can't do well, there are plenty more things that he's good at. He knows the names of all the American presidents. He knows stuff about airplanes. And he can even play the piano better than anyone he knows.Actress and national autism spokesperson Holly Robinson Peete collaborates with her daughter on this book based on Holly's 10-year-old son, who has autism.**

BIRDS OF MAINE

Princeton University Press **A comprehensive and beautifully illustrated overview to the birds of Maine The first comprehensive overview of Maine's incredibly rich birdlife in more than seven decades, Birds of Maine is a detailed**

account of all 464 species recorded in the Pine Tree State. It is also a thoroughly researched, accessible portrait of a region undergoing rapid changes, with southern birds pushing north, northern birds expanding south, and once-absent natives like Atlantic Puffins brought back by innovative conservation techniques pioneered in Maine. Written by the late Peter Vickery in cooperation with a team of leading ornithologists, this guide offers a detailed look at the state’s dynamic avifauna—from the Wild Turkey to the Arctic Tern—with information on migration patterns and timing, current status and changes in bird abundance and distribution, and how Maine's geography and shifting climate mold its birdlife. It delves into the conservation status for Maine's birds, as well as the state's unusually textured ornithological history, involving such famous names as John James Audubon and Theodore Roosevelt, and home-grown experts like Cordelia Stanwood and Ralph Palmer. Sidebars explore diverse topics, including the Old Sow whirlpool that draws multitudes of seabirds and the famed Monhegan Island, a mecca for migrant birds. Gorgeously illustrated with watercolors by Lars Jonsson and scores of line drawings by Barry Van Dusen, Birds of Maine is a remarkable guide that birders will rely on for decades to come.