

## Tuna Physiology Ecology And Evolution Volume 19 Physiological Ecology And Evolution Fish Physiology

Historically, whenever tuna was hauled ashore, the sounds of battle were never far away. 'Tuna Wars' tells the untold story of the power struggles emerging around tuna, from the distant past to your present-day dinner table. In the ancient past, the giant tuna was the first fish to become the basis of a large-scale industry and a 'global' trade that created fortunes: Hannibal was able to finance his elephant campaign on Rome thanks to tuna. From the Middle Ages on, a tuna fishing monopoly on Spain's southern coast allowed the nobility to completely dominate the area and even lead the 'invincible' Armada. When the markets for tuna increased exponentially thanks to technical advances, tuna eventually became a billion-dollar business and one of the most-consumed fish species worldwide. But this massive expansion came at a price. An 18th century monk in Madrid was the first to warn that tuna fisheries needed to be run sustainably for the sake of future generations. And the issue of sustainability would go on to become a game-changer in the modern tuna wars, characterized by new alliances and partnerships, hybrid warfare and commercial power struggles. In addition to accompanying you through the history of tuna and sharing insights into fisheries science and approaches to sustainably managing fisheries, Tuna Wars offers practical guidance on choosing sustainably fished tuna. In short, it will tell you everything you ever wanted to know about tuna, but were afraid to ask.

Winner of the 2017 Paul Sweezy Marxist Sociology Book Award from the American Sociological Association Although humans have long depended on oceans and aquatic ecosystems for sustenance and trade, only recently has human influence on these resources dramatically increased, transforming and undermining oceanic environments throughout the world. Marine ecosystems are in a crisis that is global in scope, rapid in pace, and colossal in scale. In *The Tragedy of the Commodity*, sociologists Stefano B. Longo, Rebecca Clausen, and Brett Clark explore the role human influence plays in this crisis, highlighting the social and economic forces that are at the heart of this looming ecological problem. In a critique of the classic theory "the tragedy of the commons" by ecologist Garrett Hardin, the authors move beyond simplistic explanations—such as unrestrained self-interest or population growth—to argue that it is the commodification of aquatic resources that leads to the depletion of fisheries and the development of environmentally suspect means of aquaculture. To illustrate this argument, the book features two fascinating case studies—the thousand-year history of the bluefin tuna fishery in the Mediterranean and the massive Pacific salmon fishery. Longo, Clausen, and Clark describe how new fishing technologies, transformations in ships and storage capacities, and the expansion of seafood markets combined to alter radically and permanently these crucial ecosystems. In doing so, the authors underscore how the particular organization of social production contributes to ecological degradation and an increase in the pressures placed upon the ocean. The authors highlight the historical, political, economic, and cultural forces that shape how we interact with the larger biophysical world. A path-breaking analysis of overfishing, *The Tragedy of the Commodity* yields insight into issues such as deforestation, biodiversity loss, pollution, and climate change.

There is considerable global interest in the culture of finfish species both for cold and warm water aquaculture development and growth. Essential information on the biology, domestication and aquacultural characteristics of a wide selection of novel and established species is provided in the form of technical sheets, species descriptions and information on current rearing practices, making this a must-have reference in the field of aquacultural science. The book also offers a basic framework in order to support investment strategies for research and development efforts aimed at the emergence of a profitable finfish aquaculture

industry and presents a rationale for species diversification, different approaches to species selection and basic economical and market considerations governing the launch of strategic development and commercialization efforts.

Examines the advances in cloning technology, including sensor-wearing seals, cyborg beetles, a bionic bulldog, and the world's first cloned cat.

This book is dedicated to present different aspects of reproductive physiology and molecular endocrinology of commercially important as well as potential aquaculture fish species. The existing aquaculture generation is looking for species diversification for efficient utilization of available diverse water resources. The knowledge of reproductive physiology of fish will help in development of breeding strategy for use in commercial aquaculture. Reproductive system is highly coordinated and governed by means of complex network of nervous, endocrine system and environmental factor as well. This book emphasize on different key aspects of reproductive endocrine system such as basic gonadal biology in the events of climate vulnerability, sex determination, sex reversal, stimulatory hormones, inhibitory hormones and receptors, environmental and chemical factor guiding reproduction, puberty, neuroendocrine regulation of reproduction etc. This book further describes how reproduction is not just indispensable for the existence or survival of an individual, but it is important for the survival of species. Chapters also address the concerns of anthropogenic activities on fish and the aquatic environment lead main trouble on physiological and reproductive processes of aquatic animals. This book offers an attractive compilation of highly relevant aspects of current and future of aquaculture, especially in view of the growing awareness of aquaculture, to food scientists working on commercial fish, animal biologists, fish geneticists etc. This book is very timely, and relevant to the sustainable development goals. The contents would be relevant to policy makers, working towards blue revolution and blue economy.

Advances in Marine Biology, Volume 88, the latest release in a series that has been providing in-depth and up-to-date reviews on all aspects of marine biology since 1963, updates on many topics that will appeal to postgraduates and researchers in marine biology, fisheries science, ecology, zoology and biological oceanography. Chapters in this new release include Marine Environmental DNA: Approaches, Applications, and Opportunities, and The Biology and Ecology of the Banana Prawns. Reviews articles surrounding the latest advances in marine biology Authored by leading figures in their respective fields of study Presents materials that are widely used by managers, students and academic professionals in the marine sciences Illuminating the conditions for global governance to have precipitated the devastating decline of one of the ocean's most majestic creatures The International Commission for the Conservation of Atlantic Tunas (ICCAT) is the world's foremost organization for managing and conserving tunas, seabirds, turtles, and sharks traversing international waters. Founded by treaty in 1969, ICCAT stewards what has become under its tenure one of the planet's most prominent endangered fish: the Atlantic bluefin tuna. Called "red gold" by industry insiders for the exorbitant price her ruby-colored flesh commands in the sushi economy, the giant bluefin tuna has crashed in size and number under ICCAT's custodianship. With regulations to conserve these sea creatures in place for half a century, why have so many big bluefin tuna vanished from the Atlantic? In Red Gold, Jennifer E. Telesca offers unparalleled access to ICCAT to show that the institution has faithfully executed the task assigned it by international law: to fish as hard as possible to grow national economies. ICCAT manages the bluefin not to protect them but to secure export markets for commodity empires—and, as a result, has become complicit in their extermination. The decades of regulating fish as commodities have had disastrous consequences. Amid the mass extinction of all kinds of life today, Red Gold acquaints the reader with the splendors of the giant bluefin tuna through vignettes that defy technoscientific and market rationales. Ultimately, this book shows, changing the way people value marine life must come not only from reforming ICCAT but from transforming the

dominant culture that consents to this slaughter.

This collection of reviews will be of considerable interests to biologists and MDs working on any aspect of cardiovascular function. With state-of-the-art reviews written by competent experts in the field, the content is also of interest for MSc and PhD students in most fields of cardiovascular physiology.

Since the award-winning first volume, *The Biology of Sharks and Their Relatives*, published in 2004, the field has witnessed tremendous developments in research, rapid advances in technology, and the emergence of new investigators beginning to explore issues of biodiversity, distribution, physiology, and ecology in ways that eluded more traditional studies. As an entirely new companion volume, *Sharks and Their Relatives II: Biodiversity, Adaptive Physiology, and Conservation* brings you up to speed on these significant changes, specifically examining how elasmobranch fishes – the sharks, skates, rays, and chimaeras – successfully survive in a wide range of habitats. Emphasizes Conservation of Threatened Species This multidisciplinary volume begins by examining elasmobranch biodiversity patterns and their integrated sensory systems. It then explores the physiological adaptations – from unique sensory modalities to compensatory mechanisms for physiological and environmental stress – that make these animals particularly well-suited for the range of habitats where they are found, in both oceanic and freshwater realms. Features Established Researchers and Introduces New Pioneers in the Field The book then considers the human interactions and anthropogenic effects on worldwide elasmobranch populations and the potential extinction risks posed by increasing threats from changes in habitat, changes in water chemistry, and growing commercial exploitation. This text truly is unrivaled in terms of coverage and readability, and it is a must-have reference for marine biologists, fishery scientists, oceanographers, and also marine, zoo, and aquarium veterinarians. To address subject areas and subdisciplines where coverage was absent or superficial in volume one, Jeffrey Carrier and associates have assembled in the current volume a collection of works that reveal patterns of biodiversity, the physiological attributes that contribute to elasmobranchs' successful exploitation of oceanic and freshwater realms, and the unique issues associated with the interaction between elasmobranchs and humans, all of this with overarching attention to issues of conservation. "We begin with chapters examining biodiversity. We have chosen to approach this discussion by presenting elasmobranchs as inhabitants of the range of zoogeographic provinces, realizing that significant overlap may occur for more pelagic species. This realization was reflected in the dialogue that occurred during preparation of the book between our chapter authors, and the recognition that many species simply cannot be confined to a specific habitat or range of habitats. We then continue by examining some of the unique physiological adaptations that allow these animals to exploit the range of habitats where they are found, from unique sensory modalities to compensatory mechanisms for physiological and environmental stress. "Our concluding section presents some of the challenges faced by members of these groups. We have asked our authors to consider human interactions and anthropogenic effects on worldwide populations and the potential extinction risks posed from survival under increasing threats from changes in habitat, changes in water chemistry, and increasing commercial exploitation. Conservation of species under threat remains a theme throughout the book. "Our authors represent an international group of investigators including established scientists whose work has been widely published and respected, and emerging younger scientists who have exploited recent advances in technology to ask and answer new questions as well as offering new insights and interpretations to enduring problems in the fields of ecology and physiology. We have asked them to be speculative and challenging, and we have asked them to predict future areas for investigation in hopes that their work will both inspire and provoke additional studies of these fascinating animals." - from the Preface

*Advances in Tuna Aquaculture: From Hatchery to Market* provides detailed overviews on the

current status of tuna fisheries, fattening, and farming practices, as well as advances in closed-cycle tuna aquaculture. Contributors are renowned scientists, internationally recognized as authorities in their fields. This book addresses all basic and applied aspects of tuna aquaculture, presenting and discussing the global status of tuna fisheries, reproduction, broodstock management, spawning, larval rearing and early developmental stages including nursery and grow out methods. It presents incorporates the most comprehensive and updated data, statistics, and trends in tuna fisheries and aquaculture, covering and addresses a variety of topics ranging from endocrinology, nutrition, diseases, and genetics to economics and markets. It covers describes recent up-to-date progress on tuna aquaculture and hatchery development. It also provides a synopsis overview of the challenges presently confronted by tuna aquaculturists, facing tuna aquaculture and offers innovative views on the challenges bottleneck issues faced by the industry with the current shift from fisheries to fattening to closed-cycle aquaculture. This is the first book to encompass all aspects related to the tuna aquaculture industry, and merges them into a state-of-the-art compendium that will serve as seminal reference for students, researchers, and professionals working with tuna biology, fisheries, and aquaculture worldwide. Incorporates and reviews the most recent information on tuna fisheries and aquaculture Presents the most innovative production technologies in tuna aquaculture, from hatchery to market Includes important information on tuna, derived from industry experience and academic research on larval rearing technology and grow out operations Encompasses and discusses key topics such as genetics, diseases, nutrition, endocrinology, and reproduction, as well as developments, challenges, and future opportunities in tuna aquaculture Provides the latest scientific methods and technologies to maximize efficiencies and production Presents the independent and collective assessments, viewpoints, and visions of various scientists, all internationally recognized as authorities in the field

Scientists, fisheries managers, policymakers, and marine conservationists will take away key data from this timely volume to help them ensure these remarkable fish continue in perpetuity. Since the publication of *The Migrations of Fish* by Prof. Alexander Meek in 1916, a number of books have been published on this subject. However, most of these books only cover one type of migratory mechanisms. This book aims to overcome this drawback by presenting a comprehensive coverage of all life history strategies—potadromy, anadromy, catadromy, amphidromy and oceanodromy in one book. The first section of this book reviews the history of fish migration studies, the main definitions and concepts related with fish migration and the main trends and challenges of fish migration research. The second section describes the main processes and patterns associated with all migratory life history strategies, as well as the main problems associated with their conservation. Finally, the third section provides examples of the main methodologies used to study fish migration. This book was conceived with the objective to provide undergraduate and graduate students and researchers with a comprehensive book on which they could rely.

This book is a multidisciplinary volume that overviews the most recent literature covering the physiology, biomechanics, evolution, and ecology of tunas. It examines critical areas of molecular and organismal physiology, phylogeny, ecology, and evolutionary biology. Recently developed techniques for electronic tagging of fish are presented. The book covers all aspects of tuna biology, from metabolism and cardiovascular research to reproductive biology. \* Contains a comprehensive review of tuna biology \* Provides a synthesis of archival and pop-up satellite tag technology in tunas \* Covers the phylogenetics of modern tunas \* Includes color plates on morphology, physiology, ecology, and oceanography

*Fish Physiology: Physiology of Elasmobranch Fishes, Volume 34A* is a useful reference for fish physiologists, biologists, ecologists, and conservation biologists. Following an increase in research on elasmobranchs due to the plight of sharks in today's oceans, this volume

compares elasmobranchs to other groups of fish, highlights areas of interest for future research, and offers perspective on future problems. Covering measurements and lab-and-field based studies of large pelagic sharks, this volume is a natural addition to the renowned Fish Physiology series. Provides needed comprehensive content on the physiology of elasmobranchs Offers a systems approach between structure and interaction with the environment and internal physiology Contains contributions by leading experts in their respective fields, under the guidance of internationally recognized and highly respected editors Highlights areas of interest for future research, including perspective on future problems Among the roughly 30,000 species of fish, migratory species account for only 165 species, but most of them are very important fisheries resources. This book presents up-to-date innovative research results on the physiology and ecology of fish migration. It focuses on salmon, eels, lampreys, and bluefin tuna. The book examines migratory behavior, spawning, and behavioral ecology.

Massive demographic, environmental, economic, and regulatory shifts are generating huge new investment opportunities with an exceptionally high probability of success over the coming years and decades. In *The Esoteric Investor*, a world-class portfolio manager identifies these investments, and shows how your best profit opportunities may now lie far beyond the boundaries of traditional financial markets. LifeQuant Capital Management principal Vishaal B. Bhuyan begins by explaining why investors must become far more creative in the way they source opportunity. Next, he identifies immense growth potential in markets ranging from reverse equity transactions to longevity risk—the \$24 trillion market you've never heard of. Bhuyan also shows how global events offer sustained profit opportunities in three key markets most investors consistently ignore. If you're looking for promising investments that everyone else doesn't already know about, *The Esoteric Investor* offers the unique perspective you've been seeking.

Off the shore of Hatteras Island, where the inner edge of the Gulf Stream flows northward over the outer continental shelf, the marine life is unlike that of any other area in the Atlantic. Here the powerful ocean river helps foster an extraordinarily rich diversity of life, including Sargassum mats concealing strange creatures and exotic sea beans, whales and sea turtles, sunfish and flying fish, and shearwaters and Bermuda petrels. During his long career as a research scientist, David S. Lee made more than 300 visits to this area off the North Carolina coast, documenting its extraordinary biodiversity. In this collection of twenty linked essays, Lee draws on his personal observations and knowledge of the North Atlantic marine environment to introduce us to the natural wonders of an offshore treasure. Lee guides readers on adventures miles offshore and leagues under the sea, blending personal anecdotes with richly detailed natural history, local culture, and seafaring lore. These journeys provide entertaining and informative connections between the land and the diverse organisms that live in the Gulf Stream off the coast of North Carolina. Lee also reminds us that ocean environments are fragile and vulnerable to threats such as pollution, offshore energy development, and climate change, challenging those of us on land to

consider carefully the costs of ignoring sea life that thrives just beyond our view. Zoo Animal and Wildlife Immobilization and Anesthesia, Second Edition is a fully updated and revised version of the first comprehensive reference on anesthetic techniques in captive and free-ranging wildlife. Now including expanded coverage of avian and aquatic species, this exhaustive resource presents information on the full range of zoo and wildlife species. Covering topics ranging from monitoring and field anesthesia to CPR and euthanasia, the heart of the book is devoted to 53 species-specific chapters providing a wealth of information on little-known and common zoo and wildlife animals alike. In addition to new species chapters, the new edition brings a new focus on pain management, including chronic pain, and more information on species-specific physiology. Chapters on airway management, monitoring, emergency therapeutics, and field procedures are all significantly expanded as well. This update to Zoo Animal and Wildlife Immobilization and Anesthesia is an invaluable addition to the library of all zoo and wildlife veterinarians.

3 breakthrough books deliver innovative global investing strategies for today's radically new market environment Yesterday's investment strategies won't cut it any more! This Collection brings together innovative new approaches from three of this generation's most successful investors: strategies you simply won't find elsewhere! In *Buying at the Point of Maximum Pessimism: Six Value Investing Trends from China to Oil to Agriculture*, Lauren Templeton Capital Management's D. Scott Phillips reveals today's secret for earning consistently outsized profits: In times of maximum pessimism, recognize your long-term opportunities, and pounce! Phillips identifies six powerful value investing themes for the 2010s: emerging areas of long-term growth that become even more compelling in volatile or bear markets. In *What Would Ben Graham Do Now?: A New Value Investing Playbook for a Global Age*, Jeffrey Towson modernizes value investing for high-growth emerging markets, introducing techniques he mastered working for Prince Alwaleed, the "Arabian Warren Buffet." Building on Ben Graham's classic focus on price and quality, he integrates crucial values of political access, reputation, and capabilities that are indispensable for modern global investing. Next, he presents practical investment "playbooks" designed to help you profitably navigate tomorrow's titanic market collisions. Finally, in *The Esoteric Investor: Alternative Investments for Global Macro Investors*, Vishaal B. Bhuyan reveals immense new investment opportunities hidden in the coming age wave, pension crisis, and today's massive demographic, economic, and regulatory shifts. Discover how to profit from reverse equity transactions, surprising commodities, and longevity risk markets—the \$24 trillion market you've never heard of! From world-renowned leaders in alternative global investment, including D. Scott Phillips, Vishaal B. Bhuyan, and Jeffrey Towson

Providing a comprehensive account of marine conservation, this book examines human use and abuse of the world's seas and oceans and their marine life, and the various approaches to management and conservation. Healthy marine

ecosystems - the goods and services that they provide - are of vital importance to human wellbeing. There is a pressing need for a global synthesis of marine conservation issues and approaches. This book covers conservation issues pertinent to major groups of marine organisms, such as sharks, marine turtles, seabirds and marine mammals; key habitats, from estuaries, wetlands and coral reefs to the deep sea; and from local and regional to international initiatives in marine conservation. An ideal resource for students, researchers and conservation professionals, the book pays appropriate attention to the underlying marine biology and oceanography and how human activities impact marine ecosystems, enabling the reader to fully understand the context of conservation action and its rationale.

In light of mounting fishing pressures, increased aquaculture production and a growing concern for fish well-being, improved knowledge on the swimming physiology of fish and its application to fisheries science and aquaculture is needed. This book presents recent investigations into some of the most extreme examples of swimming migrations in salmons, eels and tunas, integrating knowledge on their performance in the laboratory with that in their natural environment. For the first time, the application of swimming in aquaculture is explored by assessing the potential impacts and beneficial effects. The modified nutritional requirements of "athletic" fish are reviewed as well as the effects of exercise on muscle composition and meat quality using state-of-the-art techniques in genomics and proteomics. The last chapters introduce zebrafish as a novel exercise model and present the latest technologies for studying fish swimming and aquaculture applications.

Unlocking the puzzle of how animals behave and how they interact with their environments is impossible without understanding the physiological processes that determine their use of food resources. But long overdue is a user-friendly introduction to the subject that systematically bridges the gap between physiology and ecology. Ecologists--for whom such knowledge can help clarify the consequences of global climate change, the biodiversity crisis, and pollution--often find themselves wading through an unwieldy, technically top-heavy literature. Here, William Karasov and Carlos Martínez del Río present the first accessible and authoritative one-volume overview of the physiological and biochemical principles that shape how animals procure energy and nutrients and free themselves of toxins--and how this relates to broader ecological phenomena. After introducing primary concepts, the authors review the chemical ecology of food, and then discuss how animals digest and process food. Their broad view includes symbioses and extends even to ecosystem phenomena such as ecological stoichiometry and toxicant biomagnification. They introduce key methods and illustrate principles with wide-ranging vertebrate and invertebrate examples. Uniquely, they also link the physiological mechanisms of resource use with ecological phenomena such as how and why animals choose what they eat and how they participate in the exchange of energy and materials in their biological communities. Thoroughly up-to-date and pointing the way to future research, *Physiological Ecology* is an essential new source for upper-level undergraduate and graduate students--and an

ideal synthesis for professionals. The most accessible introduction to the physiological and biochemical principles that shape how animals use resources Unique in linking the physiological mechanisms of resource use with ecological phenomena An essential resource for upper-level undergraduate and graduate students An ideal overview for researchers

New scientific approaches have dramatically evolved in the decade since *The Physiology of Fishes* was first published. With the genomic revolution and a heightened understanding of molecular biology, we now have the tools and the knowledge to apply a fresh approach to the study of fishes. Consequently, *The Physiology of Fishes, Third Edition* is not merely another updating, but rather an entire reworking of the original. To satisfy that need for a fresh approach, the editors have employed a new set of expert contributors steeped in the very latest research; their contemporary perspective pervades the entire text. In addition to new chapters on gas transport, temperature physiology, and stress, as well as one dedicated to functional genomics, readers will discover that many of these new contributors approach their material with a contemporary molecular perspective. While much of the material is new, the editors have completely adhered to the original's style in creating a text that continues to be highly readable and perpetually insightful in bridging the gap between pure and applied science. *The Physiology of Fishes, Third Edition*, completely updated with a molecular perspective, continues to be regarded as the best single-volume general reference on all major areas of research in fish physiology. *The Physiology of Fishes, Third Edition* provides background information for advanced students as well as material of interest to marine and fisheries biologists, ichthyologists, and comparative physiologists looking to differentiate between the physiological strategies unique to fishes, and those shared with other organisms.

The second edition of *The Diversity of Fishes* represents a major revision of the world's most widely adopted ichthyology textbook. Expanded and updated, the second edition is illustrated throughout with striking color photographs depicting the spectacular evolutionary adaptations of the most ecologically and taxonomically diverse vertebrate group. The text incorporates the latest advances in the biology of fishes, covering taxonomy, anatomy, physiology, biogeography, ecology, and behavior. A new chapter on genetics and molecular ecology of fishes has been added, and conservation is emphasized throughout. Hundreds of new and redrawn illustrations augment readable text, and every chapter has been revised to reflect the discoveries and greater understanding achieved during the past decade. Written by a team of internationally-recognized authorities, the first edition of *The Diversity of Fishes* was received with enthusiasm and praise, and incorporated into ichthyology and fish biology classes around the globe, at both undergraduate and postgraduate levels. The second edition is a substantial update of an already classic reference and text. Companion resources site This book is accompanied by a resources site: [www.wiley.com/go/helfman](http://www.wiley.com/go/helfman) The site is being constantly updated by the author team and provides:

- Related videos selected by the authors
- Updates to the book since publication
- Instructor resources
- A chance to send in feedback

Reviews: *Methods and Technology in Fish Biology and Fisheries* published by Kluwer Academic Publishers is a book series dedicated to the publication of information on advanced, forward-looking methodologies, technologies, or perspectives in fish and is

especially dedicated to relevant topics addressing global, fisheries. This series international concern in fish and fisheries. Humans continue to challenge our environments with new technologies and technological applications. The dynamic creativity of our own species often tends to place the greatest burden on our supporting ecosystems. This is especially true for aquatic networks of creeks, lakes, rivers and ocean environments. We also frequently use our conceptual powers to balance conflicting requirements and demands on nature and continue to develop new approaches and tools to provide sustainable resources as well as conserve what we hold most dear on local and global scales. This book series will provide a window into the developing dynamic among humans, aquatic ecosystems (both freshwater and marine), and the organisms that inhabit aquatic environments. There are many reasons to doubt the increasing social and economic value technology has gained over the last two centuries. Science and technology represent stages in human development. I agree with Ernst Mayer when he said in *Toward a New Philosophy of Biology* (1988) that "endeavors to solve all scientific problems by pure logic and refined measurements are unproductive, if not totally irrelevant.

*Advances in Marine Biology* has been providing in-depth and up-to-date reviews on all aspects of marine biology since 1963 — more than 50 years of outstanding coverage from a comprehensive serial that is well known for its contents and editing. This latest addition to the series includes updates on many topics that will appeal to postgraduates and researchers in marine biology, fisheries science, ecology, zoology, and biological oceanography. Specialty areas for the series include marine science, both applied and basic, a wide range of topical areas from all areas of marine ecology, oceanography, fisheries management, and molecular biology, and the full range of geographic areas from polar seas to tropical coral reefs. Reviews articles on the latest advances in marine biology Authored by leading figures in their respective fields of study Presents materials that are widely used by managers, students, and academic professionals in the marine sciences Provides value to anyone studying bottlenose dolphins, deep-sea macrofauna, marine invertebrates, pinna nobilis, and ecology, amongst other study areas

In a lively account of the American tuna industry over the past century, celebrated food writer and scholar Andrew F. Smith relates how tuna went from being sold primarily as a fertilizer to becoming the most commonly consumed fish in the country. In *American Tuna*, the so-called "chicken of the sea" is both the subject and the backdrop for other facets of American history: U.S. foreign policy, immigration and environmental politics, and dietary trends. Smith recounts how tuna became a popular low-cost high-protein food beginning in 1903, when the first can rolled off the assembly line. By 1918, skyrocketing sales made it one of America's most popular seafoods. In the decades that followed, the American tuna industry employed thousands, yet at mid-century production started to fade. Concerns about toxic levels of methylmercury, by-catch issues, and over-harvesting all contributed to the demise of the industry today, when only three major canned tuna brands exist in the United States, all foreign owned. A remarkable cast of characters— fishermen, advertisers, immigrants, epicures, and environmentalists, among many others—populate this fascinating chronicle of American tastes and the forces that influence them.

*Fish Physiology: Physiology of Elasmobranch Fishes, Volume 34B* is a useful reference

for fish physiologists, biologists, ecologists, and conservation biologists. Following an increase in research on elasmobranchs due to the plight of sharks in today's oceans, this volume compares elasmobranchs to other groups of fish, highlights areas of interest for future research, and offers perspective on future problems. Covering measurements and lab-and-field based studies of large pelagic sharks, this volume is a natural addition to the renowned Fish Physiology series. Provides needed comprehensive content on the physiology of elasmobranchs Offers a systems approach between structure and interaction with the environment and internal physiology Contains contributions by leading experts in their respective fields, under the guidance of internationally recognized and highly respected editors Highlights areas of interest for future research, including perspective on future problems

The 2nd international tagging and tracking symposium was held in San Sebastian, Spain, in October 2007, seven years after the first symposium was held in Hawaii in 2000 (Sibert and Nielsen 2001). In the intervening seven years, there have been major advances in both the capability and reliability of electronic tags and analytical approaches for geolocation of tagged animals in marine habitats. Advances such as increased data storage capacity, sensor development, and tag miniaturization have allowed researchers to track a much wider array of marine animals, not just large and charismatic species. Importantly, data returned by these tags are now being used in population analyses and movement simulations that can be directly utilized in stock assessments and other management applications. Papers in this volume are divided into three sections, the first describing insights into behavior achieved using acoustic, archival, and novel tags, the second reporting on advances in methods of geolocation, while the final section includes contributions where tag data have been used in management of marine species. Accurate documentation of animal movements and behaviors in critical marine habitats are impossible to obtain with other technologies. The management and conservation of marine species are critical in today's changing ocean environment and as electronic tags become more accurate and functional for a diversity of organisms their application continues to grow, setting new standards in science and technology. Destined to quickly become the standard reference for scientists, students, and naturalists, Tunas and Billfishes of the World will be prized by all fishers who pursue these species.

Inspired by the International White Shark Symposium in 2010, Global Perspectives on the Biology and Life History of the White Shark incorporates the most important contemporary research findings into a single peer-reviewed book. This beautifully illustrated reference represents a historic change in the context of White Shark (*Carcharodon carcharias*) research. Once considered one of the most poorly understood and difficult sharks to study, this timely book recognizes a new sophisticated focus on the White Shark, raising its status from obscurity to enlightenment. The Global Perspectives on the Biology and Life History of the White Shark celebrates the White Shark as the most studied shark in the sea. Within the chapters one can find new insights into a vast range of topics, such as

behavior, physiology, migration patterns, habitat preferences, daily activity patterns, molecular genetics, reproductive biology and new research methods. The book also delves into population monitoring and policy options for managers and researchers.

Fish accomplish most of their basic behaviors by swimming. Swimming is fundamental in a vast majority of fish species for avoiding predation, feeding, finding food, mating, migrating and finding optimal physical environments. Fish exhibit a wide variety of swimming patterns and behaviors. This treatise looks at fish swimming from the behavioral and

This book focuses on latest information on the biology and ecology of the three bluefin tuna species: the Pacific (*Thunnus orientalis*), Atlantic (*T. thynnus*), and southern bluefin tuna (*T. maccoyii*). In the book, the phylogeny and basic ecological information such as early life history, age and growth, and food habits are covered. Information related to migratory ecology, and important biological aspects such as metabolism and energetics, swimming performance, schooling, visual physiology, and reproductive physiology are also included. Furthermore, new research insights about various kinds of mathematical models for bluefin tuna ecology are introduced. All the chapters are contributed by active scientists engaged in bluefin tuna research. The intent of this book is to contribute to a better understanding of the biology and ecology of bluefin tuna, and encourage undergraduate and graduate students who read this book to become bluefin tuna scientists who can contribute to further understanding of the biology and ecology of bluefin tuna.

Examines the natural history of the tuna, one of the world's most endangered marine animals, revealing how the increasing demand for sushi has caused a devastating overfishing of the tuna and detailing the implications of its potential extinction.

The first in two decades to exclusively integrate physiological and biomechanical studies of fish locomotion, feeding and breathing, making this book both comprehensive and unique. *Fish Physiology: Fish Biomechanics* reviews and integrates recent developments in research on fish biomechanics, with particular emphasis on experimental results derived from the application of innovative new technologies to this area of research, such as high-speed video, sonomicrometry and digital imaging of flow fields. The collective chapters, written by leaders in the field, provide a multidisciplinary view and synthesis of the latest information on feeding mechanics, breathing mechanics, sensory systems, stability and maneuverability, skeletal systems, muscle structure and performance, and hydrodynamics of steady and burst swimming, including riverine passage of migratory species. Book presents concepts in biomechanics, a rapidly expanding area of research First volume in over twenty years on this subject Multi-author volume with contributions by leaders in the field Clear explanations of basic biomechanical principles used in fish research Well illustrated with summary figures and explanatory color diagrams

