

MODERN FISHERIES SCIENCE

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Preface

Fisheries science plays a pivotal role in ensuring global food security, nutritional well-being, economic development, and the sustainable utilization of aquatic resources. As capture fisheries and aquaculture continue to evolve in response to climate change, technological advancements, and increasing demand for aquatic products, there is a growing need for a comprehensive understanding of modern fisheries science. *Modern Fisheries Science* has been prepared to present the fundamental principles and contemporary developments that are shaping the future of fisheries and aquatic resource management.

Recent advances in stock assessment, ecosystem-based fisheries management, precision aquaculture, biotechnology, genetics, artificial intelligence, remote sensing, Internet of Things (IoT), and digital monitoring systems have transformed fisheries research and management. These innovations contribute to improved resource conservation, enhanced production efficiency, disease surveillance, traceability, and climate resilience while promoting environmental sustainability.

This volume integrates classical fisheries concepts with emerging technologies and covers topics including fish biology, ecology, taxonomy, aquatic biodiversity, fisheries management, aquaculture production, fish nutrition, aquatic animal health, post-harvest technology, value addition, and fisheries economics. Emphasis is placed on sustainable harvesting practices, conservation of aquatic ecosystems, and responsible fisheries management.

The editors sincerely acknowledge the valuable contributions of researchers, academicians, fisheries professionals, and reviewers whose expertise has enriched this publication. It is hoped that this book will serve as a valuable resource for students, researchers, educators, extension professionals, policymakers, and fisheries practitioners committed to advancing sustainable fisheries and aquaculture.

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Dr. N. Sreevalli

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