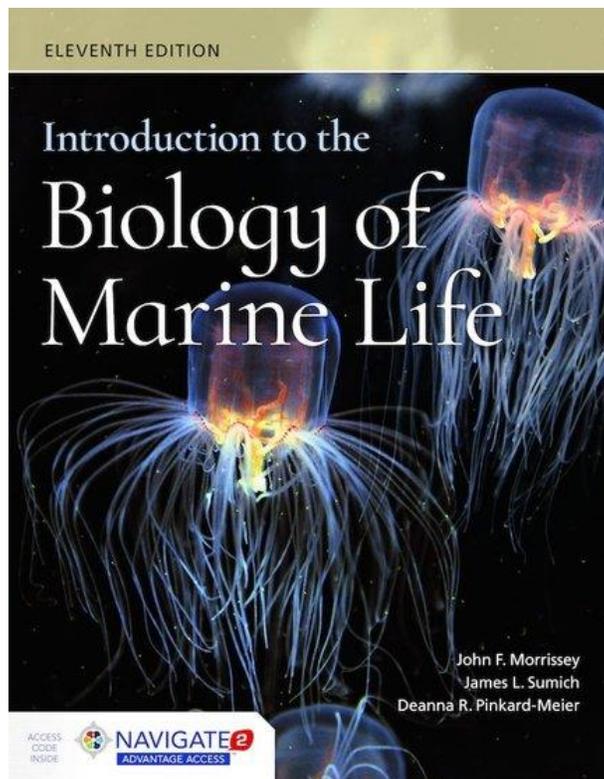




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Introduction to the Biology of Marine Life, Eleventh Edition
Includes Navigate 2 Advantage Access



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SEE WHAT'S NEW TO THE ELEVENTH EDITION!

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This Transition Guide outlines many of the changes and new content in the *Eleventh Edition*. Use this guide for an easy transition to the new edition.

Written in a conversational tone, the eleventh edition of *Introduction to the Biology of Marine Life*, continues to provide students with a clear and engaging introduction into the exciting world of marine organisms and the extraordinary environments in which they live. Assuming no prior knowledge of marine biology, the text uses selected groups of marine organisms to develop an understanding of biological principles and processes that are basic to all forms of life in the sea, including phytoplankton, marine plants, microbial heterotrophs and invertebrates, fishes and reptiles, as well as seabirds and marine mammals. Building on the biological basics of these groups, the text progresses to discuss the taxonomy, evolution, ecology, behavior, and physiology. Additional topics include the ocean as a habitat, patterns of associations, estuaries, coastal seas, coral reefs, the open sea, the deep sea floor, and harvesting living marine resources.

KEY UPDATES:

- All chapters have been carefully and thoroughly revised and updated with the latest scientific and education research.
- A completely redesigned interior layout will draw in the reader and help to engage students in the high-quality pedagogical features.
- The fully revised art package, including over 450 new or revised images, makes difficult concepts more approachable and figures more engaging.
- NEW Learning Objectives have been added to every chapter to focus students' attention and guide their study.
- NEW "Did You Know?" features are scattered throughout every chapter with interesting facts to engage the reader and get students excited.
- A NEW chapter on Polar Seas has been added at the suggestion of several reviewers.
- A NEW chapter on Physical and Chemical Oceanography has been added. This information was previously part of Chapter 1, but it's been pulled out into a separate chapter and expanded upon. This will allow instructors who need more of this content to give students the information they need to succeed, and instructors whose students may have studied oceanography elsewhere in their curriculum can easily omit this information from their course.
- Most Research In Progress boxes have been replaced with new information on the latest marine biology research.
- Case Studies highlighting a different marine organism have been added to each chapter.
- The end-of-chapter features have been expanded to include a list of Key Terms as well as a list of Key Genera discussed in each chapter.

CHAPTER OUTLINE

Table of Contents comparison to transition from the *Tenth* to the *Eleventh Edition*

Tenth Edition	Eleventh Edition
Chapter 1: The Ocean As A Habitat	Chapter 1: The Ocean as a Habitat
Chapter 2: Patterns of Associations	NEW! Chapter 2: Physical and Chemical Oceanography
Chapter 3: Phytoplankton	Chapter 3: Patterns of Associations
Chapter 4: Marine Plants	Chapter 4: Marine Microbes
Chapter 5: Microbial Heterotrophs and Invertebrates	Chapter 5: Marine Macroalgae and Plants
Chapter 6: Marine Vertebrates I: Fishes and Reptiles	Chapter 6: Microbial Heterotrophs and Invertebrates
Chapter 7: Marine Vertebrates II: Seabirds and Marine Mammals	Chapter 7: Marine Vertebrates I: Fishes and Reptiles
Chapter 8: Estuaries	Chapter 8: Marine Vertebrates II: Seabirds and Marine Mammals
Chapter 9: Coastal Seas	Chapter 9: Estuaries
Chapter 10: Coral Reefs	Chapter 10: Coastal Seas
Chapter 11: The Open Ocean	Chapter 11: The Coral Reef Ecosystems
Chapter 12: The Deep-Sea Floor	Chapter 12: The Open Sea
Chapter 13: Harvesting Living Marine Resources	Chapter 13: The Deep-Sea Floor
	NEW! Chapter 14: Polar Seas
	Chapter 15: Harvesting Living Marine Resources

IMPORTANT CHAPTER UPDATES

In addition to the Key Updates made to all chapters, the authors have provided more detailed notes on what has changed in each chapter.

Chapter 1: The Ocean as a Habitat

- ✓ Moved all properties of seawater information to Chapter 2, Oceanography
- ✓ General revisions to make information more concise and up-to-date

Chapter 2: Physical and Chemical Oceanography

- ✓ NEW chapter including properties of seawater and physical oceanography information previously in Chapter 1, as well as a large amount of new information on physical oceanography
- ✓ Includes examples of the linkages between ocean water movement and the fate of marine organisms and additional information on El Niño

Chapter 3: Patterns of Associations

- ✓ Added a new section with a more in-depth discussion of evolution by natural selection
- ✓ Clarified the discussion of photosynthesis

Chapter 4: Marine Microbes

- ✓ Expanded to cover marine microbes, not just phytoplankton
- ✓ Added a new section on marine bacteria, archaea and viruses
- ✓ Updated taxonomy and phylogenetic relationships
- ✓ Updated photosynthesis terminology

Chapter 5: Marine Macroalgae and Plants

- ✓ Expanded to emphasize macroalgae in addition to marine plants
- ✓ Introduction of the newest taxonomic designations for marine algae
- ✓ More manatee information
- ✓ New content on calcareous algae
- ✓ New discussion of marine primary productivity

Chapter 6: Microbial Heterotrophs and Invertebrates

- ✓ Discussion of the abandonment of the Protista kingdom
- ✓ More detailed information on invertebrate phyla
- ✓ New section on phylum Tardigrada

Chapter 7: Marine Vertebrates I: Fishes and Reptiles

- ✓ Added information on Hox genes
- ✓ More detailed information on fish physiology
- ✓ A new example for discussion of hermaphroditism in fish
- ✓ New information on fish color schemes

Chapter 8: Marine Vertebrates II: Seabirds and Marine Mammals

- ✓ More information on manatees
- ✓ Information on echolocation was moved into this chapter
- ✓ New information on bird bill shapes
- ✓ Updated content on marine otters
- ✓ Added content on distinguishing features for seals and sea lions
- ✓ New information on dive depths of marine mammals
- ✓ New information added comparing dolphins and porpoises
- ✓ New content added on sperm whales

Chapter 9: Estuaries

- ✓ Additional content on mangroves
- ✓ Added content on what readers can do to improve the health of estuaries
- ✓ Increased content on nutrient pollution
- ✓ New content of the use of estuarine habitat by sharks as nursery habitat
- ✓ Additional content on methods to reduce pollution to estuaries

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Chapter 10: Coastal Seas

- ✓ Added information on seagrasses
- ✓ Differentiation between filter and suspension feeding
- ✓ Introduction of the term “connectivity”
- ✓ New recruitment information
- ✓ Added information on the importance of infaunal communities to monitor the health of an ecosystem

Chapter 11: The Coral Reef Ecosystems

- ✓ Revised to be more concise
- ✓ Updated with a large amount of recent research
- ✓ New hypotheses for coral spawning mechanisms
- ✓ New information on federal listing of coral species as threatened/endangered
- ✓ New information on the crown of thorns star fish threat to coral reefs
- ✓ Added coverage of ocean acidification
- ✓ New information on parrotfish leading to healthy reefs
- ✓ New information on MPAs
- ✓ New example of a harem, hermaphroditic fish

Chapter 12: The Open Sea

- ✓ Added information on zooplankton behavior
- ✓ New content on orientation in the sea
- ✓ Updated definitions of terms

Chapter 13: The Deep-Sea Floor

- ✓ Updated information on recent discoveries in the deep sea
- ✓ New information on manganese nodule extraction
- ✓ Information on the new technology used for deep sea research
- ✓ New information on *Riftia*
- ✓ Comparison of ROVs and submersibles for research
- ✓ Updated information on *Alvin*

Chapter 14: Polar Seas

- ✓ New chapter on polar seas
- ✓ New information on climate change
- ✓ Information on how individuals can make lifestyle choices to decrease carbon emissions

Chapter 15: Harvesting Living Marine Resources

- ✓ Updated fisheries statistics
- ✓ Environmental problems of aquaculture
- ✓ Increased occurrence of aquaculture
- ✓ New information on NMFS
- ✓ Updated data on marine mammal takes
- ✓ New motivational discussion of becoming a steward of the ocean

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The Publisher will provide a variety of Teaching Tools to assist instructors with preparing for and teaching their courses. These resources are available via digital download and multiple other formats.

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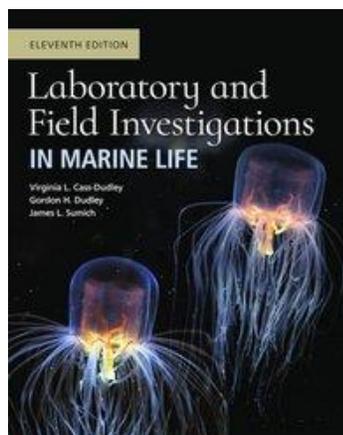


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Laboratory and Field Investigations in Marine Life, Eleventh Edition

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Gordon Dudley, Grossmont College

James L. Sumich, Grossmont College

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Main Text + Navigate 2 Advantage Access + Lab Manual Bundle

ISBN-13: 978-1-284-12406-4

Laboratory and Field Investigations in Marine Life, Eleventh Edition is available as a bundle option with the primary text. The Lab Manual has been fully updated to match the *Eleventh Edition* of the primary text and is designed to provide students with a hands-on learning experience that will enhance their understanding of marine biology. Students and instructors will benefit from the new, full-color layout, photographs, and illustrations. The more convenient spiral binding allows the manual to lay flat on lab tables while students work and they can easily tear out pages to submit for a grade, making this the ideal resource to complete any Marine Biology course.

Lab Manual Table of Contents

Exercise 1: Asking Questions

Exercise 2: Some Physical and Chemical Properties of Seawater

Exercise 3: Taxonomic Classification and Identification

Exercise 4: Marine Bacteria

Exercise 5: Phytoplankton

Exercise 6: Attached Marine Plants

Exercise 7: Photosynthetic Pigments of Marine Plants

Exercise 8: Some Lower Marine Invertebrates

Exercise 9: Marine Mollusks

Exercise 10: Marine Arthropods

Exercise 11: Echinoderms

Exercise 12: Marine Zooplankton

Exercise 13: Cartilaginous Fishes

Exercise 14: Bony Fishes

Exercise 15: Adaptations in Marine Mammals

Field Studies: General Information

Field Study 1: Coastal Wetlands

Field Study 2: Rocky Intertidal

Field Study 3: Fouling Community

Appendix A: The Metric System

Appendix B: The Microscope

Appendix C: Permanent Plant Collections

Appendix D: The Gram Stain

Appendix E: Analyzing Data

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