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2.5.1 Causes of stratification; 2.6 Using Circulation Patterns to Classify Standing Waters; 2.7 Ecological Implications of the Different Types of Stratification and Mixing; 2.8 Deep Versus Shallow Standing Waters: Depth Matters; 2.8.1 How deep standing waters form; 2.8.2 How shallow standing waters form; 2.9 Synthesis; CHAPTER 3: Chemical processes in standing waters; 3.1 'There's a Certain Chemistry ...'; 3.2 Dissolved Gases; 3.2.1 Oxygen; 3.2.2 Carbon dioxide; 3.2.3 Hydrogen; 3.2.4 Methane; 3.3 Sources of Ions; 3.4 Ionic Composition of Australian Standing Waters; 3.5 Conductivity, Salinity and Total Dissolved Solids; 3.6 Ionic Composition and Trophic State; 3.6.1 Some common anions; 3.6.2 Some common cations; 3.7 Redox Reactions and Redox Potential; 3.8 Redox Reactions and Some Common Metals; 3.9 Nutrients, Nutrient Limitation and Ecological Stoichiometry; 3.9.1 Phosphorus; 3.9.2 Nitrogen; 3.9.3 Carbon; 3.10 Water Regime, Drying and Water Chemistry; 3.10.1 What happens to water chemistry during a wetting-drying cycle? 3.11 Synthesis; CHAPTER 4: Biological processes in standing waters; 4.1 Biological Players on a Physical and Chemical Stage; 4.2 Major Ecological Zones and Habitats; 4.3 Blurred Boundaries and Mobile Assemblages; 4.4 Trophic Groups and Sources of Energy; 4.5 Producers; 4.5.1 An ecological classification of producers; 4.5.2 Microscopic aquatic plants; 4.5.3 Macroscopic aquatic plants; 4.5.4 Plants living in water: benefits and constraints; 4.5.5 Alternative states: changes in plant dominance in shallow waterbodies; 4.6 Consumers; 4.6.1 Decomposers: the importance of microbes and fungi; 4.6.2 Invertebrate detritivores

Sommario/riassunto

As pressures on Australia's inland waters intensify from population growth, expanding resource development and climate change, there is an urgent need to manage and protect these special areas. Understanding their ecology underpins their wise management and conservation. Australian Freshwater Ecology vividly describes the physical, chemical and biological features of wetlands, lakes, streams, rivers and groundwaters in Australia. It presents the principles of aquatic ecology linked to practical management and conservation, and explains the causes, mechanisms, effects and manag
