

Contents

Introduction.....	xv
Michael T. Arts, Michael T. Brett, and Martin J. Kainz	
1 Algal Lipids and Effect of the Environment on their Biochemistry	1
Irina A. Guschina and John L. Harwood	
2 Formation and Transfer of Fatty Acids in Aquatic Microbial Food Webs: Role of Heterotrophic Protists.....	25
Christian Desvillettes and Alexandre Bec	
3 Ecological Significance of Sterols in Aquatic Food Webs.....	43
Dominik Martin-Creuzburg and Eric von Elert	
4 Fatty Acids and Oxylipins as Semiochemicals.....	65
Susan B. Watson, Gary Caldwell, and Georg Pohnert	
5 Integrating Lipids and Contaminants in Aquatic Ecology and Ecotoxicology.....	93
Martin J. Kainz and Aaron T. Fisk	
6 Crustacean Zooplankton Fatty Acid Composition.....	115
Michael T. Brett, Dörthe C. Müller-Navarra, and Jonas Persson	
7 Fatty Acid Ratios in Freshwater Fish, Zooplankton and Zoobenthos – Are There Specific Optima?.....	147
Gunnel Ahlgren, Tobias Vrede, and Willem Goedkoop	
8 Preliminary Estimates of the Export of Omega-3 Highly Unsaturated Fatty Acids (EPA +DHA) from Aquatic to Terrestrial Ecosystems.....	179
Michail I. Gladyshev, Michael T. Arts, and Nadezhda, N. Sushchik	

9 Biosynthesis of Polyunsaturated Fatty Acids in Aquatic Ecosystems: General Pathways and New Directions	211
Michael V. Bell and Douglas R. Tocher	
10 Health and Condition in Fish: The Influence of Lipids on Membrane Competency and Immune Response.....	237
Michael T. Arts and Christopher C. Kohler	
11 Lipids in Marine Copepods: Latitudinal Characteristics and Perspective to Global Warming	257
Gerhard Kattner and Wilhelm Hagen	
12 Tracing Aquatic Food Webs Using Fatty Acids: From Qualitative Indicators to Quantitative Determination	281
Sara J. Iverson	
13 Essential Fatty Acids in Aquatic Food Webs	309
Christopher C. Parrish	
14 Human Life: Caught in the Food Web	327
William E. M. Lands	
Name Index.....	355
Subject Index.....	367