

# Contents

<b>1</b>	<b>Main Characteristics of Marine Ports of the Northern Coast of the Black and Azov Seas and of Their Access Channels</b>	<b>1</b>
1.1	Main Characteristics of Aquatories of the Marine Ports of the Northern Coast of the Black and Azov Seas and Their Access Channels	3
1.2	Main Abiotic and Biotic Peculiarities of the Access Channels to the Marine Ports of the Black–Azov Sea Basin	12
1.2.1	Some Main Abiotic Peculiarities	12
1.2.2	Some Main Biotic Peculiarities	25
<b>2</b>	<b>Pelagic Zone Subsystem of the Marine Ports Aquatories</b>	<b>39</b>
2.1	Main Abiotic Peculiarities	47
2.1.1	Main Peculiarities of the Water Exchange	49
2.1.2	Water Motion	56
2.1.3	Salinity	76
2.1.4	Temperature and Ice Formation	78
2.1.5	pH	80
2.1.6	Vertical Water Exchange and Vertical Stratification of the Water Column	81
2.1.7	Colour, Transparency and Illumination of the Water Column	87
2.1.8	Oxygen and Hydrogen Sulphide	93
2.1.9	Biogenic Matter	100
2.2	Main Biotic Peculiarities	109
2.2.1	Phytoneuston and Phytoplankton	123
2.2.2	Bacterioneuston and Bacterioplankton	133
2.2.3	Hyponeuston and Zooplankton	141
2.2.4	Ichthyoneuston and Ichthyoplankton	162
2.2.5	Nekton	167

<b>3</b>	<b>Periphytal Zone Subsystem of the Marine Ports Aquatories</b>	173
3.1	Main Abiotic Peculiarities	176
3.1.1	Periphytal of the Hydrotechnical Constructions.	176
3.1.2	Periphytal of Ships' Hulls.	183
3.2	Main Biotic Peculiarities.	186
3.2.1	Main Mechanisms of Formation of the Fouling Biocenose	187
3.2.2	Near-Surface Macrophytes Belt.	191
3.2.3	Zoofouling	198
<b>4</b>	<b>Benthral Zone Subsystem of Marine Port Aquatories</b>	229
4.1	Main Abiotic Peculiarities	231
4.1.1	Coastal Shallow Waters	232
4.1.2	Marine Ports and Longshore Drift Flow	236
4.1.3	Bottom Sediments.	244
4.2	Main Biotic Peculiarities.	251
4.2.1	General Biotic Peculiarities of the Benthral Zone.	255
4.2.2	Biotic Peculiarities of the Shallow Waters of the Benthral Zone	266
4.2.3	Biotic Peculiarities of the Intermediate Depth Zones of the Benthral.	272
4.2.4	Biotic Peculiarities of the Deepwater Areas of the Benthral Zone	282
<b>5</b>	<b>Main Structure and Peculiarities of the Functioning of Marine Ports Aquatories Ecosystems</b>	309
5.1	Main Structure	312
5.1.1	Peculiarities of the Abiotic Structure.	317
5.1.2	Peculiarities of the Biotic Structure.	333
5.2	Trophodynamic Processes.	340
5.2.1	Trophic Chains	347
5.2.2	Flows of Matter, Energy and Information	361
	<b>Conclusion</b>	373
	<b>Literature</b>	377

Ecology of Marine Ports of the Black and Azov Sea Basin

Vinogradov, A.; Bogatova, Y.; Synegub, I.

2018, XI, 412 p. 56 illus., 34 illus. in color., Hardcover

ISBN: 978-3-319-63060-1