Zoo-benthos – An Indicator of Marine Ecosystems’ Pollution and Climate Changes
FACTORS IMPACTING MARINE ECOSYSTEMS AND BIORESOURCES
### ICE-BREAKER «50 YEARS OF VICTORY»

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Length, m</td>
<td>159.6</td>
</tr>
<tr>
<td>Width, m</td>
<td>30.0</td>
</tr>
<tr>
<td>Height, m</td>
<td>55.0</td>
</tr>
<tr>
<td>Side height at midship, m</td>
<td>17.2</td>
</tr>
<tr>
<td>Weight of hull and build-up, t</td>
<td>9 635</td>
</tr>
<tr>
<td>Capacity (maximum), t</td>
<td>25 800</td>
</tr>
<tr>
<td>Average draft, m</td>
<td>11.0</td>
</tr>
</tbody>
</table>

78°30' N.L.  
34°26' E.L.  

Storm  
4-5 points
POLAR EXPLORERS (THE 19TH – EARLY 20TH CENTURY) AND CURRENT EXPEDITIONS IN THE ARCTIC (THE 21ST CENTURY)

CRUISE OF THE CHELYUSKIN STEAMER ALONG THE NORTHERN SEA ROUTE

- left the port of Murmansk -(2 August 1933)
- wrecked in the Chukchi Sea -(13 February 1934)
The Ice Conditions In The Arctic
(11–12 September 2013)

The Northern Navy Convoiced By Four Nuclear Icebreakers

A large iceberg in the coastal area of Canada

(Ferryland, April 2017)
THE ICE CONDITIONS IN THE ARCTIC IN EARLY MARCH

2012

ICE-FREE WATER IN MARCH 2012

2017
DISTRIBUTION OF NEAR-SURFACE AIR TEMPERATURE AND ICE COVER (14 FEBRUARY 2016)
ABNORMAL ADVECTION of the Western spur of the Siberian Anticyclone towards the Pyrenees and of the Gulf Stream towards the Franz Josef Land

February 2012
THE IMPACT OF HUMAN FACTORS ON TERRESTRIAL ECOSYSTEMS OF THE ARCTIC ARCHIPELAGOS
MARINE SHIPPING, RIVER-SEA TRANSPORTATION, AND ALIEN SPECIES’ INTRODUCTION

Supposed routes of snow crab *Chionoecetes opilio* larvae penetration into the Barents and Kara Seas
Radionuclide Levels and Major Transfer Directions in the Barents and Kara Seas

(Radionuclide Levels and Major Transfer Directions in the Barents and Kara Seas. Scale 1:4 704 075/ Edit. Matishov G.G., Matishov D.G., Nazimov V.V. Rovaniemi (Finland), 1994.)

Матишов Г.Г. и др. СТРУКТУРА ПОТОКОВ РАДИОНУКЛИДОВ В АЗОВСКОМ МОРЕ
Матишов Г. Г. и др. ЕСТЕСТВЕННОЕ СНИЖЕНИЕ УРОВНЯ ИСКУССТВЕННЫХ РАДИОНУКЛИДОВ В БАРЕНЦЕВОМ МОРЕ//ДАН, 2009, 427 (4)
Dependence of $^{137}$Cs and $^{90}$Sr concentrations in bottom sediments (Bq/kg) on the relief
DISTRIBUTION OF HUMPBACK SALMON IN EURASIA

1 – Natural geographic range, 2 – Area of acclimatized species’ distribution, 3 – Geographic range, inhabited by humpback salmon during the last years (Geographic range of unknown origin)
Replacement/ousting of the local ichthyofauna by alien-species: Silver carp (Hypophthalmichthys molitrix, Valenciennes, 1844)

THE RED KING (KAMCHATKA) CRAB ACCLIMATIZATION AND OVERFISHING IN THE BARENTS SEA (1960-2015)
Abundance of «escaped» farmed salmon specimens (thousand tons)

LOCATION OF CAGES IN NORWAY

2014: 228 (30.09.14)  
2013: 198,000  
2012: 38,000  
2011: 368,000  
2010: 291,000
The Territory of the National Reserve/Park covers Northern part of the Severnyi Island of the Novaya Zemlya Islands, Large and Small Oransky Islands, Loshkin Island, Heemskerk Island, the Franz Josef Land, and a series of other islands.

Established: 15 June 2009

The total area of 1 426 000 ha, including land areas — 632 090 ha, sea water areas — 793 910 ha

Director Mr. Aleksandr G. Kirilov
Born in 1982 in Arkhangelsk. Graduated from the Pomor State University named after M.V. Lomonosov (field: geography and biology). Worked for the TACIS International Project «Improvement of Drinking Water Quality in North-West Russia». From 2008 – at the State Ecological Inspection of Arkhangelsk Region. From 2010 to 2011 headed the Directorate of Especially Protected Natural Territories of Arkhangelsk Region. From 2011 – Deputy Director of the National Reserve/Park «The Russian Arctic», from April 2016 – Acting Director, since July 2017 – Director (instead of Roman Ershov).