



**Environmental  
Protection  
Agency**

# Cruise report

*R/V VĖJŪNAS*  
*Cruise No. 15/V3(3-6)*

**Date 2015.08.11-13; 2015.08.20**



Environmental Protection Agency Marine Research Department  
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## GENERAL INFORMATION

1. Name of research vessel: **VĖJŪNAS**
2. Dates of cruise and cruise No.:  
11<sup>th</sup> August 2015 – 15/V3(3)  
12<sup>th</sup> August 2015 – 15/V3(4)  
13<sup>th</sup> August 2015 – 15/V3 (5)  
20<sup>th</sup> August 2015 – 15/V3(6)
3. Operating Authority:  
Environmental Protection Agency Marine Research Department  
Taikos avenue 26, LT-91222, Klaipėda, Lithuania  
Phone: +370 46 410 450  
Fax: +370 46 410 460
4. Owner: Environmental Protection Agency
5. Particulars of ship:

*Table 1.* Particulars of ship

Name	VĖJŪNAS
Year of building	2012 m.
Water capacity	424 m <sup>3</sup>
Length	23,90 m
Width	8 m
Draught	1,30 m
Average speed	11 knots
Call sign	LYTN
IMO Nr.	9640346

6. Crew: Name of captain: Gintautas Morkevičius + 4 crew members.

6. Scientific personal:

*Table 2.* Scientific personal

1.	Ignas Vyšniauskas	Hydrologist
2.	Paulius Petrošius	Hydrologist
3.	Vitalijus Malejevas	Hydrologist
4.	Ovidijus Stulpinas	Hydrologist
5.	Jolanta Mitrulevičiūtė	Chemist
6.	Ingrida Mažutytė	Chemist
7.	Marija Volkova	Chemist
8.	Agnė Vasiljevė	Chemist
9.	Liudmila Kondratjeva	Chemist
10.	Vijolė Paprečienė	Chemist

11.	Eglē Šupiniene	Biologist
12.	Grasilda Gudžiūnaitė	Biologist
13.	Sabina Solovjova	Biologist
14.	Rima Kavolytė	Biologist
15.	Natalja Demereckienė	Biologist
16.	Rūta Potapkina	Biologist

## BRIEF DESCRIPTION OF THE CRUISE

**Aim of the cruise** – collection of factual information about meteorological, hydrological, hydrochemical and biological state of the Baltic Sea (Lithuanian part) according to the 2015 monitoring plan, which is based on National environment monitoring program of 2011-2017 (<http://gamta.lt>).

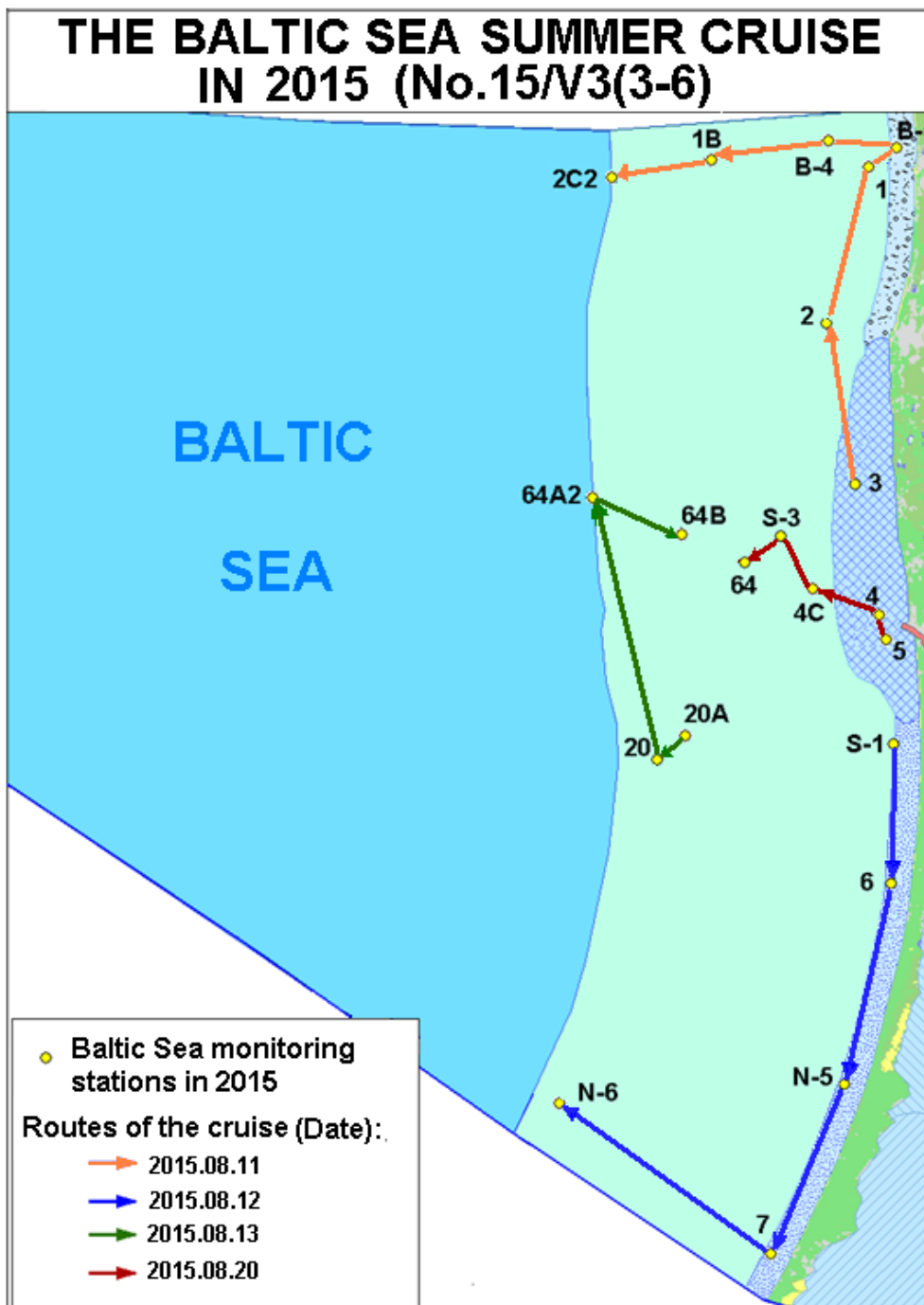
### Geographic area of investigations (station numbers):

Transitional waters, plume of the lagoon: 3, 4, 5;

Coastal waters: B-1, 6, 7, N-5;

Territorial sea: 1, 1B, S-1, 2, B-4, 4C, 20, 20A, S-3, N-6, 64, 64B;

Exclusive economic zone: 64A2.



*Fig. 1* Routes of the cruise

## General information (used equipment)

During the cruise, we used water sampling system “Hydro - Bios” PRS 12, Sea & Sun probe CTD 90 (fig. 2), meteorological station MAWS 420, Secchi disk, ADCP WHM300-I-UG1 current meter (fig. 3), Van Veen grab covering 0,1 m<sup>2</sup>, the WP-2 net (holes size of 100 µm), integrated sampler “Hydro-Bios”, dredge, filtration equipment, sample flushing mesh (holes size 1 mm).



*Fig. 2* Probe CTD 90



*Fig..3* Current meter WHM300 ADCP-I-UG1

**Table 3.** Quantity of taken samples during the cruise

Monitoring station No.	Coordinates of monitoring station		Date and time, UTM	Depth	Hydrodynamic regime		Physico-chemical quality elements												Artificial radionuclides		Biological quality elements			Biota	
							Hydrometeorological elements	General data		Other elements	Specific pollutants in water			Specific pollutants in bottom sediments											
	Currents	Waves			Water temperature, salinity	O <sub>2</sub> , pH, nutrients		Suspended materials	Detergents		Oil hydrocarbons	Heavy metals, Hg	Phthalats, Alkilphenols, Chlorphenols	Oil hydrocarbons	Heavy metals, Hg	Organic pollutants	Volatile Organic Compounds	In water	In bottom sediments	Phytoplankton	Chlorophyll „a“	Zooplankton	Bacterioplankton		
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
<b>3</b>	21°01.0'	55°49.0'	2015-08-11 7:00	18	-	1	1	4	3	-	-	2	-	-	-	-	-	-	-	-	1	4	1	-	-
<b>2</b>	20°58.5'	55°55.5'	2015-08-11 8:15	18	-	1	1	4	3	-	2	2	2	-	-	-	-	-	-	-	1	2	1	-	-
<b>1</b>	21°01.0'	56°01.7'	2015-08-11 9:25	16	2	1	1	4	3	-	2	2	2	-	-	-	-	-	-	-		2	1	-	-
<b>B-1</b>	21°03.0'	56°02.5'	2015-08-11 9:50	12	-	1	1	3	2	2	2	2	2	-	1	1	1	-	-	-	1	2	1	2	-
<b>B-4</b>	20°58.1'	56°02.7'	2015-08-11 10:45	20	-	1	1	4	3	2	-	-	-	-	1	1	-	-	-	-	1	2	1	2	-
<b>1B</b>	20°50.0'	56°01.7'	2015-08-11 11:50	27	2	1	1	5	4	-	-	2	2	1	1	1	1	1	-	-	1	5	1	-	ME
<b>2C2</b>	20°41.6'	55°55.5'	2015-08-11 14:25	32	-	1	1	5	2	-	-	-	-	-	-	-	-	-	-	-		5	1	-	-
<b>S-1</b>	21°04.5'	55°39.0'	2015-08-12 6:50	17	-	1	1	4	3	-	2	2	2	-	1	1	1	1	-	-	1	2	-	-	-
<b>6</b>	21°04.7'	55°33.5'	2015-08-12 7:55	13	2	1	1	3	2	-	2	2	2	-	1	1	-	-	+	+	1	4	1	-	-

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
<b>N-5</b>	21°02.1'	55°25.5'	2015-08-12 9:40	13	-	1	1	3	2	2	-	2	-	-	1	1	-	-	-	-	-	2	-	-	-
<b>7</b>	20°57.4'	55°18.7'	2015-08-12 11:20	14	2	1	1	4	3	-	2	2	2	1	1	1	1	1	-	-	1	4	1	2	MB
<b>N-6</b>	20°42.4'	55°24.3'	2015-08-12 14:20	36	-	1	1	6	2	-	-	2	-	-	1	-	1	-	-	-	1	2	1	-	-
<b>20A</b>	20°50.0'	55°39.0'	2015-08-13 7:10	43	-	1	1	6	5	2	-	-	-	-	1	1	-	-	-	-	-	2	1	-	-
<b>20</b>	20°48.0'	55°38.0'	2015-08-13 7:55	46	-	1	1	7	2	2	1	1	1	1	1	1	1	1	+	+	1	2	1	-	-
<b>64A2</b>	20°42.7'	55°48.2'	2015-08-13 9:50	41	-	1	1	7	7	-	-	2	2	1	1	1	1	1	-	-	1	5	1	-	-
<b>64B</b>	20°49.0'	55°47.0'	2015-08-13 11:00	39	-	1	1	6	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>5</b>	21°03.7'	55°43.1'	2015-08-20 6:20	15	-	1	1	4	3	2	-	2	-	-	1	1	-	-	-	-	1	4	1	-	-
<b>4</b>	21°03.0'	55°44.1'	2015-08-20 6:55	17	2	1	1	4	3	-	2	2	2	1	1	1	1	1	-	-	1	4	1	2	-
<b>4C</b>	20°58.4'	55°45.0'	2015-08-20 8:00	27	-	1	1	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>S-3</b>	20°56.0'	55°47.0'	2015-08-20 8:40	29	-	1	1	5	4	2	2	2	2	-	1	1	1	-	-	-	1	2	1	-	-
<b>64</b>	20°53.5'	55°45.9'	2015-08-20 9:30	34	2	1	1	6	5	-	-	2	-	-	1	-	-	-	-	-	1	5	1	-	-

*Numbers represents in which horizons samples were taken and measurements were carried out.*

## **BRIEF REVIEW**

### **Hydrometeorological conditions**

During summer expedition wind ranged from 1 to 8 m/s. The height of the waves was observed 0,5 m. Air temperature varied from 16 to 24 °C and a relative humidity ranged from 47 to 91 %. Visibility was 15 - 20 km. During the expedition dominated 1-3 scores *Cumulus* clouds.

### **Hydrological observations**

***Water temperature.*** Surface water temperature ranged from 17,4 °C (at Alksnynė) to 22,2 °C (in exclusive economic zone beside Palanga) during summer expedition in the Baltic Sea. Water temperature decreased with the depth and reached ~ 9 °C at the bottom water layer of deeper territorial sea oceanographic stations.

***Water salinity.*** Surface water salinity ranged from 3,9 ‰ (at Klaipėda sea port gate) to 7,4 ‰ (in the southern part of the territorial sea) during summer expedition in the Baltic Sea. Water salinity increased with the depth reaching maximum (7,5 ‰) in the south west part of the observed area.

***Water transparency.*** Water transparency varied from 1 m (at Klaipėda sea port gate) to 4 m in the western part of studied water area during seasonal summer expedition.

### **Hydrochemical and hydrobiological observations**

During the expedition collected samples were transported to the shore laboratory where the investigations were carried out. The results will be presented to the Environment integrated management information system (AIVIKS).