



**Environmental
Protection
Agency**

Cruise report

R/V VĖJŪNAS
Cruise No. 5KM/2016
6KM/2016
7KM/2016

Date 2016-09-05



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.:
 - 8th June 2016 – 5KM/2016 (1)
 - 9th June 2016 – 5KM/2016 (2)
 - 13th July 2016 – 6KM/2016 (1)
 - 14th July 2016 – 6KM/2016 (2)
 - 9th August 2016 – 7KM/2016 (1)
 - 10th August 2016 – 7KM/2016 (2)
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

Table 1. Particulars of the ship

Name	VĖJŪNAS
Year of building	2012 m.
Water capacity	424 m ³
Length	23,90 m
Width	8 m
Draught	1,30 m
Average speed	11 knots
Call sign	LYTN
IMO No.	9640346

5. Crew:
Name of captain: Gintautas Morkevičius and crew members

6. Scientific personal

Table 2. Scientific personal

1.	Vitalijus Malejevas	Hydrologist
2.	Ignas Vyšniauskas	Hydrologist
3.	Paulius Petrošius	Hydrologist
4.	Albertas Kvietkus	Hydrologist
5.	Ovidijus Stulpinas	Hydrologist
6.	Liudmila Kondratjeva	Chemist
7.	Agnė Vasiljevė	Chemist
8.	Viktorija Savickienė	Chemist
9.	Jolanta Mitrulevičiūtė	Chemist
10.	Galina Garnaga - Budrė	Chemist
11.	Violeta Jančauskienė	Chemist
12.	Irina Olenina	Biologist
13.	Rima Kavolė	Biologist
14.	Eglė Šupinienė	Biologist

BRIEF DESCRIPTION OF THE CRUISE

Aim of the cruise – collection of factual information about meteorological, hydrological, hydrochemical and biological state of the Curonian Lagoon according to the 2016 monitoring plan, which is based on National environment monitoring program of 2011-2017 years (<http://gamta.lt>).

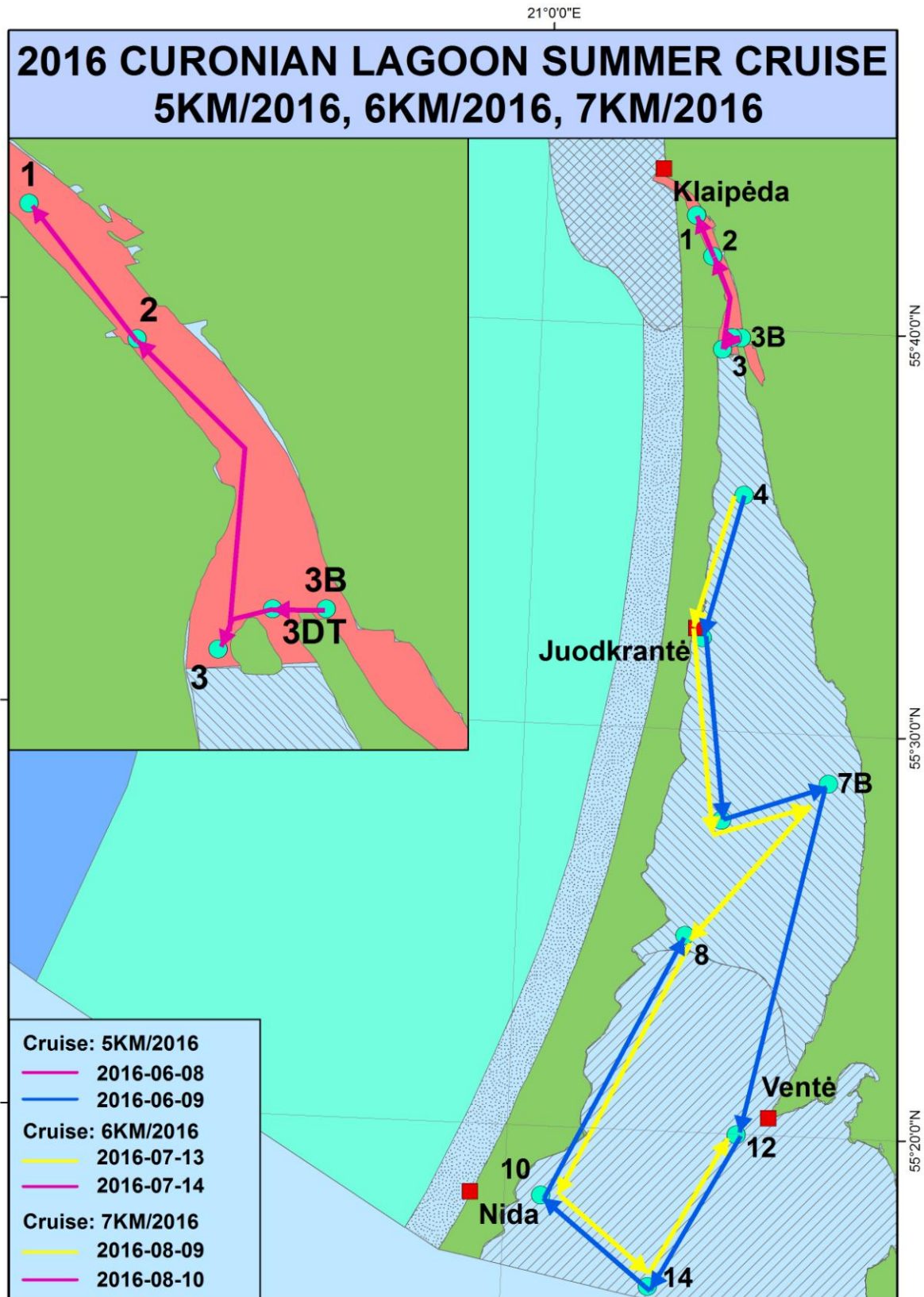


Fig. 1 Routes of the cruise 5KM/2016 – 7KM/2016

General information (used equipment)

Water sampling system "Hydro - Bios" PRS 12, Sea & Sun probe CTD 90, meteorological automatic station MAWS 420, Secchi disk were used during the cruise. The current speed and direction were set by using ADCP WHM300-I-UG1 current meter. Zooplankton samples collected from the vertical water column from the bottom to the surface. Sediment samples collected with a Van Veen grab.

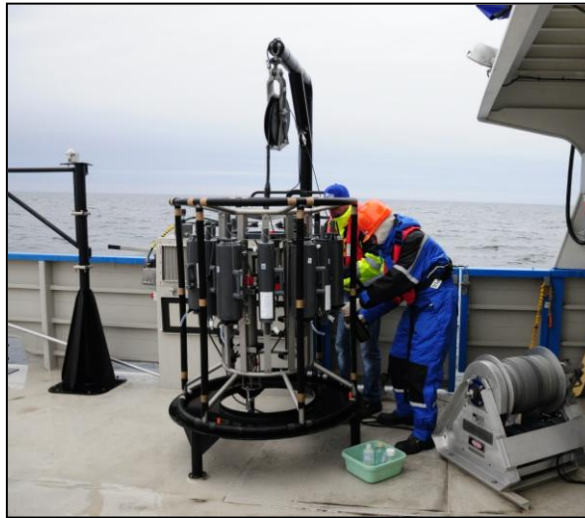


Fig. 2 Probe CTD 90



Fig. 3 Current meter ADCP WHM300-I-UG1

Monitoring station No.	Coordinates of monitoring station		Date and time, UTM	Depth	Morphological elements	Hydrodynamic regime		Hydrometeorological elements	Physico-chemical quality elements												Artificial radionuclides	Biological quality elements		
									General data		Other elements		Specific pollutants in water				Specific pollutants in bottom			Spec. Pollutants in biota				
	Longitude	Latitude				Bottom sediments structure	Currents		Waves	Water temperature, salinity	O ₂ , pH, nutrients	BOD ₇	Suspended materials	Detergents	Oil hydrocarbons	Heavy metals	Phthalates, alkylphenols	Oil and pesticides-I	Heavy metals	Pesticides-2, PAH, VOCs		Heavy metals and pesticides	In water/ in bottom sediments	Phytoplankton
12	21°10.0'	55°20.0'	2016-08-09 12:50	3.6	1	1	+	+	1	1	1	1	1		1	1	1	1		1	1	1		
3B	21°08.9'	55°39.8'	2016-08-10 05:40	8.5	1	2	+	+	2	2	2	2	2	2	2	1	1	1	1			1	1	
3DT	21°08.4'	55°39.8'	2016-08-10 06:10	7.0		2	+	-	2	-		2												
3	21°08.0'	55°39.5'	2016-08-10 06:35	10.7		2	+	+	2	2	2	2										1		
2	21°07.4'	55°41.8'	2016-08-10 07:10	7.0	1	2	+	+	2	2	2			2	2	1	1	1	1			1	1	1
1	21°06.6'	55°42.8'	2016-08-10 07:45	14.0	1	2	+	+	2	2	2	2		2			1	1				1	1	

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

BRIEF REVIEW OF THE JUNE

Hydrometeorological conditions

On 8th June 2016 in Klaipeda port waters prevailed south - southwestern winds (4-5 m/s), which caused 0,3 meter high waves. Second day 9th June 2016 in Curonian lagoon waters prevailed west - northwestern winds (3-9 m/s), which caused 0,8 meter high waves. Air temperature ranged from 12,4 to 14,1 °C and a relative humidity was ranging from 59 to 75%. Visibility was about 20 km both days.

Hydrological researches

Surface water layer

The water temperature in Central Curonian Lagoon part ranged from 16,5 °C (station No. 4) to 18,4 °C (station No.10). The water temperature in Klaipeda port waters varied from 17,0 °C (station No. 3B) to 17,2 °C (station No. 3DT). Salinity in Central Curonian Lagoon part ranged from 0,2 ‰ (in mostly stations) to 0,3 ‰ (station No. 4). Salinity in Klaipeda port waters ranged from 0,3 ‰ (station No. 3) to 0,9 ‰ (station No. 3B).

Demersal water layer

In Klaipeda port waters, the water temperature ranged from 16,3 °C (station No. 1) to 17,2 °C (station No. 3DT), salinity ranged from 0,3 ‰ (station No. 3) to 1,6 ‰ (station No. 1). The minimum water transparency (0,2 m) was measured in mostly stations, while the maximum (0,8 m) was recorded in station No. 14.

BRIEF REVIEW OF THE JULY

Hydrometeorological conditions

On 13th July 2016 in Curonian Lagoon prevailed west - northwestern winds (2-4 m/s). Second day 14th July 2016 in Klaipeda port waters prevailed eastern winds (2-4 m/s). Air temperature ranged from 17,5 °C to 19,8 °C. The relative humidity ranged from 62 to 87 %. Visibility was about 15 km both days.

Hydrological researches

Surface water layer

In Central part of Curonian Lagoon measured water temperature ranged from 19,2 °C (station No.14) to 20,8 °C (station No.12). Water temperature in Klaipeda port waters ranged from 19,8 °C (station No.3B) to 20,0 °C (stations No.1; 2; 3). Salinity in Central part of Curonian Lagoon ranged from 0,2 ‰ (stations No. 10; 12; 14) to 3,1 ‰ (station No.4). Salinity in Klaipeda port waters ranged from 4,9 ‰ (station No.3DT) to 6,0 ‰ (station No.1).

Demersal water layer

In Klaipeda port waters, the water temperature ranged from 19,5 °C (station No. 1) to 19,8 °C (station No. 3DT), salinity ranged from 6,9 ‰ (stations No. 3; 3B; 3DT) to 7,1 ‰ (station No. 1). The minimum water transparency (0,6 m) was in station No. 10, while the maximum (1,6 m) was recorded in station No. 1.

BRIEF REVIEW OF THE AUGUST

Hydrometeorological conditions

On 9th August 2016 in Curonian Lagoon prevailed western winds (5-9 m/s) which caused 0,7 m high waves. On 10th August 2016 in Curonian Lagoon dominated southwestern winds (3-4 m/s) which caused 0,1 m waves. Air temperature varied from 15,5 °C to 18,4 °C. The relative humidity ranged from 63 to 77 %. Visibility was about 15-20 km on the first day and about 20 km on the second day.

Hydrological researches

Surface water layer

The water temperature in Central Curonian Lagoon ranged from 19,3 °C (station No. 4) to 20,2 °C (station No. 12). In Klaipeda port water temperature varied from 18,9 °C (station No. 3DT) to 19,4 °C (station No. 1). Salinity ranged from 0,2 ‰ (station 12) to 0,6 ‰ (stations No. 5; 6) in Central Curonian Lagoon. In Klaipeda port salinity ranged from 0,5 ‰ (stations No. 3; 3DT) to 1.0 ‰. (station No. 1).

Demersal water layer. The water temperature ranged from 19,2 °C (station No. 3DT) to 19,9 °C (stations No. 2; 3), salinity ranged from 0,9 ‰ (station No. 3DT) to 6,8 ‰ (station No. 1) in Klaipeda port waters. The minimum water transparency was 0,4 m (stations No. 3; 5; 10) and the maximum was 0,7 m (station No. 3B).

Hydrochemical and biological research

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