



**Environmental
Protection
Agency**

Cruise report

R/V VĖJŪNAS
Cruise No. 6KM/2015
7KM/2015
8KM/2015

Date 2015-08-26



Environmental Protection Agency Marine Research Department
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GENERAL INFORMATION

1. Name of research vessel: **VĒJŪNAS**
2. Dates of cruise and cruise No.:
9th June 2015 – 6KM/2015 (1)
10th June 2015 – 6KM/2015 (2)
14th July 2015 – 7KM/2015 (1)
15th July 2015 – 7KM/2015 (2)
4th August 2015 – 8 KM/2015 (1)
5th August 2015 – 8 KM/2015 (2)
3. Operating Authority: Environmental Protection Agency Marine Research Department
Taikos avenue 26, LT-91149, Klaipėda
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	VĒJŪNAS
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 Nr.	9640346

6. Crew:
Name of captain: Gintautas Morkevičius

6. Scientific personal

Table 2. 1st and 2nd days scientific personal

1.	Vitalijus Malejevas	Hydrologist
2.	Ignas Vyšniauskas	Hydrologist
3.	Paulius Petrošius	Hydrologist
4.	Albertas Kvietkus	Hydrologist
5.	Ovidijus Stulpinas	Hydrologist
6.	Viktorija Savickienė	Chemist
7.	Ingrida Mažutytė	Chemist
8.	Marija Volkova	Chemist

9.	Ernesta Butiškytė	Chemist
10.	Aleksandra Korž	Biologist
11.	Rūta Potapkina	Biologist
12.	Irina Olenina	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 2015 monitoring plan, which is based on National environment monitoring program of 2011-2017 (<http://gamta.lt>).

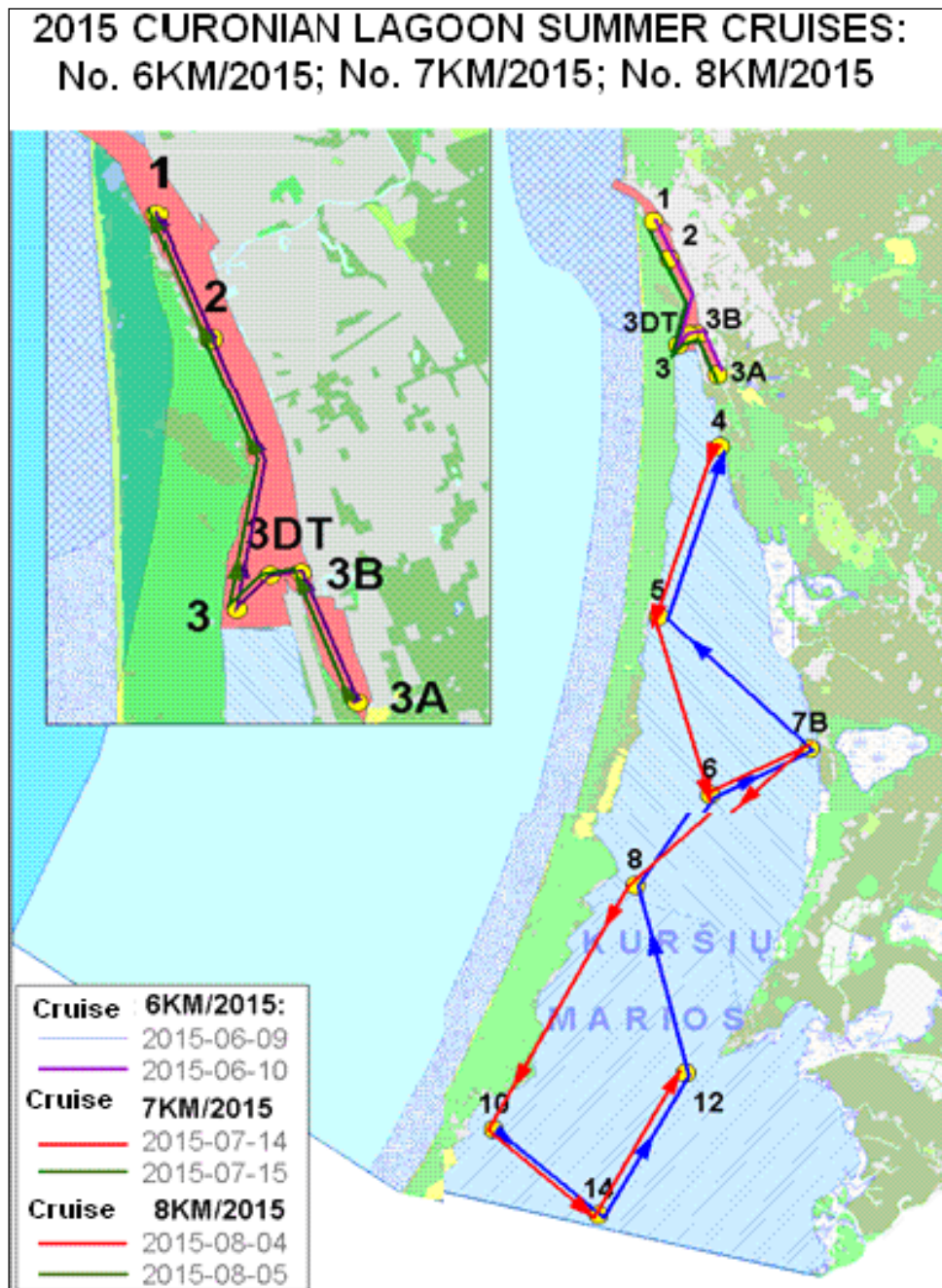


Fig. 1 Routes of the cruise

General information (used equipment)

Probe CTD 90 was used during the cruise. Current meter WHM300 ADCP-I-UG1 was used to measure current speed and direction.



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			
	Longitude	Latitude			Currents	Waves	Hydrometeorological elements	General data		Other elements		Specific pollutants in water				in water	Phytoplankton Chlorophyll a	Chlorophyll a	
								Water temperature, salinity	O ₂ , pH, nutrients	Suspended materials	Detergents	Oil hydrocarbons	Heavy metals	Oil hydrocarbons					
10	21°01.6'	55°18.3'	2015-06-09 11:25	4.0	1	+	+	1	1	1	-	-	-	-	-	-	-	-	
14	21°06.4'	55°16.1'	2015-06-09 12:10	5.1	2	+	+	2	2	-	-	-	-	-	-	-	-	-	
12	21°10.0'	55°20.0'	2015-06-09 12:55	3.7	1	+	+	1	1	1	-	-	-	-	-	-	-	-	
8	21°07.4'	55°24.9'	2015-06-09 13:45	2.5	1	+	+	1	-	-	-	-	-	-	-	-	-	-	
6	21°08.8'	55°27.8'	2015-06-09 14:35	2.2	1	+	+	1	1	-	-	-	-	-	-	-	-	-	
7B	21°13.4'	55°28.8'	2015-06-09 15:15	2.3	-	-	+	1	1	-	-	-	-	-	-	-	-	-	
5	21°07.6'	55°32.3'	2015-06-09 16:25	4.3	1	+	+	1	1	1	-	-	-	-	-	-	-	-	
4	21°09.2'	55°35.9'	2015-06-09 17:10	5.2	-	-	+	1	1	-	-	-	-	-	-	-	-	-	
3A	21°09.7'	55°38.7'	2015-06-10 08:50	11.1	2	+	+	2	2	2	-	-	-	-	-	-	-	-	
3B	21°08.9'	55°39.8'	2015-06-10 09:20	8.1	2	+	+	2	2	2	-	-	-	-	-	-	-	-	
3DT	21°08.4'	55°39.8'	2015-06-10 09:40	6.9	2	+	-	2	-	2	-	-	-	-	-	-	-	-	
3	21°08.0'	55°39.5'	2015-06-10 10:15	9.9	2	+	+	2	2	2	-	-	-	-	-	-	-	-	
2	21°07.4'	55°41.8'	2015-06-10 10:50	8.9	2	+	+	2	2	-	-	-	-	-	-	-	-	-	
1	21°06.6'	55°42.8'	2015-06-10 11:20	14.9	2	+	+	2	2	2	-	-	-	-	-	-	-	-	
4	21°09.2'	55°35.9'	2015-07-14 09:15	4.8	-	-	+	1	1	-	-	-	-	-	-	-	-	-	
5	21°07.6'	55°32.3'	2015-07-14 10:10	4.3	1	+	+	1	1	1	-	-	-	-	-	-	-	-	
6	21°08.8'	55°27.8'	2015-07-14 11:05	2.2	1	+	+	1	1	-	-	-	-	-	-	-	-	-	
7B	21°13.4'	55°28.8'	2015-07-14 11:45	2.3	-	-	+	1	1	-	-	-	-	-	-	-	-	-	
8	21°07.4'	55°24.9'	2015-07-14 13:00	2.5	1	+	+	1	-	-	-	-	-	-	-	-	-	-	
10	21°01.6'	55°18.3'	2015-07-14 14:15	4.0	1	+	+	1	1	1	-	-	-	-	-	-	-	-	
14	21°06.4'	55°16.1'	2015-07-14 15:00	5.0	2	+	+	2	2	-	-	-	-	-	-	-	-	-	
12	21°10.0'	55°20.0'	2015-07-14 15:50	3.7	1	+	+	1	1	1	-	-	-	-	-	-	-	-	
3A	21°09.7'	55°38.7'	2015-08-05 08:45	11.1	2	+	+	2	2	2	2	2	2	1	-	-	-	-	
3B	21°08.9'	55°39.8'	2015-08-05 09:25	8.2	2	+	+	2	2	2	2	2	2	1	1	1	1	1	

3DT	21°08.4'	55°39.8'	2015-08-05 09:55	6.0	2	+	-	2	-	2	-	-	-	-	-	1	1
3	21°08.0'	55°39.5'	2015-08-05 10:15	10.3	2	+	+	2	2	2	2	2	2	-	1	1	1
2	21°07.4'	55°41.8'	2015-08-05 10:55	8.9	2	+	+	2	2	-	2	2	2	1	1	1	1
1	21°06.6'	55°42.8'	2015-08-05 11:30	14.1	2	+	+	2	2	2	2	2	2	-	-	1	1

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

** Measurements and samples taken from the shore in stations*

BRIEF REVIEW OF APRIL

Hydrometeorological conditions

14th April 2015 in Curonian lagoon prevailed west winds (8-9 m/s), which caused 0,8 meter high waves. The second day in Klaipeda port waters prevailed north-west winds (4-6 m/s), which caused 0,2 m waves. Air temperatures ranged from 4,6 to 6,4 °C and a relative humidity ranging from 80 to 94%. Visibility was about 20 km, meanwhile the second day about 12 km

Hydrological researches

Surface water layer

Water temperature in central Curonian lagoon ranged from 7,2 to 8,1 °C. The water temperature in Klaipeda port waters ranged from 7,0 to 7,6 °C. The lowest temperature recorded at the station No 1 – 7,0 °C and maximum No. 5 station – 8,1 °C. Salinity in central Curonian lagoon ranged from 0,2 ‰ (in many stations) to 0,3 ‰ (station No. 6). Salinity in Klaipeda port waters ranged from 2,9 ‰ (station No. 3A) to 4,9 ‰ (station No. 1).

Bottom water layer

In Klaipeda port waters, the water temperature ranged from 2,4 °C (3A station) up to 2,8 °C (1 station), salinity ranged from 6,7 ‰ (3A station) to 7,1 ‰ (1 station). Minimum water transparency (0,7 m) was measured at the station 2, while the highest (1,0 m) was recorded at the station 3A.

BRIEF REVIEW OF JUNE

Hydrometeorological conditions

On 9th June 2015 in Curonian Lagoon were prevailing north north-west winds (5-11 m/s), which caused 0,7 m waves. On 10th June 2015 in Klaipeda port waters prevailing west winds (1-3 m/s). Air temperature ranged from 12,7 to 14,4 °C. The relative humidity ranged from 45 to 66%. Visibility was about 20 km..

Hydrological researches

Surface water layer

Water temperature in central Curonian lagoon ranged from 16,0 to 18,2 °C. In Klaipeda port waters ranged from 14,0 to 15,4 °C. The lowest temperature was in station No.2 – 14,0 °C, maximum temperature in station No. 6 – 18,2 °C. Salinity in central Curonian lagoon part ranged from 0,2 ‰ (in most of the stations) to 5,4 ‰ (station No.4). In Klaipeda port waters ranged from 4,9 ‰ (stations No. 3A) to 6,8 ‰ (station No. 1).

Bottom water level

In Klaipeda port water temperature ranged from 13,8 °C (station No. 3B) to 14,2 °C (station No. 3), salinity ranged from 6,5 ‰ (station No.3) to 7,0 ‰ (station No. 3A).

The smallest water transparency was in stations No.7B - 0,5 m, meanwhile the biggest transparency was fixed in station No. 1 – 1,5 m.

BRIEF REVIEW OF JULY

Hydrometeorological conditions

On 14th July 2015 in Curonian Lagoon were prevailing west winds (2-7 m/s), which caused 0,5 m waves. On 15th July 2015 in Klaipeda port waters prevailing west-south-west winds (1-4 m/s). Air temperature ranged from 15,9 to 16,9 °C. The relative humidity ranged from 80 to 91%. Visibility was about 10 km

Hydrological researches

Surface water layer

Water temperature in central Curonian lagoon ranged from 18,6 to 19,2 °C. In Klaipeda port waters ranged from 18,2 to 19,6 °C. The lowest temperature was in station No.6 – 18,2 °C, maximum temperature in station No. 3 – 19,6°C. The lowest salinity in central Curonian lagoon 0,2 ‰ (stations No.10, 14 and 12) to 6,7 ‰ (stations No.4 and 5). In Klaipeda port waters ranged from 5,5 ‰ (stations No. 3A) to 6,7 ‰ (stations No. 3 and 3DT).

Bottom water level

In Klaipeda port water temperature ranged from 18

The smallest water transparency was in station No.10 - 0,7 m, meanwhile the biggest transparency was fixed in stations No. 3 and 3DT – 1,8 m., 0 °C (station No. 3A) to 19,6 °C (station No. 3), salinity was 6,7 ‰ in all stations.

BRIEF REVIEW OF AUGUST

Hydrometeorological conditions

On 4th August 2015 in Curonian Lagoon were changing winds (1-2 m/s). On 5th August 2015 in Klaipeda port waters prevailing south-east winds (3-4 m/s), which caused 0,2 m waves. Air temperature ranged from 18,5 to 26,3 °C. The relative humidity ranged from 57 to 77%. Visibility was about 10 km on 4th August and about 15 km on 5th August.

Hydrological researches

Surface water layer

Water temperature in central Curonian lagoon ranged from 18,9 to 21,0 °C. In Klaipeda port waters ranged from 20,1 to 20,6 °C. The lowest temperature was in station No.4 – 18,9 °C, maximum temperature in stations No. 8 and 10 – 21,0°C. The lowest salinity in central Curonian lagoon 0,2 ‰ (in most of the stations) to 2,9 ‰ (station No.4). In Klaipeda port waters ranged from 1,8 ‰ (station No. 3) to 3,1 ‰ (station No. 3A).

Bottom water level

In Klaipeda port water temperature ranged from 17,8°C (station No. 1) to 19,9 °C (station No. 3 DT). Salinity ranged from 3,0 ‰ (station No.3DT) to 7,2 ‰ (station No.1). The smallest water transparency in most of the stations was - 0,5 m, meanwhile the biggest transparency was fixed in station No. 3A – 1,2 m.

Hydrochemical and biological research are taken in the coast laboratory, the research results are present in Environment integral management information system (AIVIKS).