



**Environmental
Protection
Agency**

Cruise report

R/V VĖJŪNAS

Cruise No.

4KM/2015

5KM/2015

Date 2015-06-15



Environmental Protection Agency Marine Research Department

Taikos avenue 26, LT-91149, Klaipėda

Phone: +370 46 410 450

Fax: +370 46 410 460

E-mail: jtd@aaa.am.lt

GENERAL INFORMATION

1. Name of research vessel: VĒJŪNAS

2. Dates of cruise and cruise No.:

14th April 2015 – 4KM/2015 (1)

15th April 2015 – 4KM/2015 (2)

5th May 2015 – 5KM/2015 (1)

6th May 2015 – 5KM/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

7. Scientific personal

Table 2. 1st and 2nd days scientific personal

1.	Vitalijus Malejevas	Hydrologist
2.	Ignas Vyšniauskas	Hydrologist
3.	Paulius Petrošius	Hydrologist
4.	Liudmila Kondratjeva	Chemist
5.	Vijolė Papreckienė	Chemist
6.	Rima Kavolytė	Biologist
7.	Irina Olenina	Biologist
8.	Sabina Solovjova	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>).

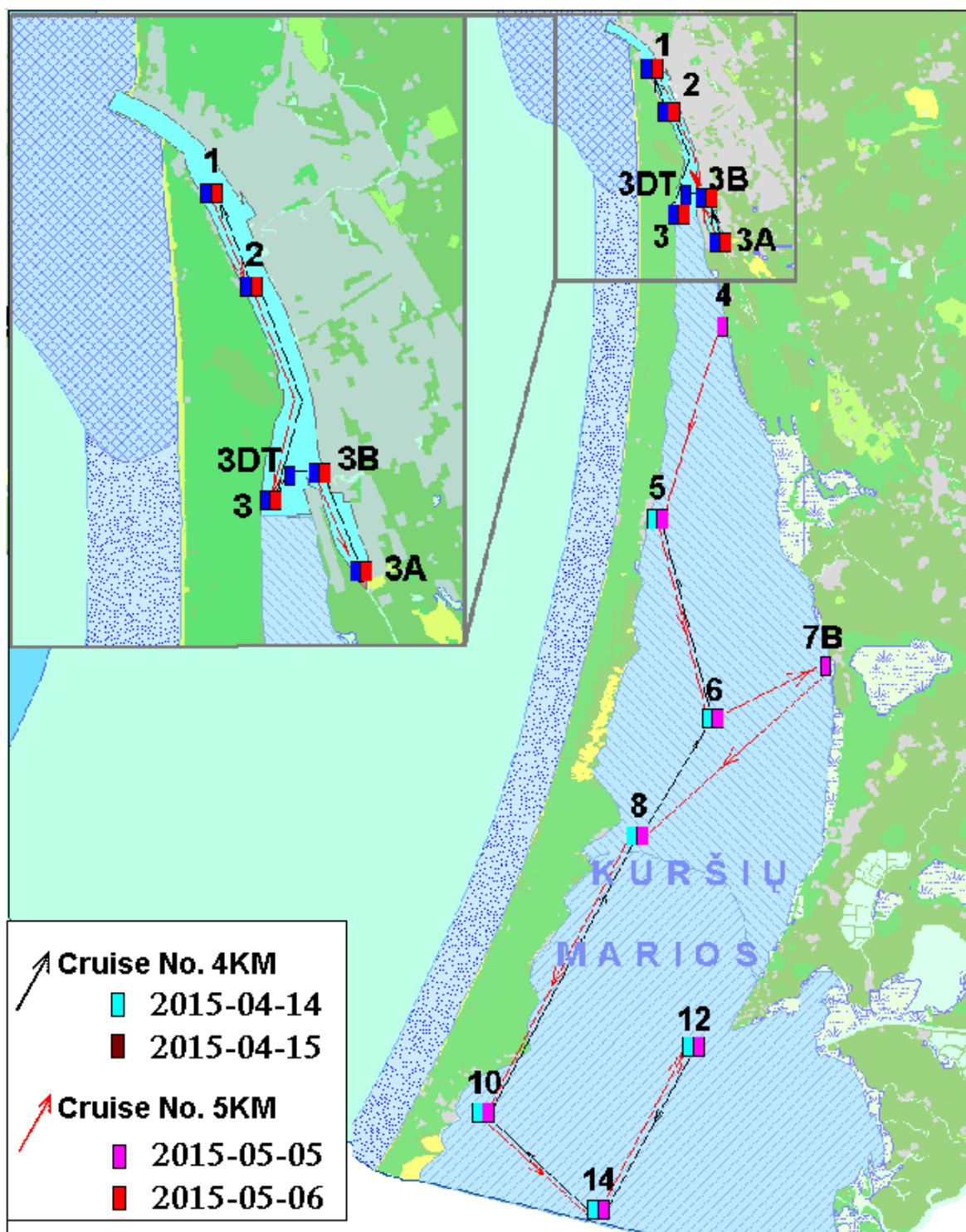


Fig. 1 Routes of the cruise

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. Water collection system Hydro - Bios "PRS 12 were used for the phytoplankton samples collection, which takes water from different water horizons automatically.



Fig. 2 Probe CTD 90



Fig. 3 Current meter ADCP WHM300-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
12	21°10.0'	55°20.0'	2015-04-14 11:35	2.6	1	+	+	1	1									
14	21°06.4'	55°16.1'	2015-04-14 12:25	4.1	2	+	+	2	2									
10	21°01.6'	55°18.3'	2015-04-14 13:10	2.6	1	+	+	1	1									
8	21°07.4'	55°24.9'	2015-04-14 14:20	1.4	1	+	+	1	-									
6	21°08.8'	55°27.8'	2015-04-14 15:10	1.1	1	+	+	1	1									
5	21°07.6'	55°32.3'	2015-04-14 16:00	3.1	1	+	+	1	1									
3A	21°09.7'	55°38.7'	2015-04-15 09:00	10.1	2	+	+	2	2									
3B	21°08.9'	55°39.8'	2015-04-15 09:35	12.2	2	+	+	2	2									
3DT	21°08.4'	55°39.8'	2015-04-15 09:55	8.3	2	+	-	2	-									
3	21°08.0'	55°39.5'	2015-04-15 10:15	10.7	2	+	+	2	2									
2	21°07.4'	55°41.8'	2015-04-15 10:55	10.7	2	+	+	2	2									
1	21°06.6'	55°42.8'	2015-04-15 11:15	13.9	2	+	+	2	2									
4	21°09.2'	55°35.9'	2015-05-05 09:35	3.6	-	-	+	1	1									
5	21°07.6'	55°32.3'	2015-05-05 10:25	3.5	1	+	+	1	1									
6	21°08.8'	55°27.8'	2015-05-05 11:25	2.0	1	+	+	1	1									
7B	21°13.4'	55°28.8'	2015-05-05 12:10	2.2	-	-	+	1	1									
8	21°07.4'	55°24.9'	2015-05-05 13:20	2.3	1	+	+	1	-									
10	21°01.6'	55°18.3'	2015-05-05 14:25	3.8	1	+	+	1	1									
14	21°06.4'	55°16.1'	2015-05-05 15:15	4.9	2	+	+	2	2									
12	21°10.0'	55°20.0'	2015-05-05 16:05	3.6	1	+	+	1	1									
3B	21°08.9'	55°39.8'	2015-05-06 08:55	4.1	2	+	+	2	2									
3A	21°09.7'	55°38.7'	2015-05-06 09:55	9.9	2	+	+	2	2									
1	21°06.6'	55°42.8'	2015-05-06 10:55	14.0	2	+	+	2	2									
2	21°07.4'	55°41.8'	2015-05-06 11:45	9.2	2	+	+	2	2									
3	21°08.0'	55°39.5'	2015-05-06 12:45	10.7	2	+	+	2	2									

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

* Measurements and samples taken from the shore in stations.

BRIEF REVIEW OF THE 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 ranged from 80 to 94%. Visibility was about 20 km during the first day, meanwhile the second day it was about 12 km.

Hydrological observations

Surface water level

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 at station No. 5 – 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 level

In Klaipeda port waters, the water temperature ranged from 6,0 °C (station No.3B) to 6,9°C (station No. 3), salinity ranged from 5,1 ‰ (station No.3) to 6,8 ‰ (station No.3B). Minimum water transparency (0,4 m) was measured at the station No.12, meanwhile the highest (1,7 m) was recorded at the station No.3A.

BRIEF REVIEW OF THE MAY

Hydrometeorological conditions

On 5th May 2015 in Curonian Lagoon south winds were prevailing (1-4 m/s), which caused 0,2 m waves. Air temperatures ranged from 9,0 to 18,0 °C. The relative humidity ranged from 63 to 100%. Visibility was about 2-20 km. On 6th May 2015 in Klaipeda port waters prevailing west-south-west winds (2-5 m/s), which caused 0,2 m waves. Visibility was about 12 km.

Hydrological observations

Surface water layer

Water temperature in central Curonian lagoon ranged from 11,2 to 13,0 °C. In Klaipeda port waters ranged from 11,9 to 13,2 °C. The lowest temperature was in station No.4 – 11,2 °C, maximum temperature at station No. 1 – 13,2 °C. Salinity in central Curonian lagoon part in all stations was 0,2 ‰. In Klaipeda port waters ranged from 0,2 ‰ (stations No. 3 and No. 3B) to 0,5 ‰ (station No. 3A).

Bottom water level

In Klaipeda port water temperature ranged from 9,3 °C (station No. 1) to 13,0 °C (station No. 3B), salinity ranges from 0,2 ‰ (station No.3) to 6,8 ‰ (station No. 1).

The smallest water transparency was in stations No. 5 and No.10 – 0,6 m, meanwhile the biggest transparency was fixed in station No. 7B – 1,7 m.

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