



**Environmental
Protection
Agency**

Cruise report

R/V VĒJŪNAS
Cruise No. 1KM/2015
2KM/2015
3KM/2015

Date 2015-03-16



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: **VĖJŪNAS**
2. Dates of cruise and cruise No.:
 - 12th January 2015 – 1KM/2015 (1)
 - 17th February 2015 – 2KM/2015 (1)
 - 25th February 2015 – 2KM/2015 (2)
 - 10th March 2015 – 3KM/2015 (1)
 - 12th March 2015 – 3 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	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

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.	Albertas Kvietkus	Hydrologist
5.	Jolanta Mitrulevičiūtė	Chemist
6.	Agnė Vasiljevė	Chemist
7.	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.

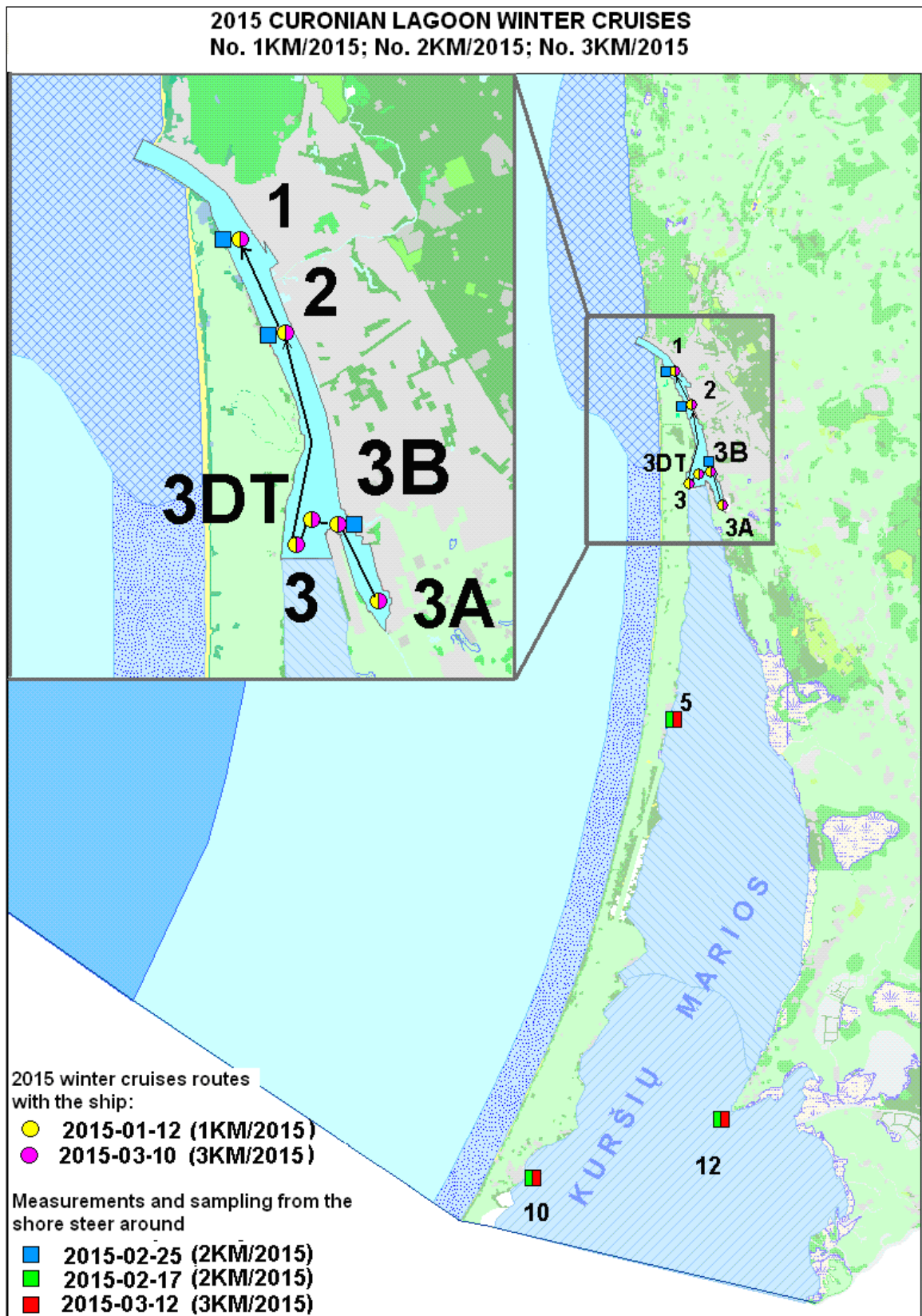


Fig. 1 Routes of the cruise 1KM/2014

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		Hydrometeorological elements	Physico-chemical quality elements								Artificial radio nuclides	Biological quality elements		
	Longitude	Latitude			Currents	Waves		General data		Other elements		Specifiniai teršalai vandenyje					Phytoplankton	Chlorophyll a	Latitude
								Water temperature, salinity	O ₂ , pH, nutrients	Suspended materials	Detergents	Oil hydrocarbons	Heavy metals	Pesticides, PAH, VOCs, phthalates, phenols	in water				
3A	21°09.7'	55°38.7'	2015-01-12 8:00	11.6	2	+	+	2	2	-	-	-	-	-	-	-	-	-	
3B	21°08.8'	55°39.8'	2015-01-12 8:25	12.8	2	+	+	2	2	-	-	-	-	-	-	-	-	-	
3DT	21°08.4'	55°39.8'	2015-01-12 8:50	8.9	2	+	-	2	-	-	-	-	-	-	-	-	-	-	
3	21°08.0'	55°39.5'	2015-01-12 9:10	11.2	2	+	+	2	2	-	-	-	-	-	-	-	-	-	
2	21°07.4'	55°41.8'	2015-01-12 9:40	15.5	2	+	+	2	2	-	-	-	-	-	-	-	-	-	
1	21°06.6'	55°42.8'	2015-01-12 10:05	14.3	2	+	+	2	2	-	-	-	-	-	-	-	-	-	
10*	21°01.6'	55°18.3'	2015-02-17 8:55	-	-	-	+	1	1	1	1	1	1	1	1	1	-	-	
5*	21°07.6'	55°32.3'	2015-02-17 10:00	-	-	-	+	1	1	1	1	1	1	1	-	-	-	-	
12*	21°10.0'	55°20.0'	2015-02-17 12:15	-	-	-	+	1	1	1	1	1	1	1	1	-	-	-	
3B*	21°08.8'	55°39.8'	2015-02-25 10:15	-	-	-	+	1	1	1	1	1	1	1	1	-	-	-	
2*	21°07.4'	55°41.8'	2015-02-25 11:05	-	-	-	+	1	1	-	1	1	1	1	1	-	-	-	
1*	21°06.6'	55°42.8'	2015-02-25 11:30	-	-	-	+	1	1	1	1	1	1	1	-	-	-	-	
3A	21°09.7'	55°38.7'	2015-03-10 9:10	10.9	-	-	+	2	2	-	-	-	-	-	-	-	-	-	
3B	21°08.8'	55°39.8'	2015-03-10 9:35	9.1	-	-	+	2	2	2	2	-	-	-	-	-	-	-	
3DT	21°08.4'	55°39.8'	2015-03-10 10:00	8.2	-	-	-	2	-	-	-	-	-	-	-	-	-	-	
3	21°08.0'	55°39.5'	2015-03-10 10:20	10.5	-	-	+	2	2	-	-	-	-	-	-	-	-	-	
2	21°07.4'	55°41.8'	2015-03-10 11:00	13.1	-	-	+	2	2	-	2	-	-	-	-	-	-	-	
1	21°06.6'	55°42.8'	2015-03-10 11:30	14.2	-	-	+	2	2	2	2	-	-	-	-	-	-	-	
10*	21°01.6'	55°18.3'	2015-03-12 10:30	-	-	-	+	1	1	1	1	-	-	-	-	-	-	-	
5*	21°07.6'	55°32.3'	2015-03-12 11:20	-	-	-	+	1	1	1	1	-	-	-	-	-	-	-	
12*	21°10.0'	55°20.0'	2015-03-12 15:50	-	-	-	+	1	1	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 THE JANUARY

Hydrometeorological conditions

12th January 2015 in Klaipėda port waters prevailed west - southwest winds (3-4 m/s), which caused 0,1 meter high waves. Air temperatures ranged from 1,5 to 2,3 °C and a relative humidity ranging from 63 to 73%. Visibility was about 20 km.

Hydrological researches

Surface water layer

The water temperature in Klaipėda port waters ranged from 1.2 to 2,7 °C. The lowest temperature recorded at the station 3A - 1,2°C and maximum 3 station – 2,7 °C. Salinity Klaipėda port waters ranged from 4,3 ‰ (3A station) to 6,9 ‰ (3 stations).

Demersal water layer

In Klaipėda 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 THE FEBRUARY

Hydrometeorological conditions

On 17th February 2015 in Curonian Lagoon south winds were prevailing (7-13 m/s). Air temperatures ranged from -2,8 to 0.3 °C. The relative humidity ranged from 54 to 64%. Visibility was about 20 km. On 25th February 2015 in Klaipėda port waters dominated south winds (2-3 m / s). Air temperatures ranged from 4.9 to 6,0 °C. The relative humidity ranged from 84 to 91 %. Visibility was about 15 km.

Hydrological researches

Surface water layer

In all stations of Curonian Lagoon measured water temperature was 0 °C. Salinity ranged from 0,04 ‰ (12 stations) and 0,05 ‰. (10 and 5 stations). The water temperature in Klaipėda port waters ranged from 0.8 to 1,5 °C. The lowest temperature recorded at the station 2 - 0,8°C and the maximum at station 3B - 1,5 °C. Salinity ranged from 0,3 ‰ (3B station) to 0,5 ‰ (1 station).

BRIEF REVIEW OF THE MARCH

Hydrometeorological conditions

On 10th March 2015 in Klaipėda port waters prevailed winds were south winds (2-3 m/s). Air temperatures ranged from 3.8 to 6,0 °C. The relative humidity ranged from 79 to 94 %. Visibility was 3-8 km. On 10th March 2015 in Curonian Lagoon northeast winds were dominated (5-7 m/s). Air temperature varied from 4,1 to 5,4 °C. The relative humidity ranged from 61 to 76 %. Visibility was about 15 km.

Hydrological researches

Surface water layer

The water temperature in Klaipeda port waters ranged from 3,4 to 3,7°C. The lowest temperature recorded at 3DT station - 3,4 °C and the maximum at 3B, 3 and 1 stations - 3,7°C. Salinity ranged from 0,2 ‰ (3 and 3DT stations) to 0,4 ‰ (1 station). Curonian Lagoon water temperature ranged from 4,7 to 6,5 ° C. Salinity ranged from 0,10 ‰ (12 station) up to 0,20 ‰. (10 and 5 stations).

Demersal water layer. The water temperature ranged from 3,4 to 3,7°C in Klaipeda port waters, salinity ranged from 0,7 ‰ (3B environment integrated management information system AIVIKS.station) to 7,1 ‰ (1 station). Water transparency in Klaipeda strait ranged from 0,9 to 1,0 m.

Hydrochemical and biological research are conducted in the shore laboratory, research results are presented in the