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PROGRAMUL OPERAȚIONAL SECTORIAL TRANSPORT
TRANS
Mobilitate în România. Conexiuni cu Europa.

Project: MONITORING THE ENVIRONMENTAL IMPACT OF THE WORKS REGARDING THE IMPROVING OF THE NAVIGATION CONDITIONS ON THE DANUBE RIVER BETWEEN CALARASI AND BRAILA, km 375-175

MONTHLY REPORT No 69: 1 - 31 January 2017

MONITORING THE ENVIRONMENTAL IMPACT OF THE WORKS REGARDING THE IMPROVING OF THE NAVIGATION CONDITIONS ON THE DANUBE RIVER BETWEEN CALARASI AND BRAILA, KM 375-175

MONTHLY REPORT NO. 69

01 - 31 January 2017



FINAL VERSION



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MONTHLY REPORT No 69: 1 - 31 January 2017

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MONTHLY REPORT No 69: 1 - 31 January 2017

CONTENT

1. INTRODUCTION	6
1.1. Brief presentation of monitored objectives	6
1.2. Overview	8
2. STATE OF THE PROGRESS ACTIVITIES	10
2.1. State and progress on each activity / critical point on specific monitoring objectives	10
2.1.1 Critical Point 01 monitoring, Bala branch area and Caragheorghe sand strip	12
2.1.1.A. Air quality monitoring	12
2.1.1.B. Noise monitoring	12
2.1.1.C. Soil quality monitoring	12
2.1.1.D. Hydromorphological monitoring	13
2.1.1.E. Water and sediments monitoring	13
2.1.1.F. Aquatic flora and fauna monitoring	13
2.1.1.G. Terrestrial flora and fauna monitoring	14
2.1.1.H. Natura 2000 sites monitoring	14
2.1.1.I. Working site activities monitoring and intervention plan compliance in case of accidental pollution	14
2.1.2. Critical Point 02 monitoring, Epurașu Island area (Lebăda)	15
2.1.2.A. Air quality monitoring	15
2.1.2.B. Noise monitoring	15
2.1.2.C. Soil quality monitoring	15
2.1.2.D. Hydromorphological monitoring	15
2.1.2.E. Water and sediments monitoring	15
2.1.2.F. Aquatic flora and fauna monitoring	15
2.1.2.G. Terrestrial flora and fauna monitoring	16
2.1.2.H. Natura 2000 sites monitoring	16
2.1.2.I. Work site activities monitoring and intervention plan compliance in case of accidental pollution	17
2.1.3. Critical point 10 monitoring, Caleia Branch (Ostrovu Lupu)	17
2.1.3.A. Air quality monitoring	17
2.1.3.B. Noise monitoring	17
2.1.3.C. Soil quality monitoring	18
2.1.3.D. Hydrophological monitoring	18
2.1.3.E. Water and sediments quality monitoring	18
2.1.3.F. Aquatic flora and fauna monitoring	18
2.1.3.G. Terrestrial flora and fauna monitoring	18
2.1.3.H. Natura 2000 sites monitoring	19
2.1.3.I. Work site activities monitoring and intervention plan compliance in case of accidental pollution	19
2.1.3. Monitoring in the critical points 03÷07	20
2.1.4.1. Monitoring in the CP 03 (upstream and downstream Seica)	20
2.1.4.2. Critical point 04 monitoring/Ceacâru/Fermecatu	22
2.1.4.3. Critical Point CP 07 / Fasolele monitoring	23
2.2. Stage of 3D numerical modeling	25
3. MEMBERS OF THE EXPERTS TEAM	26
3.1. Members of the experts' team	26
3.2. Experts' tasks during the project	26
3.3. Planning the activities for the next month on each phase/activity/critical point	27
4. TIME SCHEDULE AND BUDGET PROJECT	28
4.1. Time schedule for project implementation	28
4.2. Budget and expenses incurred during the reporting period	30



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Project: MONITORING THE ENVIRONMENTAL IMPACT OF THE WORKS REGARDING THE IMPROVING OF THE NAVIGATION CONDITIONS ON THE DANUBE RIVER BETWEEN CALARASI AND BRAILA, km 375-175

MONTHLY REPORT No 69: 1 - 31 January 2017

4.3. Budget and expenses for the next period	31
5. CONCLUSIONS, RECOMMENDATIONS, WARNINGS	32
6. ANNEXES	33

6.1 Relevant correspondence

6.2 Images of activities

6.3 Experts' activity reports

6.4 Reports of analytical results for 1 - 31 December 2016

6.4.1: Reports of analytical results for AIR

6.4.2: Reports of analytical results for SOIL

6.4.3: Reports of analytical results for WATER

6.4.4: Reports of analytical results for SEDIMENTS

6.5 Avifauna monitoring

6.6 Natura 2000 sites monitoring



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MONTHLY REPORT No 69: 1 - 31 January 2017

1. INTRODUCTION

1.1. Brief presentation of monitored objectives

I. This report presents the monitoring objectives for the period 01-31 January 2016.

For post-construction phase the monitoring frequencies for the environmental components are presented in Table 1.1.

II. 3D numerical modeling

During this period have been conducted processing activities for bathymetric data from previous months.

Also, a permanent cooperation has been ensured between the Coordinator and Partners.



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Project: MONITORING THE ENVIRONMENTAL IMPACT OF THE WORKS REGARDING THE IMPROVING OF THE NAVIGATION CONDITIONS ON THE DANUBE RIVER BETWEEN CALARASI AND BRAILA, km 375-175

MONTHLY REPORT No 69: 1 - 31 January 2017

Table 1.1. Post-construction phase - monitoring objectives - frequencies with differences in the Critical Points

MONITORING OBJECTIVES		Critical points									
		Main Critical Points			Secondary Critical Points						
		01	02	10	03A	03B	04A	04B	07		
A.	AIR		S	S	S	Q	Q	Q	Q	Q	
B.	NOISE		S	S	S	Q	Q	Q	Q	Q	
C.	SOIL		S	S	S	Q	Q	Q	Q	Q	
D.	HYDROMORPHOLOGY	Water level	C	C	C	Q	Q	Q	Q	Q	
		Water velocity	M	M	M	Q	Q	Q	Q	Q	
		Turbidity	C	C	C	Q	Q	Q	Q	Q	
		2D bathymetric elevation	M	M	M	Q	Q	Q	Q	Q	
		3D bathymetric elevation	Q	Q	Q	Not the case					
E.	WATER QUALITY		Q	Q	Q	S	S	S	S	S	
	SEDIMENTS		Q	Q	Q	S	S	S	S	S	
F.	AQUATIC FLORA		August			Q	Q	Q	Q	Q	
	AQUATIC FAUNA		Q	Q	Q	Q	Q	Q	Q	Q	
	F. is STURGEONS AND BARBELL	STURGEONS	Two seasons / year (February - May / August - December)			Two seasons / year (February - May / August - December)					
		BARBELL	One season/year April- May (breeding season)			One season/year April- May (breeding season)					
	F. i OTHER FISH SPECIES		Annually (April- May, July - September)			Annually (April- May, July - September)					
G.	TERRESTRIAL FLORA		Annually in July			Annually in July					
	TERRESTRIAL FAUNA/ AVIFAUNĂ		Annually (April - June, September - October, January)			Annually (April - June, September - October, January)					
H.	NATURA 2000 SITES	SCI	ICHTYOFAUNA	Annually (April- May, July - September)			Annually (April- May, July - September)				
			AQUATIC FLORA	July			Q	Q	Q	Q	Q
			AQUATIC FAUNA	Q	Q	Q	Q	Q	Q	Q	Q
			TERRESTRIAL FLORA	Annually in July			Annually in July				
			TERRESTRIAL FAUNA	Annually (April - June, September - October, January)			Annually (April - June, September - October, January)				
		SPA	AVIFAUNĂ	Annually (April - June, September - October, January)			Annually (April - June, September - October, January)				
J.	3D numerical modeling		M								

NOTĂ: QC - quasi continuous M- monthly Q - quarterly S - semester C - continuous



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ON THE DANUBE RIVER BETWEEN CALARASI AND BRAILA, km 375-175

MONTHLY REPORT No 69: 1 - 31 January 2017

1.2. Overview

The elements related to the sampling periods for the objectives monitored in January 2017 for post-construction period are presented in Table 1.2.

Table 1.2. Objectives monitored during the period of 01-31.01.2017

Objectives monitored	Sampling period / ongoing activities	Campaign	Critical Points									
			Main Critical Points			Secondary Critical Points						
			01	02	10	03A	03B	04A	04B	07		
A.	AIR	-	-	NO	NO	NO	NO	NO	NO	NO	NO	NO
B.	NOISE	-	-	NO	NO	NO	NO	NO	NO	NO	NO	NO
C.	SOIL	-	-	NO	NO	NO	NO	NO	NO	NO	NO	NO
D.	HYDROMORPHOLOGY	-	-	NO	NO	NO	NO	NO	NO	NO	NO	NO
E.	WATER QUALITY	-	-	NO	NO	NO	NO	NO	NO	NO	NO	NO
	SEDIMENTS	-	-	NO	NO	NO	NO	NO	NO	NO	NO	NO
F.	AQUATIC FLORA	-	-	NO	NO	NO	NO	NO	NO	NO	NO	NO
	AQUATIC FAUNA	-	-	NO	NO	NO	NO	NO	NO	NO	NO	NO
	F.is. STURGEONS	-	-	NO	NO	NO	NO	NO	NO	NO	NO	NO
	F.is. BARBELL	-	-	NO	NO	NO	NO	NO	NO	NO	NO	NO
	F.i. OTHER FISH SPECIES	-	-	NO	NO	NO	NO	NO	NO	NO	NO	NO
G.	TERRESTRIAL FLORA	-	-	NO	NO	NO	NO	NO	NO	NO	NO	NO
	TERRESTRIAL FAUNA/ AVIFAUNĂ	18-25.01.2017	Avifauna monitoring	YES	YES	YES	YES	YES	NO	YES	YES	YES
H.	NATURA 2000 SITES	18-20.01.2017	Avifauna monitoring	YES	YES	YES	YES	YES	NO	YES	YES	YES
I.	BUILDING SITE	-	-	NO	NO	NO	NO	NO	NO	NO	NO	NO

NOTE:

YES - samples were taken / activities were conducted in the field

NO - no samples taken / no activities conducted in the field



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MONTHLY REPORT No 69: 1 - 31 January 2017

Means of transportation used for sampling/conducting activities and samples analysis are presented in Table 1.3.

Table 1.3 Means of transportation

Field	Transportation means
WATER	trimaran type boat with 25 CP engine
	Laguna type boat with 25 CP engine
	Lotus type boat with 20 CP engine
	Boat - autolaboratory - with trailer - RANIERI CLF22 model, Suzuki engine, 175 CP
	Boat ANA 5.0 with trailer, Suzuki engine, 40 CP
	Boat ANA 5.5 with trailer, Suzuki engine, 70 CP
LAND	Autolaboratory - Pickup jeep Toyota Hilux Double Cab 4x4
	Autolaboratory - Jeep Toyota LandCruiser
	Autolaboratory for air monitoring
	Autolaboratory for water and soil monitoring



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MONTHLY REPORT No 69: 1 - 31 January 2017

2. STATE OF THE PROGRESS ACTIVITIES

2.1. State and progress on each activity / critical point on specific monitoring objectives

The equipments used for sampling/ongoing activities and samples analysis are presented in table 2.1.

Table 2.1 Main devices

Objectives monitored		Sampling equipment	Laboratory equipments / ongoing activities
A.	AIR	<ul style="list-style-type: none"> - LECKEL dust sampler - Auto-laboratory - Desaga pump - GPS - Autolaboratory for air monitoring 	<ul style="list-style-type: none"> - Analytical balance KERN 770-14 - Atomic absorption spectrometer with graphite furnace AAS - UNICAM 939
B.	NOISE	<ul style="list-style-type: none"> - Sound Level Meter and Microphone, Brüel & Kjær Denmark - GPS 	
C.	SOIL	<ul style="list-style-type: none"> - Burkle sampler - GPS 	<ul style="list-style-type: none"> - ION-CROMATOGRAPH DIONEX ICS 1500 - anions, cations - Multi N/C Analytic Jena (total carbon analyzer and organic carbon) - Spectrometer ATI UNICAM UV-VIS - Mass Spectrometer with inductively coupled plasma ICPMS Nexlon 350x equipped with hydrides generator system and autosampler system with autodiluter
D.	HYDROMORPHOLOGY	<ul style="list-style-type: none"> - Portable Turbidimeter type VELP SCIENTIFICA - mini ADP SONTEK - Monitoring systems for turbidity and level - Monitoring systems for flow - velocities - Portable Turbidimeter HANNA Instruments - ADCP SONTEK River Surveyor R9 - Multiparameter YSI for turbidity and level measurements - Bathimetric System 3D - Kongsberg GeoSwath Plus Compact, 250 kHz - Acoustic Doppler Current Profiler (ADCP) - Teledyne RD Instruments RiverRay - ROV (Remote Operate Vehicle) - ROVBUILDER Mini 600 - GPS 	<ul style="list-style-type: none"> - Turbidimeter HACH RATIO/RX - Device for water quality parameters measurements, type 1, Manta 2-Sub3.5+Amphibian 2 - Device for water quality parameters measurements, type 2, Manta 2-Sub4.0+Amphibian 2
E.	WATER QUALITY	<ul style="list-style-type: none"> - Ruttner sampler - GPS 	<ul style="list-style-type: none"> - Spectrometer with atomic absorption VARIAN - Spectrometer CARY BIO 300 U.V.-VIS - Spectrofotometer with atomic absorption - with flame, graphite oven, hydrides system with amalgamation and automatic system for solids CONTRAA - Automatic analyzer in continuous segmented flux model SAN++ - Mineralization system Speedwave Four with microwave



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Project: MONITORING THE ENVIRONMENTAL IMPACT OF THE WORKS REGARDING THE IMPROVING OF THE NAVIGATION CONDITIONS ON THE DANUBE RIVER BETWEEN CALARASI AND BRAILA, km 375-175

MONTHLY REPORT No 69: 1 - 31 January 2017

Objectives monitored		Sampling equipment	Laboratory equipments / ongoing activities
	SEDIMENTS	<ul style="list-style-type: none"> - Petersen sampler - GPS 	<ul style="list-style-type: none"> - Cryo - drying system ALPHA 2-4 LSCplus - Gas chromatograph coupled with mass spectrometer for dioxine screening, CPF, CPB and pesticides, with autosampler r-GC MS MS 15-02 - Drying stove - Sieving system for sediment samples - Ethos - digester with microwave for sediments - GC-MS-VARIAN - Spectrometer with atomic absorption SOLAAR M5 - Mineralization System Speedwave Four with microwave
F.	AQUATIC FLORA	<ul style="list-style-type: none"> - planktonic nets - Patalas sampler - dredges 20cmx50 cm - Square wooden frame, with surface of 1m² - GPS 	<ul style="list-style-type: none"> - reverse microscope ZEISS - OPTIKA B-600T microscope - KRUSS microscope - Canon A570 IS camera for microscope
	AQUATIC FAUNA	<ul style="list-style-type: none"> - zooplanktonic nets - zoobenthic nets - Petersen sampler - benthos grabbing dredges - benthos sampling probe - GPS 	<ul style="list-style-type: none"> - Stereomicroscope Olympus - Binocular Zeiss - Microscope ZEISS - Canon A570 IS camera for microscope - magnifying glass
	F.is. STURGEONS AND BARBELL	<ul style="list-style-type: none"> - Fixed monitoring system DKTB - Floating monitoring system type DKMR-01T - Complex monitoring, alarming and control system type DK-PRB-01U - Monitoring system with ultrasonic transmitter type 40 - Monitoring system with ultrasonic transmitter type 60 - Mobile receiver for sturgeons' telemetry Vemco VR 100 - GPS 	<ul style="list-style-type: none"> - Reception station of WR2W - VR100 mobile receptor - Multiparameter YSI - Endoscope for sturgeon gender determining WELLD WED 3000V - Radar Lowrance Elite 9 CHIRP - 4 pieces
	F.i. OTHER FISH SPECIES	<ul style="list-style-type: none"> - High power electrical fishing device Hans Grassl EL 65 II GI - Low power electrical fishing device Hans Grassl EL 60 II HI - Ihtyometer - Electronic scale - GPS - binocular microscope - stereo microscope 	
G.	TERRESTRIAL FLORA	Binoculars, GPS, notebook, standard forms, camera	
	TERRESTRIAL FAUNA/ AVIFAUNĂ	Binocular, lunette, camera, GPS	
H.	NATURA 2000 SITES	Binocular, lunette, camera, GPS	
I.	BULDING SITE ACTIVITY	<ul style="list-style-type: none"> - DESAGA pump - Autolaboratory - Sound Level Meter and Microphone, Brüel & Kjaer - dust sampler LECKEL 	



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MONTHLY REPORT No 69: 1 - 31 January 2017

2.1.1 Critical Point 01 monitoring, Bala branch area and Carageorghe sand strip

2.1.1.A. Air quality monitoring

The activities carried out during 01/31.01.2017 related to air quality monitoring for each critical point are presented in Table 2.1.1.A.1.

Table 2.1.1.A.1 Specific objective: air quality monitoring

No.	Activities
1.	Contribution to Monthly Report 69
2.	Contribution to Interim Report 15

According to post-construction monitoring objectives, in January 2017 for air quality monitoring in this main critical point CP 01 is not provided a sampling campaign. In post-construction period (in this main critical point CP01 have been made the reception of the construction work) frequency is biannual (as Table 1.1).

2.1.1.B. Noise monitoring

The activities carried out during 01/31.01.2017 related to noise level monitoring, for each critical point are summarized in Table 2.1.1.B.1.

Table 2.1.1.B.1. Specific objective: noise monitoring

No.	Activities
1.	Contribution to Monthly Report 69
2.	Contribution to Interim Report 15

According to post-construction monitoring objectives, in January 2017 for noise level monitoring in this main critical point CP 01 is not provided a measurements campaign. In post-construction period (in this main critical point CP01 have been made the reception of the construction work) frequency is biannual (as Table 1.1).

2.1.1.C. Soil quality monitoring

The activities carried out during 01/31.01.2017 related to soil quality monitoring, in this Critical Point are summarized in Table 2.1.1.C.1.



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MONTHLY REPORT No 69: 1 - 31 January 2017

Table 2.1.1.C.1. Specific Objective: soil quality monitoring

No.	Activities
1.	Performing physical-chemical laboratory analysis for soil samples collected in December (C24)

In this period have not been made sampling for soil in this critical point.

2.1.1.D. Hydromorphological monitoring

In January 2017 have not been made field campaigns for hydromorphological monitoring due to unfavorable hydro-meteorological conditions.

Activities have been conducted for data processing from the measurements campaigns in previous months.

2.1.1.E. Water and sediments monitoring

The activities carried out during 01/31.01.2017, related to water and sediments quality monitoring, in this critical point are summarized in Table 2.1.1.E.1.

Table 2.1.1.E.1. Specific objective: water and sediments quality monitoring

No.	Activities
1.	Physical-chemical laboratory analysis for water samples collected in December 2016 (C62)
2.	Physical-chemical laboratory analysis for sediment samples collected in December 2016 (C62)

In this period have not been made sampling activities for water and sediments.

2.1.1.F. Aquatic flora and fauna monitoring

During the reporting period have not been collected any samples.

2.1.1.F.is. Sturgeons and barbell migration monitoring

In January, the monitoring team carried out the data processing and interpretation regarding sturgeons' migration during May - August 2016 and participated to elaboration of Interim Report 15. Due to the frost, there were no monitoring activities for the migration of sturgeons along the Danube, but has been prepared and submitted documentation for scientific fishing permit for sturgeon species and equipment was prepared for the moment when the ice will melt and the fieldwork will be resumed.

2.1.1.F.i. Other fish species monitoring

In January are not provided any monitoring activities for fish species other than sturgeons.



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GUVERNUL ROMÂNIEI
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Institutul Național de Cercetare-Dezvoltare
pentru Protecția Mediului



Instrumente Structurale
2007-2013



PROGRAMUL OPERAȚIONAL SECTORIAL TRANSPORT
TRANS
Mobilitate în România. Conexiuni cu Europa.

Project: MONITORING THE ENVIRONMENTAL IMPACT OF THE WORKS REGARDING THE IMPROVING OF THE NAVIGATION CONDITIONS ON THE DANUBE RIVER BETWEEN CALARASI AND BRAILA, km 375-175

MONTHLY REPORT No 69: 1 - 31 January 2017

2.1.1.G. Terrestrial flora and fauna monitoring

2.1.1.G.1 Terrestrial flora

During this period have not been made monitoring activities for terrestrial flora.

2.1.1.G.2 Terrestrial fauna/ Avifauna

The activities carried out during this reporting period, regarding avifauna monitoring, are summarized in Table 2.1.1.G.2.1.

Table. 2.1.1.G.2.1 Specific objective: Avifauna monitoring

No.	Activities
1.	Field activities: - Observations for aquatic avifauna from observation points on the shore
2.	Processing and analysis of the field data

2.1.1.H. Natura 2000 sites monitoring

In this period were monitored Natura 2000 sites in critical point area.

The activities carried out during this reporting period, regarding Natura 2000 sites monitoring, are summarized in Table 2.1.1.H.1.

Table. 2.1.1.H.1 Specific objective: Natura 2000 sites monitoring

No.	Activities
1.	Avifauna assessment in Natura 2000 sites in CP01 area: - ROSPA0039 "Dunăre Ostroave" - ROSCI0022 "Canarelele Dunării" Field activities: - Observations for aquatic avifauna from observation points on the shore
2.	Analysis and processing of the field data

2.1.1.I. Working site activities monitoring and intervention plan compliance in case of accidental pollution

According to post-construction monitoring objectives are not necessary monitoring activities for the construction site.



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Instrumente Structurale
2007-2013



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Project: MONITORING THE ENVIRONMENTAL IMPACT OF THE WORKS REGARDING THE IMPROVING OF THE NAVIGATION CONDITIONS ON THE DANUBE RIVER BETWEEN CALARASI AND BRAILA, km 375-175

MONTHLY REPORT No 69: 1 - 31 January 2017

2.1.2. Critical Point 02 monitoring, Epurașu Island area (Lebăda)

2.1.2.A. Air quality monitoring

The activities carried out during 01/31.01.2017 related to air quality monitoring in this critical point are those presented in Table 2.1.1.A.1.

According to post-construction monitoring objectives, in January 2017 for air quality monitoring in this main critical point CP02 is not provided a sampling campaign. In post-construction period (in this main critical point CP02 have been made the reception of the construction work) frequency is biannual (as Table 1.1).

2.1.2.B. Noise monitoring

The activities carried out in reporting period, regarding noise level monitoring, in this critical point are those presented in Table 2.1.1.B.1.

According to post-construction monitoring objectives, in January 2017 for noise level monitoring in this main critical point CP 02 is not provided a measurements campaign. In post-construction period (in this main critical point CP02 have been made the reception of the construction work) frequency is biannual (as Table 1.1).

2.1.2.C. Soil quality monitoring

The activities carried out in reporting period, regarding soil quality monitoring, for this Critical Point are those presented in Table 2.1.1.C.1.

In this period have not been made monitoring activities for soil.

2.1.2.D. Hydromorphological monitoring

In January 2017 have not been made field campaigns for hydromorphological monitoring due to unfavorable hydro-meteorological conditions.

Activities have been conducted for data processing from the measurements campaigns in previous months.

2.1.2.E. Water and sediments monitoring

Activities performed during this reporting period, regarding water and sediment quality monitoring, reported to this critical point are those presented in Table 2.1.1.E.1.

In this period have not been made sampling activities for water and sediments.

2.1.2.F. Aquatic flora and fauna monitoring

In reporting period no sampling have been made.



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Project: MONITORING THE ENVIRONMENTAL IMPACT OF THE WORKS REGARDING THE IMPROVING OF THE NAVIGATION CONDITIONS ON THE DANUBE RIVER BETWEEN CALARASI AND BRAILA, km 375-175

MONTHLY REPORT No 69: 1 - 31 January 2017

2.1.2.F.is. Sturgeons and barbell migration monitoring

In January, because of the frost, there were no monitoring activities for sturgeons' migration along the Danube. The monitoring team carried out the data processing and interpretation regarding sturgeons' migration during May - August 2016 and participated in the elaboration of the Interim Report 15.

2.1.2.F.i. Other fish species monitoring

In January 2017 are not provided any monitoring activities for fish species other than sturgeons.

2.1.2.G. Terrestrial flora and fauna monitoring

2.1.2.G.1 Terrestrial flora

In this period have not been made monitoring activities for terrestrial flora.

2.1.2.G.2 Terrestrial fauna/ Avifauna

Activities performed during this reporting period, regarding avifauna monitoring, are summarized in Table 2.1.2.G.2.1.

Table. 2.1.2.G.2.1 Specific objective: Avifauna monitoring

No.	Activities
1.	Field activities: - Observations for aquatic avifauna from observation points on the shore
2.	Processing and analysis of the field data

2.1.2.H. Natura 2000 sites monitoring

In this reporting period were monitored Natura 2000 sites in critical point area and in adjacent lakes.

The activities carried out during this reporting period, regarding Natura 2000 sites monitoring, are summarized in Table 2.1.2.H.1.



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pentru Protecția Mediului



Instrumente Structurale
2007-2013



PROGRAMUL OPERAȚIONAL SECTORIAL TRANSPORT
TRANS
Mobilitate în România. Conexiuni cu Europa.

Project: MONITORING THE ENVIRONMENTAL IMPACT OF THE WORKS REGARDING THE IMPROVING OF THE NAVIGATION CONDITIONS ON THE DANUBE RIVER BETWEEN CALARASI AND BRAILA, km 375-175

MONTHLY REPORT No 69: 1 - 31 January 2017

Table. 2.1.2.H.1 Specific objective: Natura 2000 sites monitoring

No.	Activities
1.	Avifauna assessments in Natura 2000 sites in CP02 area: <ul style="list-style-type: none"> - ROSPA0039 “Dunăre Ostroave” - ROSCI0022 “Canaralele Dunării” - ROSCI0071 „Dumbrăveni - Valea Urluia - Lacul Vederoasa” - in Balta Vederoasa area - ROSPA0007 „Balta Vederoasa” - in Balta Vederoasa area - ROSCI0172 „Pădurea and Valea Canaraua Fetii - Iortmac” - in Dunăreni, Iortmac and Oltina lakes areas - ROSPA0054 „Lacul Dunăreni” in Dunăreni lake area - ROSPA0056 „Lacul Oltina” - in Oltina and Iortmac lakes areas Field activities: <ul style="list-style-type: none"> - Observations for aquatic avifauna from observation points on the shore
2.	Analysis and processing for the field data

2.1.2.I. Work site activities monitoring and intervention plan compliance in case of accidental pollution

Due to completion of hydrotechnical construction, has not been necessary the construction site activity monitoring. Works reception have been made in November 26th, 2015.

2.1.3. Critical point 10 monitoring, Caleia Branch (Ostrovu Lupu)

2.1.3.A. Air quality monitoring

The activities carried out during 01/31.01.2017, regarding air quality monitoring, in this critical point are those presented in Table 2.1.1.A.1.

For main critical point CP10, in January 2017 have not been made monitoring activities for air quality, as a post-construction period (in this main critical point CP10 have been made the reception of the construction work) frequency is biannual (as Table 1.1).

2.1.3.B. Noise monitoring

The activities carried out during reporting period, related to noise level monitoring, related to this critical point are those presented in Table 2.1.1.B.1.

For main critical point CP10, in January 2017 have not been made monitoring activities for noise level, as a post-construction period (in this main critical point CP10 have been made the reception of the construction work) frequency is biannual (as Table 1.1).



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Institutul Național de Cercetare-Dezvoltare
pentru Protecția Mediului



Instrumente Structurale
2007-2013



PROGRAMUL OPERAȚIONAL SECTORIAL TRANSPORT
TRANS
Mobilitate în România. Conexiuni cu Europa.

Project: MONITORING THE ENVIRONMENTAL IMPACT OF THE WORKS REGARDING THE IMPROVING OF THE NAVIGATION CONDITIONS ON THE DANUBE RIVER BETWEEN CALARASI AND BRAILA, km 375-175

MONTHLY REPORT No 69: 1 - 31 January 2017

2.1.3.C. Soil quality monitoring

The activities carried out during reporting period, regarding soil quality monitoring, in this critical point are summarized in Table 2.1.1.C.1.

In this period have not been made sampling activities for soil.

2.1.3.D. Hydrophological monitoring

In January 2017 have not been made field campaigns for hydromorphological monitoring due to unfavorable hydro-meteorological conditions.

Activities have been conducted for data processing from the measurements campaigns in previous months.

2.1.3.E. Water and sediments quality monitoring

The activities carried out in reporting period related to water and sediments quality in this critical point are those presented in Table 2.1.1.E.1.

In this period have not been made sampling activities for water and sediments.

2.1.3.F. Aquatic flora and fauna monitoring

In reporting period no sampling have been made.

2.1.3.F.is. Sturgeons and barbell migration monitoring

In January, because of the frost, there were no monitoring activities for sturgeons' migration along the Danube. The monitoring team carried out the data processing and interpretation regarding sturgeons' migration during May - August 2016 and participated in the elaboration of Interim Report 15.

2.1.3.F.i. Other fish species monitoring

In January 2017 are not provided any monitoring activities for fish species other than sturgeons.

2.1.3.G. Terrestrial flora and fauna monitoring

2.1.3.G.1 Terrestrial flora

In this period have not been made monitoring activities for terrestrial flora.



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Institutul Național de Cercetare-Dezvoltare
pentru Protecția Mediului



Instrumente Structurale
2007-2013



PROGRAMUL OPERAȚIONAL SECTORIAL TRANSPORT

TRANS

Mobilitate în România. Conexiuni cu Europa.

Project: MONITORING THE ENVIRONMENTAL IMPACT OF THE WORKS REGARDING THE IMPROVING OF THE NAVIGATION CONDITIONS ON THE DANUBE RIVER BETWEEN CALARASI AND BRAILA, km 375-175

MONTHLY REPORT No 69: 1 - 31 January 2017

2.1.3.G.2 Terrestrial fauna/ Avifauna

Activities performed during this reporting period, regarding avifauna monitoring, are summarized in Table 2.1.3.G.2.1.

Table. 2.1.3.G.2.1 Specific objective: Avifauna monitoring

No.	Activities
1.	Field activities: - Observations for aquatic avifauna from observation points on the shore
2.	Processing and analysis of the field data

2.1.3.H. Natura 2000 sites monitoring

In this period were monitored Natura 2000 sites in critical point area and in adjacent lakes areas.

Activities performed during this reporting period, regarding Natura 2000 sites monitoring, are summarized in Table 2.1.3.H.1.

Table. 2.1.3.H.1 Specific objective: Natura 2000 sites monitoring

No.	Activities
1.	Avifauna assessment in Natura 2000 sites in CP10 area: - ROSCI0006 „Balta Mică a Brăilei” - ROSPA0005 „Balta Mică a Brăilei” - ROSCI0307 „Lacul Sărat - Brăila” - in Sarat lake area Field activities: - Observations for aquatic avifauna from observation points on the shore
2.	Analysis and processing for the field data

2.1.3.I. Work site activities monitoring and intervention plan compliance in case of accidental pollution

Due to completion of hydrotechnical works has not been necessary the building site activity monitoring. Works reception was carried out on August 1st, 2014.



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Institutul Național de Cercetare-Dezvoltare
pentru Protecția Mediului



Instrumente Structurale
2007-2013



PROGRAMUL OPERAȚIONAL SECTORIAL TRANSPORT
TRANSPORT
Mobilitate în România. Conexiuni cu Europa.

Project: MONITORING THE ENVIRONMENTAL IMPACT OF THE WORKS REGARDING THE IMPROVING OF THE NAVIGATION CONDITIONS ON THE DANUBE RIVER BETWEEN CALARASI AND BRAILA, km 375-175

MONTHLY REPORT No 69: 1 - 31 January 2017

2.1.3. Monitoring in the critical points 03÷07

2.1.4.1. Monitoring in the CP 03 (upstream and downstream Seica)

2.1.4.1.A. Air quality monitoring

During 01/31.01.2017, have not been conducted any activities regarding air quality monitoring, for this secondary critical points (CP 03A and CP 03B).

2.1.4.1.B. Noise level monitoring

During 01/31.01.2017, have not been made activities for noise level monitoring, reported for these secondary critical points.

2.1.4.1.C. Soil quality monitoring

Activities performed during this reporting period, regarding soil quality monitoring, related to this critical point are those presented in Table 2.1.1.C.1.

In this period no soil samplings have been made.

2.1.4.1.D. Hydromorphological monitoring

No activities regarding hydromorphological monitoring during this period.

2.1.4.1.E. Water and sediments quality monitoring

During this period have not been made water and sediments sampling.

2.1.4.1.F. Aquatic flora and fauna monitoring

In reporting period no sampling have been made.

2.1.4.1.F.is. Sturgeons and barbell migration monitoring

In January, because of the frost, there were no monitoring activities for sturgeons' migration along the Danube. The monitoring team carried out the data processing and interpretation regarding sturgeons' migration during May - August 2016 and participated in the elaboration of Interim Report 15.

2.1.4.1.F.i. Other fish species monitoring

In January 2017 are not provided monitoring activities for fish species, other than sturgeons.



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Mobilitate în România. Conexiuni cu Europa.

Project: MONITORING THE ENVIRONMENTAL IMPACT OF THE WORKS REGARDING THE IMPROVING OF THE NAVIGATION CONDITIONS ON THE DANUBE RIVER BETWEEN CALARASI AND BRAILA, km 375-175

MONTHLY REPORT No 69: 1 - 31 January 2017

2.1.4.1.G. Terrestrial flora and fauna monitoring

2.1.4.1.G.1 Terrestrial flora

In this period have not been made monitoring activities for terrestrial flora.

2.1.4.1.G.2 Terrestrial fauna / Avifauna

Activities conducted in this reporting period, regarding avifauna monitoring, are summarized in Table 2.1.4.1.G.2.1.

Table. 2.1.4.1.G.2.1 Specific objective: Avifauna monitoring

No.	Activities
1.	Field activities: - Observations for aquatic avifauna from observation points on the shore
2.	Analysis and processing of the field data

2.1.4.1.H. Natura 2000 sites monitoring

In this reporting period were monitored Natura 2000 sites in critical point area and in adjacent lakes.

The activities carried out during this reporting period, regarding Natura 2000 sites monitoring, are summarized in Table 2.1.4.1.H.1.

Table. 2.1.4.1.H.1 Specific objective: Natura 2000 sites monitoring

No.	Activities
1.	Avifauna assessments in Natura 2000 sites in CP03 area: - ROSPA0039 "Dunăre Ostroave" - ROSCI0022 "Canaralele Dunării" - ROSCI0071 „Dumbrăveni - Valea Urluia - Lacul Vederoasa” - in Baciului and Balta Vederoasa lakes areas - ROSPA0007 „Balta Vederoasa” - in Balta Vederoasa and Baciului lake areas - ROSCI0172 „Pădurea and Valea Canaraua Fetii - Iortmac” - in Dunăreni, Iortmac and Oltina lakes areas - ROSPA0054 „Lacul Dunăreni” in Dunăreni lake area - ROSPA0056 „Lacul Oltina” - in Oltina and Iortmac lakes areas Field activities: - Observations for aquatic avifauna from observation points on the shore
2.	Analysis and processing of the field data

2.1.4.1.I. Work site activities monitoring and intervention plan compliance in case of accidental pollution

Because the hydrotechnical works have not started, was not necessary the monitoring of construction site activity.



UNIUNEA EUROPEANĂ



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Institutul Național de Cercetare-Dezvoltare
pentru Protecția Mediului



Instrumente Structurale
2007-2013



PROGRAMUL OPERAȚIONAL SECTORIAL TRANSPORT
TRANS
Mobilitate în România. Conexiuni cu Europa.

Project: MONITORING THE ENVIRONMENTAL IMPACT OF THE WORKS REGARDING THE IMPROVING OF THE NAVIGATION CONDITIONS ON THE DANUBE RIVER BETWEEN CALARASI AND BRAILA, km 375-175

MONTHLY REPORT No 69: 1 - 31 January 2017

2.1.4.2. Critical point 04 monitoring/Ceacâru/Fermecatu

2.1.4.2.A. Air quality monitoring

During 01/31.01.2017, have not been made activities for air quality monitoring, reported for these secondary critical points (CP 04A and CP 04B).

2.1.4.2.B. Noise level monitoring

During 01/31.01.2017, have not been made activities for noise level monitoring, reported for these secondary critical points.

2.1.4.2.C. Soil quality monitoring

The activities carried out during reporting period regarding soil quality monitoring in this critical point are summarized in Table 2.1.1.C.1.

In this period soil samples have not been collected.

2.1.4.2.D. Hydromorphological monitoring

No activities regarding hydromorphological monitoring during this period.

2.1.4.2.E. Water and sediments quality monitoring

During this period have not been made water and sediments sampling.

2.1.4.2.F. Aquatic flora and fauna monitoring

In reported period no sampling have been made.

2.1.4.2.F.is. Sturgeons and barbell migration monitoring

In January, because of the frost, there were no monitoring activities for sturgeons' migration along the Danube. The monitoring team carried out the data processing and interpretation regarding sturgeons' migration during May - August 2016 and participated in the elaboration of Interim Report 15.

2.1.4.2.F.i. Other fish species monitoring

In January 2017 are not provided any monitoring activities for fish species other than sturgeons.



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Institutul Național de Cercetare-Dezvoltare
pentru Protecția Mediului



Instrumente Structurale
2007-2013



PROGRAMUL OPERAȚIONAL SECTORIAL TRANSPORT
TRANS
Mobilitate în România. Conexiuni cu Europa.

Project: MONITORING THE ENVIRONMENTAL IMPACT OF THE WORKS REGARDING THE IMPROVING OF THE NAVIGATION CONDITIONS ON THE DANUBE RIVER BETWEEN CALARASI AND BRAILA, km 375-175

MONTHLY REPORT No 69: 1 - 31 January 2017

2.1.4.2.G. Terrestrial flora and fauna monitoring

2.1.4.2.G.1 Terrestrial flora

During this period have not been made monitoring activities for terrestrial flora.

2.1.4.2.G.2 Terrestrial fauna/Avifauna

In January 2017 have not been made monitoring activities for avifauna in this critical point because it was inaccessible due to the snow.

2.1.4.2.H. Natura 2000 monitoring sites

In January 2017 have not been made monitoring activities for Natura 2000 sites in this critical point because it was inaccessible due to the snow.

2.1.4.2.I. Monitoring the building site activities and the compliance with the intervention plan in case of accidental pollution

The monitoring of the construction site was not necessary because the hydrotechnical works have not been started.

2.1.4.3. Critical Point CP 07 / Fasolele monitoring

2.1.4.3.A. Air quality monitoring

During 01/31.01.2017, have not been made activities regarding air quality monitoring, in this secondary critical point.

2.1.4.3.B. Noise level monitoring

During 01/31.01.2017, have not been made activities regarding noise level monitoring, in this secondary critical point.

2.1.4.3.C. Soil quality monitoring

Activities performed during reporting period, regarding soil quality monitoring, in this critical point, were summarized in Table 2.1.1.C.1.

In this period no soil sampling have been made.

2.1.4.3.D. Hydromorphological monitoring

No activities regarding hydromorphological monitoring during this period.



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GUVERNUL ROMÂNIEI
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Institutul Național de Cercetare-Dezvoltare
pentru Protecția Mediului

Instrumente Structurale
2007-2013

PROGRAMUL OPERATIONAL SECTORIAL TRANSPORT
TRANS
Mobilitate în România. Conexiuni cu Europa.

Project: MONITORING THE ENVIRONMENTAL IMPACT OF THE WORKS REGARDING THE IMPROVING OF THE NAVIGATION CONDITIONS ON THE DANUBE RIVER BETWEEN CALARASI AND BRAILA, km 375-175

MONTHLY REPORT No 69: 1 - 31 January 2017

2.1.4.3.E. Water and sediments quality monitoring

During this period have not been made water and sediments sampling.

2.1.4.3.F. Aquatic flora and fauna monitoring

In reported period no sampling have been made.

2.1.4.3.F.is. Sturgeons and barbell migration monitoring

In January, because of the frost, there were no monitoring activities for sturgeons' migration along the Danube. The monitoring team carried out the data processing and interpretation regarding sturgeons' migration during May - August 2016 and participated in the elaboration of Interim Report 15.

2.1.4.3.F.i. Other fish species monitoring

In January are not provided any monitoring activities for fish species other than sturgeons.

2.1.4.3.G. Terrestrial flora and fauna monitoring

2.1.4.3.G.1 Terrestrial flora

During this period have not been made activities for terrestrial flora monitoring.

2.1.4.3.G.2 Terrestrial fauna / Avifauna

Activities conducted in this reporting period, regarding avifauna monitoring, are summarized in Table 2.1.4.3.G.2.1.

Table. 2.1.4.3.G.2.1 Specific objective: Avifauna monitoring

No.	Activities
1.	Field activities: - Observations for aquatic avifauna from observation points on the shore
2.	Analysis and processing of the field data

2.1.4.3.H. Natura 2000 sites monitoring

In this reporting period were monitored Natura 2000 sites in critical point area.

The activities carried out during this reporting period, regarding Natura 2000 sites monitoring, are summarized in Table 2.1.4.3.H.1.



UNIUNEA EUROPEANĂ

Project: MONITORING THE ENVIRONMENTAL IMPACT OF THE WORKS REGARDING THE IMPROVING OF THE NAVIGATION CONDITIONS ON THE DANUBE RIVER BETWEEN CALARASI AND BRAILA, km 375-175

MONTHLY REPORT No 69: 1 - 31 January 2017

Table. 2.1.4.3.H.1 Specific objective: Natura 2000 sites monitoring

No.	Activities
1.	Avifauna assessment in Natura 2000 sites in CP07 area: <ul style="list-style-type: none"> - ROSPA0039 “Dunăre Ostroave” - ROSCI0022 “Canaralele Dunării” Field activities: <ul style="list-style-type: none"> - Observations for aquatic avifauna from observation points on the shore
2.	Analysis and processing of the field data

2.1.4.3.1. Work site activities monitoring and intervention compliance plan in case of accidental pollution

Because the hydrotechnical works not started, was not necessary the construction site monitoring.

2.2. Stage of 3D numerical modeling

In January 2017, INCDPM specialists have achieve bathymetric data processing from previous months, in main critical points CP01, CP02 and CP10 areas. Thus, for this activity have been performed:

- bathymetric measurements processing for morphology and for sections profiling;
- bathymetric measurements processing for velocity and flow rates;
- longitudinal bathymetric measurements processing for bottom sill geometry determination.



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Institutul Național de Cercetare-Dezvoltare
pentru Protecția Mediului



Instrumente Structurale
2007-2013



PROGRAMUL OPERAȚIONAL SECTORIAL TRANSPORT
TRANS
Mobilitate în România. Conexiuni cu Europa.

Project: MONITORING THE ENVIRONMENTAL IMPACT OF THE WORKS REGARDING THE IMPROVING OF THE NAVIGATION CONDITIONS ON THE DANUBE RIVER BETWEEN CALARASI AND BRAILA, km 375-175

MONTHLY REPORT No 69: 1 - 31 January 2017

3. MEMBERS OF THE EXPERTS TEAM

3.1. Members of the experts' team

Team's members who carried out activities in the reporting period and the number of days worked by each expert are schematically presented in Table 3.1.

Table 3.1. Members of the experts' team

No.	Experts	Names of experts	Number of working days post-construction
1.	Project manager	Deák György	5
2.	Chemist 1	Ghiță Gina	7
3.	Chemist 2	Borș Adriana	4
4.	Ichthyologist 1	Cristea Victor	6
5.	Ichthyologist 2	Falka Istvan	0
6.	Hydrology	Poteraș George	11
7.	Hydraulic sedimentology	Ungureanu Gh Viorel	3
8.	Phytoplankton and aquatic macrophytes	Marinescu Florica	0
9.	Zooplankton	Adina Popescu	0
10.	Terrestrial invertebrates	Șerban Cecilia	0
11.	Aquatic macroinvertebrates	Florea Luiza	0
12.	Terrestrial flora and vegetation	Frink Jozsef Pal	0
13.	Ornithologist 1	Jozsef Szabo	13
14.	Ecologist 1	Ambrus Laszlo	2
15.	Ecologist 2	Zaharia Tania	4
16.	Assessor	Tudor Marian	6

3.2. Experts' tasks during the project

The tasks accomplished by experts on each phase/activity/critical point are presented in Experts' Activity Reports (Annex 6.3).



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Institutul Național de Cercetare-Dezvoltare
pentru Protecția Mediului

Instrumente Structurale
2007-2013

PROGRAMUL OPERAȚIONAL SECTORIAL TRANSPORT
TRANS
Mobilitate în România. Conexiuni cu Europa.

Project: MONITORING THE ENVIRONMENTAL IMPACT OF THE WORKS REGARDING THE IMPROVING OF THE NAVIGATION CONDITIONS ON THE DANUBE RIVER BETWEEN CALARASI AND BRAILA, km 375-175

MONTHLY REPORT No 69: 1 - 31 January 2017

3.3. Planning the activities for the next month on each phase/activity/critical point

The monitoring activities for the period 01-28 February 2017 are synthetically presented in the table 3.4.

Table 3.4. Activities for the period of 01.02-28.02.2017

No.	ACTIVITIES	Critical points							
		Main critical points			Secondary critical points				
		01	02	10	03A	03B	04A	04B	07
1.	Further campaign of measurements, field observations (where is necessary)	YES	YES	YES	YES	YES	YES	YES	YES
2.	Processing and interpretation of field and laboratory data (where is necessary)	YES	YES	YES	YES	YES	YES	YES	YES
3.	Monthly report preparation	YES	YES	YES	YES	YES	YES	YES	YES



4. TIME SCHEDULE AND BUDGET PROJECT

4.1. Time schedule for project implementation

ID	Task Name	Start	Finish	Gantt Chart															
				02 Jan '17		16 Jan '17		30 Jan '17		13 Feb '17		27 Feb							
				S	W	S	T	M	F	T	S	W	S	T	M	F	T	S	W
1	Air monitoring: Data and measurements processing and assessing, related to air quality, in secondary critical points CP 03A, CP 03B, CP 04A, CP 04B and CP 07. Contribution to Interim Report R115	Mon 02.01.17	Tue 31.01.17	[Green bar from Mon 02.01.17 to Tue 31.01.17]															
2	69th Month	Mon 02.01.17	Tue 31.01.17	[Green bar from Mon 02.01.17 to Tue 31.01.17]															
3	Air monitoring: Conducting the sampling and measurements campaign for air quality, in main critical points CP 01, CP 02 and CP 10. Contribution to Interim Report R115	Tue 31.01.17	Tue 28.02.17	[Green bar from Tue 31.01.17 to Tue 28.02.17]															
4	70th Month	Tue 31.01.17	Tue 28.02.17	[Green bar from Tue 31.01.17 to Tue 28.02.17]															
5	Noise monitoring: Contribution to Interim Report R115	Mon 02.01.17	Tue 31.01.17	[Green bar from Mon 02.01.17 to Tue 31.01.17]															
6	69th Month	Mon 02.01.17	Tue 31.01.17	[Green bar from Mon 02.01.17 to Tue 31.01.17]															
7	Noise monitoring (zero and intense traffic): Conducting the campaign on noise monitoring in main critical points CP 01, CP 02 and CP 10. Contribution to Interim Report R115	Tue 31.01.17	Tue 28.02.17	[Green bar from Tue 31.01.17 to Tue 28.02.17]															
8	70th Month	Tue 31.01.17	Tue 28.02.17	[Green bar from Tue 31.01.17 to Tue 28.02.17]															
9	Water quality monitoring - Water (physical-chemical analysis) - physical-chemical analysis C62 (CP 01, CP 02 and CP 10)	Mon 02.01.17	Tue 31.01.17	[Green bar from Mon 02.01.17 to Tue 31.01.17]															
10	69th Month	Mon 02.01.17	Tue 31.01.17	[Green bar from Mon 02.01.17 to Tue 31.01.17]															
11	Water quality monitoring - Sediments (heavy metals, organic micropollutants) physical-chemical analysis C62 (CP 01, CP 02 and CP 10)	Mon 02.01.17	Tue 31.01.17	[Green bar from Mon 02.01.17 to Tue 31.01.17]															
12	69th Month	Mon 02.01.17	Tue 31.01.17	[Green bar from Mon 02.01.17 to Tue 31.01.17]															
13	Soil monitoring - physical-chemical monitoring C24 - (CP 01, CP 02, CP 10, CP03, CP07, CP10)	Mon 02.01.17	Tue 31.01.17	[Green bar from Mon 02.01.17 to Tue 31.01.17]															
14	69th Month	Mon 02.01.17	Tue 31.01.17	[Green bar from Mon 02.01.17 to Tue 31.01.17]															
15	Hydromorphological monitoring in main critical points CP 01/CP 02/CP 10 - data processing and interpretation from hydromorphological monitoring campaigns in previous period	Mon 02.01.17	Tue 28.02.17	[Green bar from Mon 02.01.17 to Tue 28.02.17]															
16	69th Month	Mon 02.01.17	Tue 31.01.17	[Green bar from Mon 02.01.17 to Tue 31.01.17]															
17	70th Month	Tue 31.01.17	Tue 28.02.17	[Green bar from Tue 31.01.17 to Tue 28.02.17]															
18	Ichthyofauna Biodiversity Monitoring in CP 01/02/10/03/04/07 - Interim Report 15 drafting	Mon 02.01.17	Tue 31.01.17	[Green bar from Mon 02.01.17 to Tue 31.01.17]															
19	69th Month	Mon 02.01.17	Tue 31.01.17	[Green bar from Mon 02.01.17 to Tue 31.01.17]															
20	Monitoring of avifauna targeted by Birds Directive in CP 01/02/03/07/10	Mon 02.01.17	Tue 31.01.17	[Green bar from Mon 02.01.17 to Tue 31.01.17]															
21	69th Month	Mon 02.01.17	Tue 31.01.17	[Green bar from Mon 02.01.17 to Tue 31.01.17]															
22	Avifauna monitoring in Natura 2000 sites in CP 01/02/03/07/10	Mon 02.01.17	Tue 31.01.17	[Green bar from Mon 02.01.17 to Tue 31.01.17]															
23	69th Month	Mon 02.01.17	Tue 31.01.17	[Green bar from Mon 02.01.17 to Tue 31.01.17]															
24	Monthly Reports	Mon 02.01.17	Tue 28.02.17	[Green bar from Mon 02.01.17 to Tue 28.02.17]															
25	69th Month	Mon 02.01.17	Tue 31.01.17	[Green bar from Mon 02.01.17 to Tue 31.01.17]															



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MONTHLY REPORT No 69: 1 - 31 January 2017

ID	Task Name	Start	Finish	Gantt Chart															
				02 Jan '17		16 Jan '17		30 Jan '17		13 Feb '17		27 Feb							
				S	W	S	T	M	F	T	S	W	S	T	M	F	T	S	W
26	70th Month	Tue 31.01.17	Tue 28.02.17																



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ON THE DANUBE RIVER BETWEEN CALARASI AND BRAILA, km 375-175

MONTHLY REPORT No 69: 1 - 31 January 2017

4.2. Budget and expenses incurred during the reporting period

Justifying calculation for 01 - 31 January 2017

I. EXPERTS EXPENSES				
No.	Experts	No. of working days		Maximum total value of the fees
		Post - Construction (36 months)	Fee (Euro on working day)	
1	Project leader	5	240	1.200,00 EUR
2	Chemist 1	7	200	1.400,00 EUR
3	Chemist 2	4	200	800,00 EUR
4	Ichthyologist 1	6	330	1.980,00 EUR
5	Ichthyologist 2	0	200	0,00 EUR
6	Hydrology	11	200	2.200,00 EUR
7	Hydraulic- sedimentlogy	3	200	600,00 EUR
8	Aquatic phytoplankton and macropytes	0	130	0,00 EUR
9	Zooplankton	0	130	0,00 EUR
10	Terrestrial invertebrates	0	125	0,00 EUR
11	Aquatic macroinvertebrates	0	125	0,00 EUR
12	Terrestrial flora and fauna	0	125	0,00 EUR
13	Ornithologist 1	13	200	2.600,00 EUR
14	Ecologist 1	2	140	280,00 EUR
15	Ecologist 2	4	140	560,00 EUR
16	Evaluator	6	330	1.980,00 EUR
SUBTOTAL EXPERTS' FEES				13.600,00 EUR
II EXPENSES with JUSTIFICATION				
1	Ichthyology- telemetry (sturgeons and barbel transmitters, batteries, expensis on stugeons' capturing)			0,00 EUR
2	Abiotic and biotic data for the establishment of the framework			
3	Analysis			0,00 EUR
SUBTOTAL EXPENSES with JUSTIFICATION				0,00 EUR
III. MATHEMETICAL MODELING				
1	Software acquisiton+hardware+ necessary licenses			0,00 EUR
2	Acquisition of bathymetric data, necessary for the mathematical modeling			0,00 EUR
3	Training of 2 specialists in numerical modeling			0,00 EUR
4	Fee for the numerical modeling expert			0,00 EUR
5	3D numerical model and implementation in 3D monitoring			0,00 EUR
SUBTOTAL NUMERICAL MODELING				0,00 EUR
TOTAL without V.A.T.				13.600,00 EUR



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ON THE DANUBE RIVER BETWEEN CALARASI AND BRAILA, km 375-175

MONTHLY REPORT No 69: 1 - 31 January 2017

4.3. Budget and expenses for the next period

Estimated calculation for 01 - 28 February 2017

I. EXPERTS EXPENSES				
No.	Experts	No. of working days		Maximum total value of the fees
		Post - Construction (36 monts)	Fee (Euro on working day)	
1	Project leader	5	240	1.200,00 EUR
2	Chemist 1	2	200	400,00 EUR
3	Chemist 2	8	200	1.600,00 EUR
4	Ichthyologist 1	3	330	990,00 EUR
5	Ichthyologist 2	0	200	0,00 EUR
6	Hydrology	8	200	1.600,00 EUR
7	Hydraulic- sedimentlogy	7	200	1.400,00 EUR
8	Aquatic phytoplankton and macropytes	0	130	0,00 EUR
9	Zooplankton	0	130	0,00 EUR
10	Terrestrial invertebrates	0	125	0,00 EUR
11	Aquatic macroinvertebrates	0	125	0,00 EUR
12	Terrestrial flora and fauna	0	125	0,00 EUR
13	Ornithologist 1	0	200	0,00 EUR
14	Ecologist 1	2	140	280,00 EUR
15	Ecologist 2	0	140	0,00 EUR
16	Evaluator	6	330	1.980,00 EUR
SUBTOTAL EXPERTS' FEES				9.450,00 EUR
II EXPENSES with JUSTIFICATION				
1	Ichthyology- telemetry (sturgeons and barbel transmitters, batteries, expensis on stugeons' capturing)			0,00 EUR
2	Abiotic and biotic data for the establishment of the framework			
3	Analysis			0,00 EUR
SUBTOTAL EXPENSES with JUSTIFICATION				0,00 EUR
III. MATHEMATICAL MODELING				
1	Software acquisiton+hardware+ necessary licenses			0,00 EUR
2	Acquisition of bathymetric data, necessary for the mathematical modeling			0,00 EUR
3	Training of 2 specialists in numerical modeling			0,00 EUR
4	Fee for the numerical modeling expert			0,00 EUR
5	3D numerical model and implementation in 3D monitoring			0,00 EUR
SUBTOTAL NUMERICAL MODELING				0,00 EUR
TOTAL without V.A.T.				9.450,00 EUR



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MONTHLY REPORT No 69: 1 - 31 January 2017

5. CONCLUSIONS, RECOMMENDATIONS, WARNINGS

- 5.1 This Monthly Report reflects monitoring activities from January 2017 related to post-construction period.
- 5.2 For the specific monitoring objectives within this phase, the Provider considered that the field and laboratory activities, logistics and infrastructure be sized so as to be according to the graphs and stipulations mentioned in the Specifications.
- 5.3 Taking into consideration the importance of the construction works that take place on Danube on the section between Calarasi and Braila, the Consortium recommends further actions on biodiversity monitoring, at least with the frequency similar to post-construction phase, up to completion of the project, in order to ensure an informational volume, with a high confidence level, to allow if necessary, the development of preventive solutions.
- 5.4 In January 2017, due to hydro-meteorological conditions, hydromorphological monitoring activity mainly based on processing the data from measurements campaigns in previous months, namely ADCP measurements (flow rates and velocities) in critical points areas CP01, CP02 and CP10, as well as from single-beam measurements for sections profiling in the 3 main critical points. Under the influence of ice formations present on the monitored Danube sector, the flow rates in January 2017 were very low compared to historical data for this period of the year.
- 5.5 Census of aquatic birds from the motorboat was not possible due to compact ice on the Danube. Danube navigation was interrupted during the census, because the Danube surface was frozen 80-100%. Generally, in the compact ice there were only a few water openings.
Ground conditions made observations more difficult: most of the access roads to the observation points were inaccessible due to the snow that sometimes reached a thickness of 1-2 m.



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MONTHLY REPORT No 69: 1 - 31 January 2017

6. ANNEXES

6.1 Relevant correspondence

6.2 Images of activities

6.3 Experts' activity reports

6.4 Reports of analytical results for 1 - 31 December 2016

6.4.1: Reports of analytical results for AIR

6.4.2: Reports of analytical results for SOIL

6.4.3: Reports of analytical results for WATER

6.4.4: Reports of analytical results for SEDIMENTS

6.5 Avifauna monitoring

6.6 Natura 2000 sites monitoring