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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 57: 1 - 31 January 2016

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. 57

01 - 31 January 2016



FINAL VERSION



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1. INTRODUCTION

1.1. Brief presentation of the monitored objectives

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

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

II. *3D numerical modeling*

During this period have been conducted activities for bathymetric data acquisition.

Although the works in CP01 are not currently completed, consortium has conducted for this main critical point, monitoring activities in post-construction stage.

Besides a proper organization and development of the field campaigns, a permanent cooperation has been ensured, between the Coordinator and Partners.



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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		July			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/ AVIFAUNA		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	AVIFAUNA	Annually (April - June, September - October, January)			Annually (April - June, September - October, January)				
J.	3D numerical modeling		M								

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



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1.2. Overview

The elements related to the sampling periods for the objectives monitored in January 2016 for post-construction period are presented in Table 1.2.

Table 1.2. Objectives monitored during the period of 01.01-31.01.2016

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	11-15, 18- 21.12.2015	C57	YES	YES	YES	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	11, 13, 18.01.2016	C17	YES	YES	YES	YES	YES	YES	YES	YES
	F.is. BARBELL	-	-	NO	NO	NO	NO	NO	NO	NO	NO
	F.i. OTHER FISH SPECIES	-	-	NO	NO	NO	NO	NO	NO	NO	NO
G.	TERRESTRIAL FLORA	-	NO	NO	NO	NO	NO	NO	NO	NO	NO
	TERRESTRIAL FAUNA/ AVIFAUNĂ	11-15, 18-22, 25-27.01.2016	Avifauna monitoring	YES	YES	YES	YES	YES	YES	YES	YES
H.	NATURA 2000 SITES	18, 19, 20, 21.01.2016	Avifauna monitoring	YES	YES	YES	YES	YES	YES	YES	YES
I.	BUILDING SITE	-	-	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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Means of transportation used for sampling/conducting activities and samples analysis are presented in Table 1.3.

Table 1.4 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, 70 CP
	Boat ANA 5.5 with trailer, Suzuki engine, 40 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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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 VELD 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
	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, PCF, PCB 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



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Objectives monitored		Sampling equipment	Laboratory equipments / ongoing activities
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 & Kjær - dust sampler LECKEL 	



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

2.1.1.A. Air quality monitoring

The activities carried out during 01/31.01.2016 related to air quality on each critical point, are summarized in Table 2.1.1.A.1.

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

No.	Activities
1.	Participation to Monthly Report 57
2.	Participation to Interim Report 12 and 13

According to post-construction monitoring objectives, in January 2016 for air quality monitoring in this main critical point CP 01 is not provided a sampling campaign.

2.1.1.B. Noise monitoring

The activities carried out during 01/31.01.2016 related to noise level monitoring, reported 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.	Participation to Monthly Report 57
2.	Participation to Interim Report 12 and 13

According to post-construction monitoring objectives, in January 2016 for noise level monitoring in this critical point CP 01 is not provided a measurements campaign.

2.1.1.C. Soil quality monitoring

The activities carried out during 01/31.01.2016 related to soil quality monitoring, reported for each critical point are summarized in Table 2.1.1.C.1.

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

No.	Activities
1.	Physical-chemical analysis in laboratory for soil samples collected in December (C20)

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



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2.1.1.D. Hydromorphological monitoring

The activities from this reporting period are synthetically presented in Table 2.1.1.D.1:

Overall 3 main activities have been carried out:

- Single-beam bathymetric measurements for sections profiling;
- Flow and velocity measurements on the monitoring sections
- Turbidity and level continuous measurements in the 5 automatic hydrometric stations have continued

Table 2.1.1.D.1 Specific objective: hydromorphological monitoring

No.	Activities
1.	Single-beam bathymetric measurements for sections profiling
2.	Flow and velocity measurements on the monitoring sections
3.	Turbidity and level continuous measurements in the 5 automatic hydrometric stations

2.1.1.E. Water and sediments monitoring

The activities carried out during period 01/31.01.2016 related to water and sediments quality monitoring, for each 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 analysis in laboratory for water samples collected in December 2015 (C56)
2.	Physical-chemical analysis in laboratory for sediment samples collected in December 2015 (C56)

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

2.1.1.F. Aquatic flora and fauna monitoring

No sampling activities during this period.

2.1.1.F.is. Sturgeons and barbell migration monitoring

In January 2016 have been conducted measurements for water velocity determination at the surface and on the riverbed in wintering habitats for sturgeons (Borcea branch km 43 and km 50,9; Bala branch km 8,3; km 7,8; km 7,6 and km 6,3).

Monitoring systems have been downloaded in order to update the database and maintenance actions been made.

For Interim Report 13 were processed information from September - December 2015 related



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with sturgeon migration.

A request was sent to the National Agency for Fisheries and Aquaculture for scientific sturgeon fishing authorization and were held preparing activities for tagging and migration monitoring equipment.

No action has been taken for barbel species monitoring. According to Specifications, the species is monitored only during spring.

In Table 2.1.1.F.is.1 are summarized the activities performed in this reporting period, regarding sturgeons migration monitoring:

Table. 2.1.1.F.is.1 Specific objective: sturgeons and barbell migration monitoring

No.	Activities
1.	Velocity measurements for wintering habitats
2.	Data downloading and maintenance
3.	Data processing for Interim Report 13
4.	Demarches for scientific fishing permits at sturgeon species

2.1.1.F.i. Other fish species monitoring

In January 2016 have not been conducted any monitoring activities or data processing for other fish species chapter.

2.1.1.G. Terrestrial flora and fauna monitoring

2.1.1.G.1 Terrestrial flora

No monitoring activities regarding terrestrial flora monitoring in January 2016.

2.1.1.G.2 Terrestrial fauna/ Avifauna

The activities carried out during this reporting period, related to avifauna monitoring, are summarized in Tabelul 2.1.1.G.2.1.

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

No.	Activities
1.	Activities in field: - Observations for aquatic fauna from the shore
2.	Analysis and processing for the obtained data

2.1.1.H. Natura 2000 sites monitoring

During this period have been monitored Natura 2000 sites in critical points area.

Activities conducted in this reporting period, regarding Natura 2000 sites monitoring, are



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summarized in Table 2.1.1.H.1.

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

No.	Activities
1.	Avifauna monitoring in Natura 2000 sites from CP01 area: - ROSPA0039 “Dunăre Ostroave”; ROSCI0022 “Canaralele Dunării” Activities on the field: - Observations for aquatic avifauna from observation points on the shore
2.	Analysis and processing for field obtained 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.

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

2.1.2.A. Air quality monitoring

The activities carried out during 01/31.01.2016 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 2016 for air quality monitoring in this main critical point CP 02 is not provided a sampling campaign.

2.1.2.B. Noise monitoring

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

According to post-construction monitoring objectives, in January 2016 for noise level monitoring in this main critical point CP 02 is not provided a measurements campaign.

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 soil sampling.

2.1.2.D. Hydromorphological monitoring

The activities from this reporting period are presented in table 2.1.2.D.1.

Overall 3 main activities have been carried out:

- Single-beam bathymetric measurements for sections profiling;
- Flow and velocities measurements on the monitoring sections;



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- Turbidity and level continuous measurements in the 5 automatic hydrometric stations

Table 2.1.2.D.1 Specific objective: hydromorphological monitoring

No.	Activities
1.	Single-beam bathymetric measurements for sections profiling
2.	Flow and velocities measurements on the monitoring sections
3.	Turbidity and level continuous measurements in the 5 automatic hydrometric stations

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.

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

2.1.2.F. Aquatic flora and fauna monitoring

In this period no sampling activities have been made.

2.1.2.F.is. Sturgeons and barbell migration monitoring

In CP02 have been monitored the sturgeons migration, indirectly by the receiving station fixed on Old Danube.

2.1.2.F.i. Other fish species monitoring

In January 2016 have not been conducted monitoring activities or data processing for chapter of other fish species.

2.1.2.G. Terrestrial flora and fauna monitoring

2.1.2.G.1 Terrestrial flora

No activities regarding terrestrial flora monitoring during this period.

2.1.2.G.2 Terrestrial fauna/ Avifauna

The activities carried out in reporting period related to 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.	Activities in the field: - observations for aquatic avifauna in observation points from the shore
2.	Analysis and processing for obtained data



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2.1.2.H. Natura 2000 sites monitoring

During this period have been monitored Natura 2000 sites in critical points area.

Activities conducted in this reporting period, regarding Natura 2000 sites monitoring, are summarized in Table 2.1.1.H.1.

Table 2.1.2.H.1 Specific objective: Monitoring of Natura 2000 sites

No.	Activities
1.	Avifauna monitoring in Natura 2000 sites from CP02 area: - ROSPA0039 “Dunăre Ostrove”; ROSCI0022 “Canaralele Dunării” Activities on the field: - Observations for aquatic avifauna from observation points on the shore
2.	Analysis and processing for obtained data

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

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

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

2.1.3.A. Air quality monitoring

Activities performed during 01/31.01.2016, regarding air quality, in this critical point are summarized in Tabel 2.1.1.A.1.

For main critical point CP10, in January 2016 have not been conducted monitoring activities regarding air quality, as a post-construction period (at this main critical point CP10 was done reception of the constructions), with biannual frequency (see Table 1.1).

2.1.3.B. Noise monitoring

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

In main critical point CP10, in January 2016 have not been performed monitoring activities regarding noise level, as a post-construction period (in this main critical point CP10 has been done the construction work reception) with a biannual frequency (see Table 1.1).

2.1.3.C. Soil quality monitoring

The activities carried out in reporting period related to soil quality monitoring, in this critical point are those presented in Table 2.1.1.C.1.

During this period no soil sampling have been made.



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2.1.3.D. Hydrophological monitoring

Activities performed during this reporting period, are summarized in Table 2.1.3.D.1. Overall, have been performed 3 main activities:

- Single-beam bathymetric measurements for sections profiling;
- Flow and velocities measurements on monitoring sections;
- Have continued activities of continuous measurements for turbidity and level in the 3 hydrometric automatic stations.

Table 2.1.3.D.1. Specific objective: hydromorphological monitoring

No.	Activities
1.	Single-beam bathymetric measurements for sections profiling
2.	Flow and velocities measurements on cross sections
3.	Continuous measurements for turbidity and level in the 3 hydrometric automatic stations

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.

During this period no water and sediments sampling have been made.

2.1.3.F. Aquatic flora and fauna monitoring

During this period no sampling activities have been made.

2.1.3.F.is. Sturgeons and barbell migration monitoring

In CP 10 have been monitored the sturgeons migration by the monitoring systems placed on Caleia, Cravia and navigable Danube branches.

2.1.3.F.i. Other fish species monitoring

In January 2016 have not been conducted any monitoring activities or data processing, for the chapter - other fish species.

2.1.3.G. Terrestrial flora and fauna monitoring

2.1.3.G.1 Terrestrial flora

No terrestrial flora monitoring activities during January 2016.

2.1.3.G.2 Terrestrial fauna/ Avifauna

The activities carried out in reporting period related to related to avifauna monitoring, are



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summarized in Table 2.1.3.G.2.1.

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

No.	Activities
1.	Activities in the field: - observations for aquatic avifauna in observation points from the shore
2.	Analysis and processing for obtained data

2.1.3.H. Natura 2000 sites monitoring

During this period have been monitored Natura 2000 sites in critical points area.

Activities conducted in 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 monitoring in Natura 2000 sites from CP10 area: - ROSCI0006 „Balta Mică a Brăilei”; ROSPA0005 „Balta Mică a Brăilei” Activities on the field: - Observations for aquatic avifauna from observation points on the shore
2.	Analysis and processing for obtained 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.

2.1.4. 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

The activities carried out during 01/31.01.2016, regarding air quality monitoring, for this critical point are those presented in Table 2.1.4.1.A.1.

Table 2.1.4.1.A.1. Specific objective: Air quality monitoring

No.	Activities
1.	Data processing and assessment for air samples collected in December 2015



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During this period have not been conducted air quality monitoring in this critical point.

2.1.4.1.B. Noise level monitoring

During this period have not been conducted noise level monitoring in this critical point.

2.1.4.1.C. Soil quality monitoring

The activities carried out in reporting period related to soil quality monitoring for this critical point, are presented in Table 2.1.1.C.1.

During this period no soil sampling have been made.

2.1.4.1.D. Hydromorphological monitoring

No hydromorphological monitoring activities during this period.

2.1.4.1.E. Water and sediments quality monitoring

During this period no water and sediments sampling have been made.

2.1.4.1.F. Aquatic flora and fauna monitoring

In the reporting period no sampling have been made.

2.1.4.1.F.is. Sturgeons and barbell migration monitoring

Monitoring of sturgeons migration have been conducted on this sector by the monitoring systems placed between km 347 and km 240, on Old Danube.

2.1.4.1.F.i. Other fish species monitoring

In January 2016 have not been conducted any monitoring activities or data processing for other fish species chapter.

2.1.4.1.G. Terrestrial flora and fauna monitoring

2.1.4.1.G.1 Terrestrial flora

No activities for terrestrial flora monitoring in January 2016.

2.1.4.1.G.2 Terrestrial fauna / Avifauna

The activities carried out in reporting period related to related to avifauna monitoring, are summarized in Table 2.1.4.1.G.2.1.



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

No.	Activities
1.	Activities in the field: - observations for aquatic avifauna in observation points from the shore
2.	Analysis and processing for obtained data

2.1.4.1.H. Natura 2000 sites monitoring

During this period have been monitored Natura 2000 sites in critical points area.

Activities conducted in 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 monitoring in Natura 2000 sites from CP03 area: - ROSPA0039 "Dunăre Ostroave"; ROSCI0022 "Canaralele Dunării" Activities on the field: - Observations for aquatic avifauna from observation points on the shore
2.	Analysis and processing for field obtained 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.

2.1.4.2. Critical point 04 monitoring/Ceacâru/Fermecatu

2.1.4.2.A. Air quality monitoring

The activities carried out during 01/31.01.2016, regarding air quality monitoring for this secondary critical points, are those presented in Table 2.1.4.1.A.1.

During this period have not been conducted air quality monitoring in this critical point.

2.1.4.2.B. Noise level monitoring

During this period no activities for noise monitoring have been made in this secondary critical point.

2.1.4.2.C. Soil quality monitoring

The activities carried out in reporting period related to soil quality monitoring, for this critical point, are those presented in Table 2.1.1.C.1.

No soil sampling activities during this period.



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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

No activities regarding water and sediments sampling during this period.

2.1.4.2.F. Aquatic flora and fauna monitoring

No sampling activities during reporting period.

2.1.4.2.F.is. Sturgeons and barbell migration monitoring

Monitoring of sturgeons migration was performed on this sector by the monitoring systems placed between km 347 and km 240 on Old Danube.

2.1.4.2.F.i. Other fish species monitoring

In January 2016 have not been made any monitoring activities or data processing for the chapter - other fish species.

2.1.4.2.G. Terrestrial flora and fauna monitoring

2.1.4.2.G.1 Terrestrial flora

No monitoring activities regarding terrestrial flora in January 2016.

2.1.4.2.G.2 Terrestrial fauna/Avifauna

The activities carried out in reporting period related to monitorizarea avifaunei, sunt prezentate sintetic în Tabelul 2.1.4.2.G.2.1.

Table. 2.1.4.2.G.2.1 Specific objective: Avifauna monitoring

No.	Activities
1.	Activities in the field: - observations for aquatic avifauna in observation points from the shore
2.	Analysis and processing for obtained data

2.1.4.2.H. Natura 2000 monitoring sites

During this period have been monitored Natura 2000 sites in critical points area.

Activities conducted in this reporting period, regarding Natura 2000 sites monitoring, are summarized in Table 2.1.4.2.H.1.



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Table. 2.1.4.2.H.1 Specific objective: Natura 2000 sites monitoring

No.	Activities
1.	Avifauna monitoring in Natura 2000 sites from CP04 area: - ROSPA0039 “Dunăre Ostroave”; ROSCI0022 “Canaralele Dunării” Activities on the field: - Observations for aquatic avifauna from observation points on the shore
2.	Analysis and processing for field data

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 for this period of time 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

The activities carried out during 01/31.01.2016, regarding air quality monitoring for this secondary critical point, are those presented in Table 2.1.4.1.A.1.

In this period, have not been conducted air quality monitoring in this critical point.

2.1.4.3.B. Noise level monitoring

No activities regarding noise monitoring in this secondary critical point.

2.1.4.3.C. Soil quality monitoring

The activities carried out in reporting period related to soil quality monitoring, related to this critical point are those presented in Table 2.1.1.C.1.

No monitoring activities regarding soil sampling.

2.1.4.3.D. Hydromorphological monitoring

No activities regarding hydromorphological monitoring.

2.1.4.3.E. Water and sediments quality monitoring

No sampling for water and sediments during this period.

2.1.4.3.F. Aquatic flora and fauna monitoring

In reporting period, samples have not been collected.



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2.1.4.3.F.is. Sturgeons and barbell migration monitoring

Sturgeons migration monitoring were performed on this sector by the monitoring systems placed between km 347 and km 240 on Old Danube.

2.1.4.3.F.i. Other fish species monitoring

In January 2016 have not been made any monitoring activities or data processing for chapter - other fish species.

2.1.4.3.G. Terrestrial flora and fauna monitoring

2.1.4.3.G.1 Terrestrial flora

No activities regarding terrestrial flora monitoring during January 2016.

2.1.4.3.G.2 Terrestrial fauna / Avifauna

Activities conducted in this reporting period, related to 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.	Activities in the field: - observations for aquatic avifauna in observation points from the shore
2.	Analysis and processing for obtained data

2.1.4.3.H. Natura 2000 sites monitoring

During this period were monitored Natura 2000 sites in critical points area.

Activities conducted in this reporting period, related to Natura 2000 sites monitoring, are summarized in Table 2.1.4.3.H.1.

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

No.	Activities
1.	Avifauna monitoring in Natura 2000 sites from CP07 area: - ROSPA0039 "Dunăre Ostroave"; ROSCI0022 "Canaralele Dunării" Activities on the field: - Observations for aquatic avifauna from observation points on the shore
2.	Analysis and processing for obtained data

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

Because there have not been conducted any hydrotechnical works during this period, the monitoring of the construction site activity was not necessary.



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2.2. Stage of 3D numerical modeling

In January, INCDPM specialists have achieved, according to Specifications, bathymetric data acquisition in main critical points CP01, CP02 and CP10 areas. Thus, for this activity have been performed:

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



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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 team experts

No.	Experts	Names of experts	Number of working days post-construction
1.	Project manager	Deák György	2
2.	Chemist 1	Ghiță Gina	5
3.	Chemist 2	Borș Adriana	3
4.	Ichthyologist 1	Cristea Victor	5
5.	Ichthyologist 2	Falka Istvan	0
6.	Hydrology	Poteraș George	8
7.	Hydraulic sedimentology	Ungureanu Gh Viorel	12
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	5
16.	Assessor	Tudor Marian	5

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

The monitoring activities for the period of 01-29 February 2016 are synthetically presented in the table 3.4.

Table 3.4. Activities for the period of 01.02-29.02.2016

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



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4. TIME SCHEDULE AND BUDGET PROJECT

4.1. Time schedule for project implementation

ID	Task Name	Start	B														B	
			04 Jan '16					18 Jan '16				01 Feb '16				15 Feb '16		29 Feb
			T	S	W	S	T	M	F	T	S	W	S	T	M	F		T
1	Single-beam bathymetric measurements, transects draw up in the area of CP01/CP02/CP10	Fri 01.01.16	[Gantt bar from Fri 01.01.16 to Fri 01.01.16]															
2	Month 57	Fri 01.01.16	[Gantt bar from Fri 01.01.16 to Fri 01.01.16]															
3	Hydromorphological monitoring in CP 01/CP 02/CP 10 - flow monitoring (volume, velocity, level)	Fri 01.01.16	[Gantt bar from Fri 01.01.16 to Fri 01.01.16]															
4	Month 57	Fri 01.01.16	[Gantt bar from Fri 01.01.16 to Fri 01.01.16]															
5	Hydromorphological monitoring in CP 01/CP 02/CP 10 - level and turbidity measurements in automatic hydrometric stations of INCDPM	Fri 01.01.16	[Gantt bar from Fri 01.01.16 to Fri 01.01.16]															
6	Month 57	Fri 01.01.16	[Gantt bar from Fri 01.01.16 to Fri 01.01.16]															
7	Soil monitoring CP 01/02/10/03/04/07 - physical and chemical laboratory analysis	Fri 01.01.16	[Gantt bar from Fri 01.01.16 to Fri 01.01.16]															
8	Month 57	Fri 01.01.16	[Gantt bar from Fri 01.01.16 to Fri 01.01.16]															
9	Water quality monitoring in CP 01/02/10 - Sediments (heavy metals, organic micropollutants) - physical and chemical laboratory analysis	Fri 01.01.16	[Gantt bar from Fri 01.01.16 to Fri 01.01.16]															
10	Month 57	Fri 01.01.16	[Gantt bar from Fri 01.01.16 to Fri 01.01.16]															
11	Water quality monitoring in CP 01, 02, 10 - Water - physical and chemical laboratory analysis	Fri 01.01.16	[Gantt bar from Fri 01.01.16 to Fri 01.01.16]															
12	Month 57	Fri 01.01.16	[Gantt bar from Fri 01.01.16 to Fri 01.01.16]															
13	Avifauna monitoring targeted by Birds Directive at CP 01/02/03A/03B/04A/04B/07/10 - Birds Monitoring in Natura 2000 sites	Fri 01.01.16	[Gantt bar from Fri 01.01.16 to Fri 01.01.16]															
14	Month 57	Fri 01.01.16	[Gantt bar from Fri 01.01.16 to Fri 01.01.16]															
15	Ichthyofauna Biodiversity Monitoring in CP 01 - Analysis of wintering habitats specific for sturgeons species (determining the velocities at water surface and at the river bottom)	Fri 01.01.16	[Gantt bar from Fri 01.01.16 to Fri 01.01.16]															
16	Month 57	Fri 01.01.16	[Gantt bar from Fri 01.01.16 to Fri 01.01.16]															
17	Ichthyofauna biodiversity monitoring in CP 01/02/10/03/04/07 - sturgeons migration - routes and periods	Fri 01.01.16	[Gantt bar from Fri 01.01.16 to Fri 01.01.16]															
18	Month 57	Fri 01.01.16	[Gantt bar from Fri 01.01.16 to Fri 01.01.16]															
19	Month 58	Mon 01.02.16	[Gantt bar from Mon 01.02.16 to Mon 01.02.16]															
20	Ichthyofauna biodiversity monitoring in CP 01/02/10/03/04/07 - Data processing for Interim Report 13	Fri 01.01.16	[Gantt bar from Fri 01.01.16 to Fri 01.01.16]															
21	Month 57	Fri 01.01.16	[Gantt bar from Fri 01.01.16 to Fri 01.01.16]															
22	Month 58	Mon 01.02.16	[Gantt bar from Mon 01.02.16 to Mon 01.02.16]															
23	Noise monitoring: Processing the data regarding noise monitoring in critical points, for Interim Report 12 drafting	Fri 01.01.16	[Gantt bar from Fri 01.01.16 to Fri 01.01.16]															
24	Month 57	Fri 01.01.16	[Gantt bar from Fri 01.01.16 to Fri 01.01.16]															
25	Noise monitoring: Processing the data regarding noise monitoring in critical points, for Interim Report 13 drafting	Fri 01.01.16	[Gantt bar from Fri 01.01.16 to Fri 01.01.16]															



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4.2. Budget and expenses incurred during the reporting period

Justifying calculation for 01 - 31 January 2016

I. EXPERTS EXPENSES				
No.	Experts	No. of working days	Fee (Euro on working day)	Maximum total value of the fees
		Post - Construction (36 monts)		
1	Project leader	2	240	480,00 EUR
2	Chemist 1	5	200	1.000,00 EUR
3	Chemist 2	3	200	600,00 EUR
4	Ichthyologist 1	5	330	1.650,00 EUR
5	Ichthyologist 2	0	200	0,00 EUR
6	Hydrology	8	200	1.600,00 EUR
7	Hydraulic- sedimentlogy	12	200	2.400,00 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	13	200	2.600,00 EUR
14	Ecologist 1	2	140	280,00 EUR
15	Ecologist 2	5	140	700,00 EUR
16	Evaluator	5	330	1.650,00 EUR
SUBTOTAL EXPERTS' FEES				12.960,00 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			0,00 EUR
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			15.915,80 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				15.915,80 EUR
TOTAL without V.A.T.				28.875,80 EUR



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4.3. Budget and expenses for the next period

Estimated calculation for 01 - 29 February 2016

I. EXPERTS EXPENSES				
No.	Experts	No. of working days	Fee (Euro on working day)	Maximum total value of the fees
		Post - Construction (36 monts)		
1	Project leader	4	240	960,00 EUR
2	Chemist 1	2	200	400,00 EUR
3	Chemist 2	6	200	1.200,00 EUR
4	Ichthyologist 1	5	330	1.650,00 EUR
5	Ichthyologist 2	0	200	0,00 EUR
6	Hydrology	8	200	1.600,00 EUR
7	Hydraulic- sedimentlogy	15	200	3.000,00 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	0	140	0,00 EUR
15	Ecologist 2	3	140	420,00 EUR
16	Evaluator	5	330	1.650,00 EUR
SUBTOTAL EXPERTS' FEES				10.880,00 EUR
II EXPENSES with JUSTIFICATION				
1	Ichthyology- telemetry (sturgeons and barbel transmitters, batteries, expensis on stugeons' capturing)			15.000,00 EUR
2	Abiotic and biotic data for the establishment of the framework			0,00 EUR
3	Analysis			0,00 EUR
SUBTOTAL EXPENSES with JUSTIFICATION				15.000,00 EUR
III. MATHEMATICAL MODELING				
1	Software acquisiton+hardware+ necessary licenses			0,00 EUR
2	Acquisition of bathymetric data, necessary for the mathematical modeling			15.000,00 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				15.000,00 EUR
TOTAL without V.A.T.				40.880,00 EUR



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5. CONCLUSIONS, RECOMMENDATIONS, WARNINGS

- 5.1 This Monthly Report reflects the monitoring activities in January 2016 related to post-construction period.
- 5.2 For the specific monitoring objectives within this phase, the Provider has considered that the field and laboratory activities, logistics and infrastructure be sized as to meet the graphics 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 related with the post-construction stage, up to end 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 2016, activity of hydromorphological monitoring has focused mainly on bathymetrical and ADCP measurements (flow rates and velocities) in main critical points area CP01, CP02 and CP10, as well as single-beam measurements for sections profiling in the 3 main critical points.



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6. ANNEXES

6.1 Relevant correspondence

6.2 Ichthyofauna monitoring

6.2.1: Velocities on analyzed profiles

6.3 Experts' activity reports

6.4 Images of activities

6.5 Hydromorphological monitoring

6.6 Analysis reports

6.6.1: Reports of analytical results for AIR

6.6.2: Reports of analytical results for SOIL

6.6.3: Reports of analytical results for WATER

6.6.4: Reports of analytical results for SEDIMENTS

6.7 Avifauna monitoring

6.8 Natura 2000 sites monitoring