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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 63: 1 - 31 July 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. 63**

**01 - 31 July 2016**



**FINAL VERSION**



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## 1. INTRODUCTION

### 1.1. Brief presentation of the objectives monitored in the construction phase

I. *This report presents the monitoring activities for the period of 01-31 July 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 activities for bathymetric data acquisition.

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

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 - July / August - December)			Two seasons / year (February - July / August - December)					
		BARBELL	One season/year July- July (breeding season)			One season/year July- July (breeding season)					
	F. i OTHER FISH SPECIES		Annually (July - July, July - September)			Annually (July - July, July - September)					
G.	TERRESTRIAL FLORA		Annually in July			Annually in July					
	TERRESTRIAL FAUNA/ AVIFAUNĂ		Annually (July - July, September - October, January)			Annually (July - July, September-October, January)					
H.	NATURA 2000 SITES	SCI	ICHTYOFAUNA	Annually (July - July, July - September)			Annually (July - July, 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 (July - July, September - Octombrie, Ianuarie)			Annually (July - July, September - October, January)				
		SPA	AVIFAUNĂ	Annually (July - July, September - October, January)			Annually (July - July, September - October, January)				
J.	3D numerical modeling		M								

NOTĂ: 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 July 2016 for post-construction period are presented in Table 1.2.

Table 1.2. Objectives monitored during the period of 01-31.07.2016

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
B.	NOISE	-	-	NO	NO	NO	NO	NO	NO	NO	NO
C.	SOIL	-	-	NO	NO	NO	NO	NO	NO	NO	NO
D.	HYDROMORPHOLOGY	05, 06, 07, 08, 13, 14, 15, 20, 26, 27.07.2016	C63	YES	YES	YES	NO	NO	NO	NO	NO
E.	WATER QUALITY	-	-	NO	NO	NO	NO	NO	NO	NO	NO
	SEDIMENTS	-	-	NO	NO	NO	NO	NO	NO	NO	NO
F.	AQUATIC FLORA	14.07.2016 21.07.2016	C23- phytoplankton C22 - macrophytes	YES	YES	YES	YES	YES	YES	YES	YES
	AQUATIC FAUNA	-	-	NO	NO	NO	NO	NO	NO	NO	NO
	F.is. STURGEONS	08, 09, 20.07.2016	C23	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	01-09.07.2016	C6	YES	YES	YES	YES	YES	YES	YES	YES
	TERRESTRIAL FAUNA/ AVIFAUNĂ	-	-	NO	NO	NO	NO	NO	NO	NO	NO
H.	NATURA 2000 SITES	04-08.07.2016	Terrestrial flora 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 1.3 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, 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

## 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"> <li>- LECKEL dust sampler</li> <li>- Auto-laboratory</li> <li>- Desaga pump</li> <li>- GPS</li> <li>- Autolaboratory for air monitoring</li> </ul>	<ul style="list-style-type: none"> <li>- Analytical balance KERN 770-14</li> <li>- Atomic absorption spectrometer with graphite furnace AAS - UNICAM 939</li> </ul>
B.	NOISE	<ul style="list-style-type: none"> <li>- Sound Level Meter and Microphone, Brüel &amp; Kjær Denmark</li> <li>- GPS</li> </ul>	
C.	SOIL	<ul style="list-style-type: none"> <li>- Burkle sampler</li> <li>- GPS</li> </ul>	<ul style="list-style-type: none"> <li>- ION-CROMATOGRAPH DIONEX ICS 1500 - anions, cations</li> <li>- Multi N/C Analytic Jena (total carbon analyzer and organic carbon)</li> <li>- Spectrometer ATI UNICAM UV-VIS</li> <li>- Mass Spectrometer with inductively coupled plasma ICPMS Nexlon 350x equipped with hydrides generator system and autosampler system with autodiluter</li> </ul>
D.	HYDROMORPHOLOGY	<ul style="list-style-type: none"> <li>- Portable Turbidimeter type VELP SCIENTIFICA</li> <li>- mini ADP SONTEK</li> <li>- Monitoring systems for turbidity and level</li> <li>- Monitoring systems for flow - velocities</li> <li>- Portable Turbidimeter HANNA Instruments</li> <li>- ADCP SONTEK River Surveyor R9</li> <li>- Multiparameter YSI for turbidity and level measurements</li> <li>- Bathimetric System 3D - Kongsberg GeoSwath Plus Compact, 250 kHz</li> <li>- Acoustic Doppler Current Profiler (ADCP) - Teledyne RD Instruments RiverRay</li> <li>- ROV (Remote Operate Vehicle) - ROVBUILDER Mini 600</li> <li>- GPS</li> </ul>	<ul style="list-style-type: none"> <li>- Turbidimeter HACH RATIO/RX</li> <li>- Device for water quality parameters measurements, type 1, Manta 2-Sub3.5+Amphibian 2</li> <li>- Device for water quality parameters measurements, type 2, Manta 2-Sub4.0+Amphibian 2</li> </ul>
E.	WATER QUALITY	<ul style="list-style-type: none"> <li>- Ruttner sampler</li> <li>- GPS</li> </ul>	<ul style="list-style-type: none"> <li>- Spectrometer with atomic absorbtion VARIAN</li> <li>- Spectrometer CARY BIO 300 U.V.-VIS</li> <li>- Spectrofotometer with atomic absorbtion - with flame, graphite oven, hydrides system with amalgamation and automatic system for solids CONTRAA</li> <li>- Automatic analyzer in continous segmented flux model SAN++</li> <li>- Mineralization system Speedwave Four with microwave</li> </ul>
	SEDIMENTS	<ul style="list-style-type: none"> <li>- Petersen sampler</li> <li>- GPS</li> </ul>	<ul style="list-style-type: none"> <li>- Cryo - drying system ALPHA 2-4 LSCplus</li> <li>- Gas chromatograph coupled with mass spectrometer for dioxine screening, PCF, PCB and pesticides, with autosampler r-GC MS MS 15-02</li> <li>- Drying stove</li> <li>- Sieving system for sediment samples</li> <li>- Ethos - digester with microwave for sediments</li> <li>- GC-MS-VARIAN</li> <li>- Spectrometer with atomic absorbtion SOLAAR M5</li> <li>- Mineralization System Speedwave Four with microwave</li> </ul>

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Objectives monitored		Sampling equipment	Laboratory equipments / ongoing activities
F.	AQUATIC FLORA	<ul style="list-style-type: none"> <li>- planktonic nets</li> <li>- Patalas sampler</li> <li>- dredges 20cmx50 cm</li> <li>- Square wooden frame, with surface of 1m<sup>2</sup></li> <li>- GPS</li> </ul>	<ul style="list-style-type: none"> <li>- reverse microscope ZEISS</li> <li>- OPTIKA B-600T microscope</li> <li>- KRUSS microscope</li> <li>- Canon A570 IS camera for microscope</li> </ul>
	AQUATIC FAUNA	<ul style="list-style-type: none"> <li>- zooplanktonic nets</li> <li>- zoobenthic nets</li> <li>- Petersen sampler</li> <li>- benthos grabbing dredges</li> <li>- benthos sampling probe</li> <li>- GPS</li> </ul>	<ul style="list-style-type: none"> <li>- Stereomicroscope Olympus</li> <li>- Binocular Zeiss</li> <li>- Microscope ZEISS</li> <li>- Canon A570 IS camera for microscope</li> <li>- magnifying glass</li> </ul>
	F.is. STURGEONS AND BARBELL	<ul style="list-style-type: none"> <li>- Fixed monitoring system DKTB</li> <li>- Floating monitoring system type DKMR-01T</li> <li>- Complex monitoring, alarming and control system type DK-PRB-01U</li> <li>- Monitoring system with ultrasonic transmitter type 40</li> <li>- Monitoring system with ultrasonic transmitter type 60</li> <li>- Mobile receiver for sturgeons telemetry Vemco VR 100</li> <li>- GPS</li> </ul>	<ul style="list-style-type: none"> <li>- Reception station of WR2W</li> <li>- VR100 mobile receptor</li> <li>- Multiparameter YSI</li> <li>- Endoscope for sturgeon gender determining WELLD WED 3000V</li> <li>- Radar Lowrance Elite 9 CHIRP - 4 pieces</li> </ul>
	F.i. OTHER FISH SPECIES	<ul style="list-style-type: none"> <li>- High power electrical fishing device Hans Grassl EL 65 II GI</li> <li>- Low power electrical fishing device Hans Grassl EL 60 II HI</li> <li>- Ihtyometer</li> <li>- Electronic scale</li> <li>- GPS</li> <li>- binocular microscope</li> <li>- stereo microscope</li> </ul>	
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"> <li>- DESAGA pump</li> <li>- Autolaboratory</li> <li>- Sound Level Meter and Microphone, Brüel &amp; Kjær</li> <li>- dust sampler LECKEL</li> </ul>	



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

### 2.1.1.A. Air quality monitoring

The activities carried out during 01/31.07.2016 regarding air quality monitoring, for 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.	Contribution to Monthly Report 63
2.	Contribution to Finalization Report, phase I of financing
3.	Contribution to Interim Report 14

According to post-construction monitoring objectives, in July 2016 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 CP 01 have been made reception of the construction work) frequency is biannual (as Table 1.1).

### 2.1.1.B. Noise monitoring

The activities carried out during 01/31.07.2016 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 63
2.	Contribution to Finalization Report, phase I of financing
3.	Contribution to Interim Report 14

According to post-construction monitoring objectives, in July 2016 for noise level monitoring in this critical point CP 01 is not provided a measurements campaign. In post-construction period (in this main critical point CP 01 have been made 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 July 2016 related to soil quality monitoring, in this 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.	Performing laboratory analysis (preliminary determinations) for soil samples collected in June (C22)

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

#### **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 01/31.07.2016, 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
4.	Physical-chemical laboratory analysis for water samples collected in June 2016 (C60)
5.	Physical-chemical laboratory analysis for sediments samples collected in June 2016 (C60)

During this period have not been made any water and sediments sampling in this critical point.

#### **2.1.1.F. Aquatic flora and fauna monitoring**

The activities carried out during reporting period, regarding aquatic flora and fauna (except for ichthyofauna), are summarized in Table 2.1.1.F.1.

Table 2.1.1.F.1 Specific objective: aquatic flora and fauna monitoring

No.	Activities
1.	Organizing the sampling campaign for phytoplankton and macrophytes (Table 1.2)
2.	Conducting the sampling campaign for phytoplankton and macrophytes (sampling bulletins for aquatic flora and fauna - Annex 6.2.1)
3.	Laboratory analysis for phytoplankton samples
	Processing and analysis of obtained results

In this campaign, from CP 01 were collected *phytoplankton* samples for quantitative and qualitative analysis, as presented in Table 2.1.1.F.2.

Table 2.1.1.F.2. Phytoplankton samples

Type of Critical Point	Critical Point (CP)	Section	Samples collected for laboratory analysis							
			Qualitative analysis				Quantitative analysis			
			Left bank	Thalweg	Right bank	Average sample	Left bank	Thalweg	Right bank	Average sample
Main	01	02	1	1	1	1	1	1	1	1
		03	1	1	1	1	1	1	1	1
TOTAL			6			2	6			2

For each sampling point, have been determined geographical coordinates. Samples were labeled according to the encoding and labeling instructions. For each sample, a bulletin has been completed, see Annex 6.2.1.

In Table 2.1.1.F.3 is presented the number of samples collected in this campaign from CP01 for *macrophytes*.

Table 2.1.1.F.3 Benthic macroinvertebrates samples

Type of Critical Point	Critical Point (CP)	Section	Samples collected for laboratory analysis	
			Left bank	Right bank
Main	01	1	1	1
		2	1	1
		3	1	1
		4	1	1
TOTAL			8	

For each sampling point, have been determined geographical coordinates. Samples were labeled according to the encoding and labeling instructions. For each sample, a bulletin has been completed, see Annex 6.2.1.

### 2.1.1.F.is. Sturgeons and barbell migration monitoring

In July have been conducted measurements for velocities determination at water surface and on the riverbed bottom, in potential feeding habitats on Borcea and Bala branches. Besides this activity, the research team has downloaded the data from the monitoring systems and made maintenance activities.

Desk activity included the Interim Report 14 drafting for monitoring period January-April 2016.

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

No.	Activities
1.	Velocities measurements in potential feeding habitats on Borcea and Bala branches
2.	Data downloading from the monitoring systems and performing maintenance activities
3.	Interim Report 14

### 2.1.1.F.i. Other fish species monitoring

Activity of scientific fishing at other fish species for ichthyofauna assessment was schedule for August.

### 2.1.1.G. Terrestrial flora and fauna monitoring

#### 2.1.1.G.1 Terrestrial flora

Activities conducted during this reporting period, regarding terrestrial flora monitoring are presented in Table 2.1.1.G.1.1.

**Table. 2.1.1.G.1.1 Specific objective: terrestrial flora monitoring**

No.	Activities
1.	Setting the details and planning the monitoring of permanent plots and implementing the phytosociological survey points according to Braun Blanquet methodology
2.	Conducting monitoring activity - implementing the phytosociological survey points in main presented habitats types
3.	Describe the identified types of habitats - Annex 6.8
4.	Input of the recorded parameters in computerized database

Results of terrestrial monitoring in critical point CP01 are presented in Annex 6.8.

#### 2.1.1.G.2 Terrestrial fauna/ Avifauna

In this period not been made activities for avifauna monitoring.

### 2.1.1.H. Natura 2000 sites monitoring

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



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

No.	Activities
1.	Campaign for data acquisition from the field (see Table 1.2)
2.	Monitoring and inventorying for terrestrial flora: floristic observations, abundance estimation for each plant species - at canopy, shrubs and grass level
3.	Analysis and centralization of the obtained data (Annex 6.9)

#### **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 01/31.07.2016 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 July 2016 for air quality monitoring in this main critical point CP 02 is not provided a sampling campaign. In post-construction period (in this main critical point CP 02 have been made reception of the construction work) frequency is biannual (see 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 presented in Table 2.1.1.B.1.

According to post-construction monitoring objectives, in July 2016 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 CP 02 have been made reception of the construction work) frequency is biannual (see Table 1.1).

##### **2.1.2.C. Soil quality monitoring**

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

In this period not been made activities for soil monitoring.





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### 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
- Flow and velocities measurements on the monitoring sections
- Turbidity and level continuous measurements in the 2 automatic hydrometric stations

**Table 2.1.2.D.1 Specific objective: hydromorphological monitoring**

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

In July 2016, were conducted - mainly - ADCP measurements (flow rates/velocities) provided in Specifications. Results will be presented in the Interim Report for this month.

### 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 water and sediments sampling.

### 2.1.2.F. Aquatic flora and fauna monitoring

Activities conducted in this reporting period, regarding aquatic flora and fauna (except for ichthyofauna), are summarized in Table 2.1.2.F.1.

**Table 2.1.2.F.1 Specific objective: aquatic flora and fauna monitoring**

No.	Activities
1.	Organizing the sampling campaign for phytoplankton and macrophytes (Table 1.2)
2.	Conducting the sampling campaign for phytoplankton and macrophytes (sampling bulletins for aquatic flora and fauna - Annex 6.2.1)
3.	Laboratory analysis for phytoplankton samples
	Processing and analysis of obtained results

In this campaign, from CP 02 were collected phytoplankton samples for quantitative and qualitative analysis, as presented in Table 2.1.2.F.2.

Table 2.1.2.F.2. Phytoplankton samples

Type of Critical Point	Critical Point (CP)	Section	Samples collected for laboratory analysis							
			Qualitative analysis				Quantitative analysis			
			Left bank	Thalweg	Right bank	Average sample	Left bank	Thalweg	Right bank	Average sample
Main	02	05	1	1	1	1	1	1	1	1
		06	1	1	1	1	1	1	1	1
TOTAL			6			2	6			2

For each sampling point, have been determined geographical coordinates. Samples were labeled according to the encoding and labeling instructions. For each sample, a bulletin has been completed, see Annex 6.2.1.

In Table 2.1.2.F.3. is presented the number of samples, collected in this campaign from CP02 for *macrophytes* analysis.

Table 2.1.2.F.3 Benthic macroinvertebrates samples

Type of Critical Point	Critical Point (CP)	Section	Qualitative and quantitative analysis	
			Left bank	Right bank
Main	02	3	1	1
		4	1	1
		5	1	1
TOTAL			6	

For each sampling point, have been determined geographical coordinates. Samples were labeled according to the encoding and labeling instructions. For each sample, a bulletin has been completed, see Annex 6.2.1.

### 2.1.2.F.is. Sturgeons and barbell migration monitoring

In CP02 have been studied sturgeons migration with the monitoring station fixed on Old Danube.

### 2.1.2.F.i. Other fish species monitoring

Activity of scientific fishing at other fish species for ichthyofauna assessment was schedule for August.

### 2.1.2.G. Terrestrial flora and fauna monitoring

#### 2.1.2.G.1 Terrestrial flora

Activites conducted during this reporting period, regarding terrestrial flora monitoring are presented in Table 2.1.1.G.1.1.

**Table. 2.1.1.G.1.1 Specific objective: terrestrial flora monitoring**

No.	Activities
1.	Setting the details and planning the monitoring of permanent plots and implementing the phytosociological survey points according to Braun Blanquet methodology
2.	Conducting monitoring activity - implementing the phytosociological survey points in main presented habitats types
3.	Describe the identified types of habitats - Annex 6.8
4.	Input of the recorded parameters in computerized database

Results of terrestrial monitoring in critical point CP01 are presented in Annex 6.8.

### **2.1.2.G.2 Terrestrial fauna/ Avifauna**

In this period have not been made avifauna monitoring activities.

### **2.1.2.H. Natura 2000 sites monitoring**

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

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

No.	Activities
1.	Campaign for data acquisition from the field (see Table 1.2)
2.	Monitoring and inventorying for terrestrial flora: floristic observations, abundance estimation for each plant species - at canopy, shrubs and grass level
3.	Analysis and centralization of the obtained data (Annex 6.9)

### **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 26<sup>th</sup>, 2015.

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

#### **2.1.3.A. Air quality monitoring**

The activities carried out during 01/31.07.2016, regarding air quality monitoring for this critical point, are those presented in Table 2.1.1.A.1.

For main critical point CP10, in July 2016 have not been performed any monitoring activities for air quality, as a post-construction period (in this main critical point CP10 was done the reception of the construction work), frequency was biannual (as presented in Table 1.1).



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### 2.1.3.B. Noise monitoring

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

For critical point CP10, in July 2016 have not been performed any monitoring activities related to noise level, as a post-construction period (in this main critical point CP10 was done the reception of the construction works), frequency was biannual (as Table 1.1).

### 2.1.3.C. Soil quality monitoring

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

In this period soil samples have not been collected.

### 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 velocity measurements on the monitoring sections;
- Have continued activities of continuous measurements for turbidity and level in the 3 hydrometrical 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 velocity measurements on the monitoring sections
3.	Continuous measurements for turbidity and level in the 3 hydrometrical 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.

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

### 2.1.3.F. Aquatic flora and fauna monitoring

Activities performed in this reporting period, regarding aquatic flora and fauna(except for ichthyofauna), are summarized in Table 2.1.3.F.1.

Table 2.1.3.F.1 Specific objective: aquatic flora and fauna monitoring

No.	Activities
1.	Organizing the sampling campaign for aquatic macroinvertebrates (Table 1.2)
2.	Conducting the sampling campaign for aquatic macroinvertebrates (sampling bulletins for aquatic flora and fauna - Annex 6.2.1)
3.	Processing and analysis for obtained results

In this campaign from CP10 were collected *phytoplankton* samples for quantitative and qualitative analysis, as presented in Table 2.1.3.F.2.

Table 2.1.3.F.2. Phytoplankton samples

Type of Critical Point	Critical Point (CP)	Section	Samples collected for laboratory analysis							
			Qualitative analysis				Quantitative analysis			
			Left bank	Thalweg	Right bank	Average sample	Left bank	Thalweg	Right bank	Average sample
Main	10	18	1	1	1	1	1	1	1	1
		20	1	1	1	1	1	1	1	1
TOTAL			6			2	6			2

For each sampling point, have been determined geographical coordinates. Samples were labeled according to the encoding and labeling instructions. For each sample, a bulletin has been completed, see Annex 6.2.1.

În Table 2.1.3.F.3 is presented the number of samples collected in this campaign from CP10 for macrophytes analysis.

Table 2.1.3.F.3. Macrophytes samples

Type of Critical Point	Critical Point (CP)	Section	Qualitative and quantitative analysis	
			Left bank	Right bank
Main	10	1	1	1
		2	1	1
		3	1	1
TOTAL			6	

For each sampling point, have been determined geographical coordinates. Samples were labeled according to the encoding and labeling instructions. For each sample, a bulletin has been completed, see Annex 6.2.1.

### 2.1.3.F.is. Sturgeons and barbell migration monitoring

In July have been conducted measurements for velocities determination at water surface and on the riverbed bottom, in potential feeding habitats. Besides this activity, the research team has downloaded the data from the monitoring systems and made maintenance activities. Sturgeons monitoring was made with receiving stations on Caleia, Cravia branches and navigable Danube.

### 2.1.3.F.i. Other fish species monitoring

Activity of scientific fishing at other fish species for ichthyofauna assessment was schedule for August.

### 2.1.3.G. Terrestrial flora and fauna monitoring

#### 2.1.3.G.1 Terrestrial flora

Activites conducted during this reporting period, regarding terrestrial flora monitoring are presented in Table 2.1.1.G.1.1.

**Table. 2.1.1.G.1.1 Specific objective: terrestrial flora monitoring**

No.	Activities
1.	Setting the details and planning the monitoring of permanent plots and implementing the phytosociological survey points according to Braun Blanquet methodology
2.	Conducting monitoring activity - implementing the phytosociological survey points in main presented habitats types
3.	Describe the identified types of habitates - Annex 6.8
4.	Input of the recorded parameters in computerized database

Results of terrestrial monitoring in critical point CP01 are presented in Annex 6.8.

#### 2.1.3.G.2 Terrestrial fauna/ Avifauna

During this period have not been made any activities for avifauna monitoring.

### 2.1.3.H. Natura 2000 sites monitoring

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.	Campaign for data aquisition from the field (see Table 1.2)
2.	Monitoring and inventorying for terrestrial flora: floristic observations, abundance estimation for each plant species - at canopy, shrubs and grass level
3.	Analysis and centralization of the obtained data (Annex 6.9)

#### 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 1<sup>st</sup>, 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 01/31.07.2016, related to air quality monitoring, for this secondary critical points 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.	Processing and assessing the air samples data, collected in June (reports of analytical results)

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

#### **2.1.4.1.B. Noise level monitoring**

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

#### **2.1.4.1.C. Soil quality monitoring**

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

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

#### **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**

Activities conducted during this reporting period, regarding aquatic flora and fauna (except for ichthyofauna) are summarized in Table 2.1.4.1.F.1.

**Table 2.1.4.1.F.1 Specific objective: aquatic flora and fauna monitoring**

No.	Activities
1.	Organizing the campaign for phytoplankton and macrophytes sampling (Table 1.2)
2.	Performing the sampling campaign for phytoplankton and macrophytes (aquatic flora and fauna sampling sheets - Annex 6.2.1)
3.	Laboratory analysis for phytoplankton samples
4.	Processing and analyzing of the obtained results

In this campaign, from CP03 were collected phytoplankton samples for quantitative and qualitative analysis, as presented in Table 2.1.4.1.F.2.

Table 2.1.4.1.F.2. Phytoplankton samples

Type of Critical Point	Critical Point (CP)		Samples collected for laboratory analysis							
			Qualitative analysis				Quantitative analysis			
			Left bank	Thalweg	Right bank	Average sample	Left bank	Thalweg	Right bank	Average sample
Secondary	03	03A	1	1	1	1	1	1	1	1
		03B	1	1	1	1	1	1	1	1
TOTAL			6			2	6			2

For each sampling point, have been determined geographical coordinates. Samples were labeled according to the encoding and labeling instructions. For each sample, a bulletin has been completed, see Annex 6.2.1.

În Table 2.1.4.1.F.3 is presented the number of samples collected in this campaign from CP03 for macrophytes analysis.

Table 2.1.4.1.F.3 Macrophytes samples

Type of Critical Point	Critical Point (CP)		Quantitative and qualitative analysis	
			Left bank	Right bank
Secondary	03A	upstream	1	1
		downstream	1	1
	03B	upstream	1	1
		downstream	1	1
TOTAL			8	

For each sampling point, have been determined geographical coordinates. Samples were labeled according to the encoding and labeling instructions. For each sample, a bulletin has been completed, see Annex 6.2.1.

### 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 348 and km 240, on Old Danube.

### 2.1.4.1.F.i. Other fish species monitoring

Activity of scientific fishing at other fish species for ichthyofauna assessment was schedule for August.



### **2.1.4.1.G. Terrestrial flora and fauna monitoring**

#### **2.1.4.1.G.1 Terrestrial flora**

Activities conducted during this reporting period, regarding terrestrial flora monitoring are presented in Table 2.1.1.G.1.1.

**Table 2.1.1.G.1.1 Specific objective: terrestrial flora monitoring**

No.	Activities
1.	Setting the details and planning the monitoring of permanent plots and implementing the phytosociological survey points according to Braun Blanquet methodology
2.	Conducting monitoring activity - implementing the phytosociological survey points in main presented habitats types
3.	Describe the identified types of habitats - Annex 6.8
4.	Input of the recorded parameters in computerized database

Results for terrestrial flora monitoring in critical point CP01 are presented in Annex 6.8.

#### **2.1.4.1.G.2 Terrestrial fauna / Avifauna**

During this period has not been made any activities for avifauna monitoring.

### **2.1.4.1.H. Natura 2000 sites monitoring**

The activities carried out during 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.	Campaign for data acquisition from the field (see Table 1.2)
2.	Monitoring and inventorying for terrestrial flora: floristic observations, abundance estimation for each plant species - at canopy, shrubs and grass level
3.	Analysis and centralization of the obtained data (Annex 6.9)

#### **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 01/31.07.2016, related to air quality monitoring, in this secondary critical points are those presented in Table 2.1.4.1.A.1.

No activities regarding air monitoring during this period.

#### 2.1.4.2.B. Noise level monitoring

No activities regarding noise monitoring during this period.

#### 2.1.4.2.C. Soil quality monitoring

The activities carried out during 01/30 July 2016, regarding soil quality monitoring, in this critical point are those presented in Table 2.1.1.C.1.

During this period have not been made any soil sampling.

#### 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 any water and sediments sampling.

#### 2.1.4.2.F. Aquatic flora and fauna monitoring

Activities conducted during this reporting period, regarding aquatic flora and fauna (except for ichthyofauna) are summarized in Table 2.1.4.2.F.1.

Table 2.1.4.2.F.1 Specific objective: aquatic flora and fauna monitoring

No.	Activities
1.	Organizing the campaign for phytoplankton and macrophytes sampling (Table 1.2)
2.	Performing the sampling campaign for phytoplankton and macrophytes (aquatic flora and fauna sampling sheets - Annex 6.2.1)
3.	Laboratory analysis for phytoplankton samples
4.	Processing and analyzing of the obtained results

In this campaign from CP04 were collected phytoplankton samples for quantitative and qualitative analysis, as presented in 2.1.4.2.F.2.

Table 2.1.4.2.F.2. Phytoplankton samples

Type of Critical Point	Critical Point (CP)		Samples collected for laboratory analysis							
			Qualitative analysis				Quantitative analysis			
			Left bank	Thalweg	Right bank	Thalweg	Left bank	Thalweg	Left bank	Thalweg
Secondary	04	04A	1	1	1	1	1	1	1	1
		04B	1	1	1	1	1	1	1	1
TOTAL			6			2	6			2

For each sampling point, have been determined geographical coordinates. Samples were

labeled according to the encoding and labeling instructions. For each sample, a bulletin has been completed, see Annex 6.2.1.

In Table 2.1.4.2.F.3 is presented the number of samples collected in this campaign from CP04 for *macrophytes* samples.

Table 2.1.4.2.F.3. Macrophytes samples

Type of Critical Point	Critical Point (CP)		Samples collected for laboratory analysis	
			Left bank	Right bank
Secondary	04A	upstream	1	1
		downstream	1	1
	04B	upstream	1	1
		downstream	1	1
TOTAL			8	

For each sampling point, have been determined geographical coordinates. Samples were labeled according to the encoding and labeling instructions. For each sample, a bulletin has been completed, see Annex 6.2.1.

#### 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

Activity of scientific fishing at other fish species for ichthyofauna assessment was schedule for August.

#### 2.1.4.2.G. Terrestrial flora and fauna monitoring

##### 2.1.4.2.G.1 Terrestrial flora

Activites conducted during this reporting period, regarding terrestrial flora monitoring are presented in Table 2.1.1.G.1.1.

Table. 2.1.1.G.1.1 Specific objective: terrestrial flora monitoring

No.	Activities
1.	Setting the details and planning the monitoring of permanent plots and implementing the phytosociological survey points according to Braun Blanquet methodology
2.	Conducting monitoring activity - implementing the phytosociological survey points in main presented habitats types
3.	Describe the identified types of habitates - Annex 6.8
4.	Input of the recorded parameters in computerized database

Results of terrestrial monitoring in critical point CP01 are presented in Annex 6.8.



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#### **2.1.4.2.G.2 Terrestrial fauna/Avifauna**

No activities regarding avifauna monitoring during this period.

#### **2.1.4.2.H. Natura 2000 monitoring sites**

The activities carried out during 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**

<b>No.</b>	<b>Activities</b>
1.	Campaign for data acquisition from the field (see Table 1.2)
2.	Monitoring and inventorying for terrestrial flora: floristic observations, abundance estimation for each plant species - at canopy, shrubs and grass level
3.	Analysis and centralization of the obtained data (Annex 6.9)

#### **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 01/31.07.2016, regarding air quality monitoring, for this secondary critical point are those presented in Table 2.1.4.1.A.1.

No activities regarding air monitoring during this period.

##### **2.1.4.3.B. Noise level monitoring**

No activities regarding noise level monitoring during this period.

##### **2.1.4.3.C. Soil quality monitoring**

The activities carried out during 01/30 iunie 2016, related to soil quality monitoring, related to this critical point are those presented in Table 2.1.1.C.1.

During this period have not been made soil sampling.

##### **2.1.4.3.D. Hydromorphological monitoring**

No activities regarding hydromorphological monitoring during this period.

### 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

The activities carried out during this reporting period, regarding aquatic flora and fauna (except for ichthyofauna) are summarized in Table 2.1.4.3.F.1.

Table. 2.1.4.3.F.1 Specific objective: aquatic flora and fauna monitoring

No.	Activities
1.	Organizing the sampling campaign for phytoplankton and macrophytes (Table 1.2)
2.	Conducting the sampling campaign for phytoplankton and macrophytes (sampling bulletins for aquatic flora and fauna - Annex 6.2.1)
3.	Laboratory analysis for phytoplankton samples
4.	Processing and analyzing of the obtained results

In this campaign from CP07 were collected *phytoplankton samples* for quantitative and qualitative analysis, as presented in 2.1.4.3.F.2.

Table 2.1.4.3.F.2. Phytoplankton samples

Type of Critical Point	Critical Point (CP)	Samples collected for laboratory analysis							
		Qualitative analysis				Quantitative analysis			
		Left bank	Thalweg	Right bank	Average sample	Left bank	Thalweg	Right bank	Average sample
Secondary	07	1	1	1	1	1	1	1	1
TOTAL		3			1	3			1

For each sampling point, have been determined geographical coordinates. Samples were labeled according to the encoding and labeling instructions. For each sample, a bulletin has been completed, see Annex 6.2.1.

In Table 2.1.4.3.F.3 is presented the number of samples collected in this campaign from CP07 for *macrophytes* analysis.

Table 2.1.4.3.F.3 Macrophytes samples

Type of Critical Point	Critical Point (CP)		Qualitative and quantitative analysis	
			Left bank	Right bank
Secondary	07	upstream	1	1
		downstream	1	1
TOTAL			4	

For each sampling point, have been determined geographical coordinates. Samples were labeled according to the encoding and labeling instructions. For each sample, a bulletin has been completed, see Annex 6.2.1.

#### **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 348 and km 240 on Old Danube.

#### **2.1.4.3.F.i. Other fish species monitoring**

Activity of scientific fishing at other fish species for ichthyofauna assessment was schedule in August.

#### **2.1.4.3.G. Terrestrial flora and fauna monitoring**

##### **2.1.4.3.G.1 Terrestrial flora**

Activites conducted during this reporting period, regarding terrestrial flora monitoring are presented in Table 2.1.1.G.1.1.

**Table. 2.1.1.G.1.1 Specific objective: terrestrial flora monitoring**

No.	Activities
1.	Setting the details and planning the monitoring of permanent plots and implementing the phytosociological survey points according to Braun Blanquet methodology
2.	Conducting monitoring activity - implementing the phytosociological survey points in main presented habitats types
3.	Describe the identified types of habitates - Annex 6.8
4.	Input of the recorded parameters in computerized database

Results of terrestrial monitoring in critical point CP01 are presented in Annex 6.8.

##### **2.1.4.3.G.2 Terrestrial fauna / Avifauna**

No activities regarding avifauna monitoring during this period.

#### **2.1.4.3.H. Natura 2000 sites monitoring**

Activities performed 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.	Campaign for data aquisition from the field (see Table 1.2)
2.	Monitoring and inventorying for terrestrial flora: floristic observations, abundance estimation for each plant species - at canopy, shrubs and grass level
3.	Analysis and centralization of the obtained data (Annex 6.9)



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#### **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 July, INCDPM specialists have achieve, 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 for 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	5
2.	Chemist 1	Ghiță Gina	6
3.	Chemist 2	Borș Adriana	5
4.	Ichthyologist 1	Cristea Victor	6
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	12
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	15
13.	Ornithologist 1	Jozsef Szabo	4
14.	Ecologist 1	Ambrus Laszlo	4
15.	Ecologist 2	Zaharia Tania	6
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 01-31 August 2016 are synthetically presented in the table 3.4.

**Table 3.4. Activities for the period of 01-31.08.2016**

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							B													
			16		04 Jul '16			18 Jul '16		01 Aug '16			15 Aug '16		29 Aug '16															
S	T	M	F	T	S	W	S	T	M	F	T	S	W	S	T	M	F	T												
1	Hydromorphological monitoring in CP 01/CP 02/CP10 - Single-beam measurements - sections profiling	Thu 30.06.16																												
2	Month 63	Thu 30.06.16																												
3	Hydromorphological monitoring in CP 01/CP 02/CP10 - Flow rate monitoring (volume, velocity, level)	Thu 30.06.16																												
4	Month 63	Thu 30.06.16																												
5	Hydromorphological monitoring in CP 01/CP 02/CP 10 - level and turbidity measurements in automatic hydrometric stations of INCDPM	Thu 30.06.16																												
6	Month 63	Thu 30.06.16																												
7	Soil monitoring CP 01, CP02, CP10, CP03, CP04, CP07 - Laboratory physical-chemical analysis (mineral salts, humic acids, organic matter, physical-chemical characteristics)	Thu 30.06.16																												
8	Month 63	Thu 30.06.16																												
9	Water quality monitoring CP01, CP02, CP10 - Sediments (heavy metals, organic micropollutants)	Thu 30.06.16																												
10	Month 63	Thu 30.06.16																												
11	Water quality monitoring CP01, CP02, CP10 - Water (physical-chemical analysis)	Thu 30.06.16																												
12	Month 63	Thu 30.06.16																												
13	Aquatic Flora Monitoring - CP 01/02/10/03A/03B/04A/04B/07 - Phytoplankton - sampling, composition, abundance, biomass	Thu 30.06.16																												
14	Month 63	Thu 30.06.16																												
15	Flora Aquatic Monitoring - CP 01/02/10 / 03A / 03B / 04A / 04B / 07 - aquatic Macrophytes - Sampling, composition, abundance, biomass	Thu 30.06.16																												
16	Month 63	Thu 30.06.16																												
17	Ichthyofauna Biodiversity Monitoring in CP 01/02/10/03/04/07 - Monitoring the migration trails and seasons for ultrasonic tagged	Thu 30.06.16																												
18	Month 63	Thu 30.06.16																												
19	Month 64	Sun 31.07.16																												
20	Ichthyofauna Biodiversity Monitoring in CP 01/10 - Velocity measurements in feeding habitats	Fri 01.07.16																												
21	Month 63	Fri 01.07.16																												
22	Ichthyofauna Biodiversity Monitoring in CP 01/02/10 - data downloading from the monitoring systems and maintenance activities	Fri 01.07.16																												
23	Month 63	Fri 01.07.16																												
24	Month 64	Sun 31.07.16																												

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ID	Task Name	Start														
			16							B						
			S	T	M	F	T	S	W	S	T	M	F	T	S	W
25	Noise monitoring: Contribution to Report for phase I of financing and to Interim Report RI14	Fri 01.07.16														
26	Month 63	Fri 01.07.16														
27	Noise monitoring (zero and intense traffic): Conducting the sampling and measurements campaign in main critical points CP01, 02 and 10. Contributions to Interim Report RI14	Sun 31.07.16														
28	Month 64	Sun 31.07.16														
29	Air monitoring: Process and assessment of the data and measurements obtained for air quality, in secondary critical points CP	Fri 01.07.16														
30	Month 63	Fri 01.07.16														
31	Air monitoring: Conducting the campaign for air quality, in main critical points CP01, 02 and 10. Contributions to Interim Report RI14	Sun 31.07.16														
32	Month 64	Sun 31.07.16														
33	Monthly reports	Fri 01.07.16														
34	Month 63	Fri 01.07.16														
35	Month 64	Sun 31.07.16														

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## 4.2. Budget and expenses incurred during the reporting period

*Justifying calculation for 01 - 31 July 2016*

I. EXPERTS EXPENSES				
No.	Experts	No. of working days	Fee (Euro on working day)	Maximum total value of the fees
		post - Construction (36 months)		
1	Project leader	5	240	1.200,00 EUR
2	Chemist 1	6	200	1.200,00 EUR
3	Chemist 2	5	200	1.000,00 EUR
4	Ichthyologist 1	6	330	1.980,00 EUR
5	Ichthyologist 2	0	200	0,00 EUR
6	Hydrology	8	200	1.600,00 EUR
7	Hydraulic- sedimentology	12	200	2.400,00 EUR
8	Aquatic phytoplankton and macropytes	12	130	1.560,00 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	15	125	1.875,00 EUR
13	Ornithologist 1	4	200	800,00 EUR
14	Ecologist 1	4	140	560,00 EUR
15	Ecologist 2	6	140	840,00 EUR
16	Evaluator	5	330	1.650,00 EUR
SUBTOTAL EXPERTS' FEES				16.665,00 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			25.040 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				25.039,90 EUR
TOTAL without V.A.T.				41.704,90 EUR

### 4.3. Budget and expenses for the next period

*Estimated calculation for 01 - 31 August 2016*

<b>I. EXPERTS EXPENSES</b>				
No	Experts	No. of working days	Fee (Euro on working day)	Maximum total value of the fees
		Post - Construction (36 months)		
1	Project leader	5	240	1.200,00 EUR
2	Chemist 1	6	200	1.200,00 EUR
3	Chemist 2	5	200	1.000,00 EUR
4	Ichthyologist 1	6	330	1.980,00 EUR
5	Ichthyologist 2	0	200	0,00 EUR
6	Hydrology	8	200	1.600,00 EUR
7	Hydraulic- sedimentology	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	5	125	625,00 EUR
13	Ornithologist 1	0	200	0,00 EUR
14	Ecologist 1	4	140	560,00 EUR
15	Ecologist 2	6	140	840,00 EUR
16	Evaluator	5	330	1.650,00 EUR
<b>SUBTOTAL EXPERTS' FEES</b>				<b>13.055,00 EUR</b>
<b>II. EXPENSES with JUSTIFICATION</b>				
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
<b>SUBTOTAL EXPENSES with JUSTIFICATION</b>				<b>0,00 EUR</b>
<b>III. MATHEMATICAL MODELING</b>				
1	Software acquisiton+hardware+ necessary licenses			0,00 EUR
2	Acquisition of bathymetric data, necessary for the mathematical modeling			27.000 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
<b>SUBTOTAL NUMERICAL MODELING</b>				<b>27.000,00 EUR</b>
<b>TOTAL without V.A.T.</b>				<b>40.055,00 EUR</b>

## 5. CONCLUSIONS, RECOMMENDATIONS, WARNINGS

- 5.1 This Monthly Report reflects monitoring activities from July 2016 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, 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 July 2016, hydromorphological monitoring activity mainly based on ADCP measurements (flow rates and velocities) in main critical points area: CP01, CP02 and CP10, as well as from single-beam measurements for sections profiling in the 3 main critical points, in conditions with normal flow rates for this period of the year.

## **6. ANNEXES**

### **6.1 Relevant correspondence**

### **6.2 Recording bulletins for sampling/measurements**

#### **6.2.1: AQUATIC FLORA and FAUNA sampling sheets**

### **6.3 Experts' activity reports**

### **6.4 Images of activities**

### **6.5 Hydromorphological monitoring**

### **6.6 Reports for analytical results in 1 - 30 June 2016**

#### **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 Ichthyofauna monitoring**

#### **6.7.1: Velocities in analyzed profiles**

### **6.8 Terrestrial flora monitoring**

### **6.9 Natura 2000 sites monitoring**