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**Terms of reference:**

***National Expert to support the preparation of the Biological Monitoring, Montenegro***

In the framework of:

Memorandum of Understanding

for the Management of the Extended Transboundary Drin Basin

GEF Project “Enabling Transboundary Cooperation and Integrated Water Resources Management in the Extended Drin River Basin”

15 May 2017

The Coordinated Action for the implementation of the Memorandum of Understanding for the management of the Drin basin (Drin CORDA) is supported by the GEF Drin Project. The latter is implemented by the United Nations Development Programme (UNDP) and executed by the Global Water Partnership (GWP) through GWP-Mediterranean (GWP-Med), in cooperation with the United Nations Economic Commission for Europe (UNECE). GWP-Med serves as the Secretariat of the Drin Core Group, the multilateral body responsible for the implementation of the Memorandum of Understanding.

Disclaimer: *The document adheres to the UN rules and policies regarding the names and international status of countries and/or other geographical areas etc. The use of characterizations, names, maps or other geographical statements in this document in no way implies any political view or positions of the Parties which are executing and implementing the Project.*

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Introduction - Background

**The Drin Memorandum of Understanding**

Coordinated action at the Drin Basin level has been absent until the development of the Shared Vision for the sustainable management of the Drin Basin and the signing of a related Memorandum of Understanding (Tirana, 25 November 2011) by the Ministers of the water and environment management competent ministries of the Drin Riparians i.e. Albania, The Former Yugoslav Republic of Macedonia, Greece, Kosovo\* and Montenegro. This was the outcome of the Drin Dialogue coordinated by the Global Water Partnership Mediterranean (GWP-Med) and UNECE.

The main objective of the Drin MoU is the attainment of the Shared Vision: “*Promote joint action for the coordinated integrated management of the shared water resources in the Drin Basin, as a means to safeguard and restore, to the extent possible, the ecosystems and the services they provide, and to promote sustainable development across the Drin Basin*”.

The **ultimate goal** of the work in the Drin Basin is to reach a point in the future where the scale of management lifts from single water bodies to the hydrological interconnected system of the Drin Basin, eventually leading from the sharing of waters among Riparians and conflicting uses, to the sharing of benefits among stakeholders.

**The Drin Coordinated Action**

A process called the “Drin CORDA”, Drin Coordinated Action for the implementation of the Drin MoU, was put in place after the signing of the latter.

Following the provisions of the Drin MoU an institutional structure was established. It includes:

* The **Meeting of the Parties**.
* The **Drin Core Group** (DCG). This body is given the mandate to coordinate actions for the implementation of the MoU.
* Three **Expert Working Groups** (EWG) to assist the DCG in its work:

- Water Framework Directive implementation EWG.

- Monitoring and Information exchange EWG.

- Biodiversity and Ecosystem EWG.

The **DCG** **Secretariat** provides technical and administrative support to the DCG; Global Water Partnership – Mediterranean (GWP-Med) serves by appointment of the Parties through the MoU as the Secretariat.

An Action Plan was prepared to operationalize the Drin CORDA. This has been subject to updates and amendments in accordance with the decisions of the Meeting of the Parties to the Drin MoU and the DCG. The DCG and its Secretariat guides the implementation of the action plan while its implementation is currently being supported by the Global Environment Facility[[1]](#footnote-2) (GEF); see below.

**The GEF Drin Project**

The GEF supported Project “Enabling transboundary cooperation and integrated water resources management in the extended Drin River Basin”(GEF Drin Project) is aligned in content, aims and objectives with the Action Plan and the activities under the Drin CORDA.

The objective of the project is to *promote joint management of the shared water resources of the transboundary Drin River Basin, including coordination mechanisms among the various sub-basin joint commissions and committees*. Albania, The Former Yugoslav Republic of Macedonia, Kosovo and Montenegro are the Project beneficiaries.

The GEF Drin Project is structured around five components:

Component 1: Consolidating a common knowledge base

Component 2: Building the foundation for multi-country cooperation

Component 3: Institutional strengthening for Integrated River Basin Management (IRBM)

Component 4: Demonstration of technologies and practices for IWRM and ecosystem management

Component 5: Stakeholder Involvement, Gender Mainstreaming and Communication Strategies

The Project is implemented by the UNDP and executed by the Global Water Partnership (GWP) through GWP-Mediterranean (GWP-Med) in cooperation with the United Nations Economic Commission for Europe (UNECE); GWP-Med is responsible for the realization of the Project. The Drin Core Group is the Steering Committee (SC) of the Project.

It is managed by a Project Coordination Unit (PMU), based in Tirana, Albania; staff is stationed also in Podgorica, Ohrid, Pristina, and Athens. The duration of the Project is four years.

**Description of the assignment**

The objective of the Project is to promote joint management of the shared water resources of the transboundary Drin River Basin, including coordination mechanisms among the various sub-basin joint commissions and committees.

A set of activities under *Component 1. Consolidating a Common Knowledge Base, Outcome 1: Consensus Among Countries on Key Transboundary Concerns, Including Climate Change and Variability, Reached Through Joint Fact Finding,* and within work on Output 1. *Transboundary Diagnostic Analysis (TDA)* consists of an analysis of priority transboundary environmental problems. What sectoral activities cause the degradation and how serious this is? Which are the actual drivers, causing the degradation? What are the information gaps on the existing environmental state, policy distortions and institutional deficiencies? Available and new scientific knowledge, national environmental documents and plans will inform the responses to the aforementioned questions and will provide inputs for preparing this analysis as well as identifying priorities among environmental concerns.

The Biological Monitoring is planned to improve the understanding of the present baseline conditions of the Drin Basin and the major transboundary concerns or more specifically, to amend and improve the existing data and information of the current state of water resources, and fill the data and info gaps. The biological monitoring of water quality using as bio – indicators macro Invertebrates, diatoms and macrophytes will complete the chemical and physico – chemical monitoring of surface water along the basin. Monitoring of zoo - benthos and phyto- benthos will give a valuable contribution on the assessment of ecological status of the River Basin.

The objective of the assignment is to conduct the biological monitoring using macro invertebrates, diatoms and macrophytes as biological indicators of water quality at selected surface bodies, including sampling in twelve monitoring stations, sorting and identification of species, calculation of indices and interpretation of results. The aforementioned activities will be presented within the Biological Monitoring Report.

The biological monitoring exercise should be carried out fully in accordance with EU Water Framework Directive (EU WFD 2000/60/EC) and pertaining guidelines and standards.

This first monitoring campaign is planned for the **dry season – summer: July 2017**.

The detailed list of monitoring locations/stations to be monitored is presented in the Annex 1 to this document.

**INPUT BY GWP-Med**

GWP-Med will provide:

1. locations of the monitoring points;
2. Preferred schedule (dates) of the sampling (table 1)

**REQUESTED SERVICES**

The Expert/s will:

1. Participate in one-day consultation/training in Podgorica, Montenegro, on the manner of conducting the biological monitoring campaign. A detailed plan of the campaigns/expeditions will be drafted and agreed with the Project Manager and/or National Coordinator.
2. Conduct the complete monitoring, including:
	1. Sampling of macro invertebrates and diatoms at designated locations
	2. Sorting and identification of macro invertebrates and diatoms using the appropriate methods.
	3. Indices Calculation, metrics and evaluation
	4. Evaluation *in situ* of macrophyte beds per each monitoring station
	5. Macrophyte taxa, which are difficult to be identified *in situ*, will be collected during the vegetation period (Sept – July), packed and transported to the laboratory for identification.
	6. Data Interpretation and Biological Monitoring Report of the campaign of the biological monitoring including all requested/agreed steps organized as follows:
		1. Monitoring Locations
		2. Biological parameters/macro invertebrates, diatoms and macrophytes;
		3. Methodology
		4. Sampling
		5. Sorting
		6. Identification
		7. Indices (e.g. trophic index), quantitative and functional taxonomic metrics
		8. Results and data interpretation, including:
			1. Interpretation of indices and metrics per station;
			2. Selection of Reference sites and conditions;
			3. Summary per location (classification, setting of quality water quality bio- class);
			4. List of identified taxa per monitoring station in Annex
3. Provide trainings on sampling, identification and data interpretation related to biological assessment of water quality using macro invertebrates, diatoms and macrophytes as bio - indicators, to the institutional authorities’ representatives who will attend the expert/s during the monitoring period.
	1. *Training on sampling*

The expert/trainer will present methodologies for sampling and storing the samples of benthic algae and benthic macro invertebrates. The expert will present the methodologies for in situ evaluation of macrophytes. The duration of the training is 1-2 days for macro invertebrates and diatoms sampling, and macrophytes evaluation, which will take place during the monitoring campaign within July 2017.

* 1. *Training on Sorting and taxa identification*

The trainer should present methodologies/literature for identification of taxa within the samples. The training will take place during September – October 2017 (1 day training). The Expert/trainer should indicate in advance the date/location – Laboratory of the training to the National Coordinator. The NC should inform the trainees on the training date and location.

* 1. *Training on Indices calculation and interpretation*

The expert/trainer should present methodologies for designating reference conditions, calculation of indices, share several calculations from recent monitoring missions, and explain how calculations can be interpreted and linked with the ecological status of the river basin. The trainer should present statistical tests for assessing differences and similarities between sites. The training will take place during September – October 2017 (1 day training).

The communication procedure between the expert/trainer and the trainees will be facilitated by the National Coordinator.

* 1. *Training Report*

The expert/trainer should provide a brief Training Report within the period indicated to timeframe of the assignment

1. The Biological Monitoring campaign has to be completely carried out by the Expert, including travel and accommodation arrangements, provision of sampling and sample preservation equipment and consumables, complete laboratory services.
2. The Training on sorting and taxa identification, as well as the Training on indices calculation and interpretation have to be completely carried out by the Expert, including venue arrangements, laboratory services, presentation equipment and materials and other necessary logistical and organizational details.
3. Travel and accommodation arrangements for the trainees will be covered by GWP-Med.

**Eligibility to apply**

For the services specified above (i.e. biological monitoring and training) we are looking for a National Expert. The contract will be awarded to an individual expert. The selected expert will be fully responsible for execution of the Requires Services, and will be the sole responsible person in the contractual and legal sense versus GWP Med.

The expert may engage/subcontract additional experts with appropriate complementary expertise to cover the scope as described above.

The expert will be evaluated for the Required Qualifications and Skills. Additional expertise of complementary experts will be taken into consideration during evaluation of the offers and selection.

 **Required Qualifications and Skills**

The Expert should, at least have the following qualifications:

* University degree, preferably in Biology, Water/Environmental sciences, or a similar field related to water resources management
* Master degree and/or PhD degree in Plant Biology, Conservation Biology, or a similar field related to water quality assessment and phytobenthos evaluation.
* Knowledge and experience in the EU Water Management sector and EU WFD acquis in general.

*General professional experience*

* At least 10 years of relevant professional experience in the field of biological water monitoring and water quality assessment.

In depth knowledge of biological indicators with focus on benthic invertebrates and phytobenthos

Good knowledge on WFD with focus on biological monitoring.

Good communication and team working skills.

*Specific professional experience*

Practical experience in providing technical expertise for biological water monitoring using as bio – indicators macro invertebrates, diatoms and macrophytes and reporting; relevant international working experience in the environmental/water quality field.

* Experience with water quality assessment including sampling, taxa identification, indices calculation and data interpretation.
* Experience with regard to the implementation of WF Directive requirements related to biological water quality assessment using benthic invertebrates and benthic algae as indicators.
* Experience in providing on the job training and capacity building activities.
* Regional working experience would be considered an advantage.

**Deliverables and timeframe of the assignment**

Tasks, deliverables the timeframe/, as well as estimated expert days needed for completion of the assignment are presented in the table below:

|  |  |  |  |
| --- | --- | --- | --- |
| **Tasks** | **Deliverable** | **Timeframe/ deadline** | **Working days** |
| Participation in **one-day consultation** in Podgorica, Montenegro(see point 1. under Requested Services). | A. Time table of sampling & reporting | July 2017 | 1 |
| **Sampling Campaign 1- Summer 2017;**(See point 2. under Requested Services).**Provide training on sampling**(See point 3. under Requested Services). |  | July 2017 | 5 |
| **Sorting & Identification; Indices and metrics calculation and data interpretation;**(See points 2.b. – 2.e. under Requested Services).**Provide trainings on Sorting & Identification; Indices and metrics calculation and data interpretation** (See points 3.b. and 3.c. under Requested Services). | B. List of identified taxa  | July – October 2017 | 24 |
| **Report 1: Biological Monitoring Report 2017**Preparation of a summary report -overall findings **Brief Training Report**(see points 2.f. and 3.d. under Requested Services). | C. Monitoring ReportD. Brief Training Report  | **End of October 2017**  | 5 |

**Location and language of the assignment**

The location of the assignment will be in Podgorica, Montenegro. Travelling locally within Montenegro will be required for the completion of the assignment.

The language for all documents and reports as well as for all communication is English.

**ANNEX I Monitoring Locations in Montenegro**

**Sampling Points – Drin basin**

The following locations are planned for the Biological Monitoring:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **No.** | **Location** | **GW** | **SW** | **Coordinates (X, Y, Z)** |
| **1** | Port milena |  | x | 41.910411,  | 19.235645 |  |
| **2** | Fraskanjel |  | x | 41.967337,  | 19.387154 |  |
| **4** | Middle of the Lake |  | x | 42.181724,  | 19.282837 |  |
| **5** | Vranjina |  | x | 42.268596,  | 19.115146 |  |
| **6** | Downstream KAP |  | x | 42.333073,  | 19.208463 |  |
| **7** | Cijevna mouth |  | x | 42.369014,  | 19.225998 |  |
| **8** | Podgorica |  | x | 42.433776,  | 19.233622 |  |
| **9** | Danilovgrad |  | x | 42.554142,  | 19.105279 |  |
| **11** | Ckla |  | x | 42.085147,  | 19.376924 |  |
| **12** | Moraca (Smokovac) |  | x | 42.482579,  | 19.305439 |  |

1. www.thegef.org [↑](#footnote-ref-2)