

## **ANNEX 1**

### **BASIC INFORMATION**

The Consultant will be employed on a short-term basis to primarily refine and present a draft procedure for the calculation and monitoring of environmental flow. The procedure should be broadly compliant with the overall objectives and criteria enshrined in the EU Water Framework Directive (WFD, EU 2000/60/EC) so as to harmonize with ongoing River Basin Management Plans (RBMPs) under development by the Ministry of Environment and physical Planning (MEPP). One of the foremost criteria in RBMPs is that 'waterbodies' should achieve 'good ecological status (GES)', and environmental flow is regarded as one of the principal elements of GES. The draft procedure is expected to be closely aligned with the draft 'rule book methodology' developed previously for the MEPP in 2018.

The environmental flow methodology is inextricably linked with the degree of 'pressure' placed on the natural flows by the activities of flow abstraction and returns. The difference between (abstraction – return) is termed 'net consumption' i.e. water removed from the waterbody that is not returned. The degree of consumption has a direct and significant influence on waterbody ecological status. Detailed operational data will therefore need to be collected on the exact timing and quantities of all abstractions and returns along the lengths of the waterbodies in the study areas. The Consultant will engage closely with the designated team members to ensure that appropriate data is being collected so as to be 'fit for purpose'.

An effective environmental flow procedure must combine these two fundamental elements: a) the technical quantification of the natural flow regime b) the degree of influence exerted by abstractions/returns/imports/exports to/from the waterbodies, such that administrative decisions can be made with regard to the acceptable level and timing of water consumption from each waterbody, typically manifested through the criteria of authorized Water Permit conditions.

### **SCOPE AND DETAILED DESCRIPTION OF THE TASKS**

The Consultant shall deliver on the following tasks prior to 29 November 2024:

#### **Task 1 – Development of a River Water Balance Utility**

To develop a practical spreadsheet 'model' that can be used to calculate consumptive uses and test the degree of ecological pressure being exerted by installations under various flow scenarios.

The spreadsheet will be a core tool for the project team, and will be handed over to project beneficiaries as a working tool for active monitoring of the rivers by the NP authorities. The tool will also be essential for determining water abstraction policy and/or Permit conditions for specific installations.

#### **Task 2 – Liaison with Project Team for Data Issues**

To prepare a Briefing Note for the project hydrologist to set out exactly the data needs and analyses required to be part of the model described under Task 1. The Consultant should develop example data formats for the project hydrologist and communicate with him through email and/or online conferencing.

#### **Task 3 – Determination of Waterbody Delineation and Typology**

Alongside with the project team to finalize the delineation and typology of the river waterbodies for the two pilot rivers: Tresonecka River and Bistrica River. This delineation should comply with the criteria of WFD Annex II. This task is central to the monitoring and compliance elements of the environmental flow methodology, which is waterbody specific. Data tables summarizing the typology and characteristics will be also prepared by the Consultant.

#### **Task 4 – Technical Meetings/Workshops for environmental flow Methodology**

Consultant shall attend internal meetings, further stakeholder consultations and one formal workshop where work to date can be presented and refined. Ongoing needs for data and/or stakeholder engagement can be determined under this task.

#### **Task 5 – Preparation and Presentation of a DRAFT Practical environmental flow Methodology**

Based on historical work and National Park specific data, but also updated consultations with stakeholders and the project team, the Consultant will work on a practical set of tools that will facilitate the analysis of waterbody hydro-ecology and evaluation of pressure impacts, to be carried out in the period October – November. The precise design of the tools and methodology will depend on the data available, the NP (but also MEPP) needs, and technical capacities of staff.

The environmental flow tools (based on the water balance model of Task 1) will be a core tool for the NP authorities to use in the monitoring of river flows and the determination of appropriate levels and quantities of flow abstractions on a seasonal basis.

The draft tools and general procedure should be made ready for 29 November. It is required that the Consultant will coordinate with the project team, hold stakeholder meetings and present the procedure to date in a formal Workshop.