



European Union Water Initiative Plus for the Eastern Partnership (EUWI+ 4 EaP)

UKRAINE

Terms of References for local contractor

24 April 2018

Local contractor for the (revision of the) delineation of surface water bodies in the EUWI+ Dnipro river basin district in UKRAINE

1. Financing

European Union (ENI/2016/372-403)

2. Procedure

Single tender procedure according to EU PRAG

3. Contracting Authority

International Office for Water (IOW)

4. Thematic Leader

Umweltbundesamt GmbH (UBA)

5. Nature of contract

Service contract

6. Time period of implementation

May 21 – December 15, 2018 (7 months)

7. Contract amount

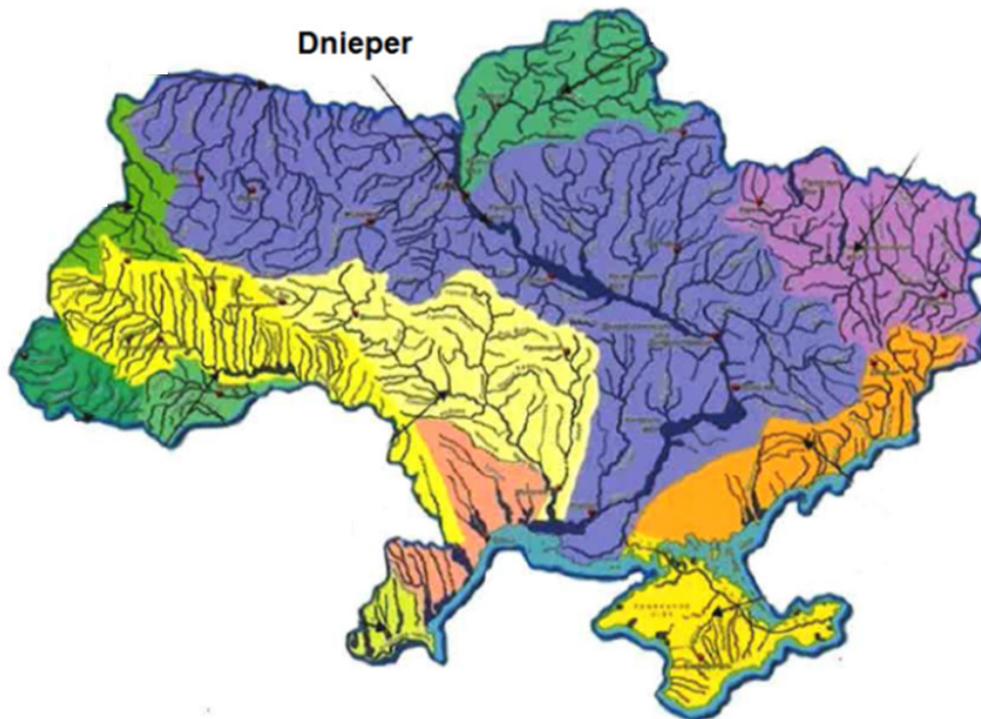
Max. 20.000 EUR

8. INTRODUCTION AND BACKGROUND

The “European Union Water Initiative Plus for Eastern Partnership (EaP) Countries (EUWI+)” involves six eastern neighbours of the EU: Armenia, Azerbaijan, Belarus, Georgia, Moldova and Ukraine. The EUWI+ project addresses existing challenges in both development and implementation of efficient management of water resources. It specifically supports the EaP countries to move towards the approximation to EU acquis in the field of water management as identified by the EU Water Framework Directive (WFD).

River Basin Management Plans (RBMP) are recommended planning tools that give the overall orientation of water management in the basin and the objectives to be reached, and the priorities in the actions to be developed. In Ukraine, the full Dniro basin have been selected as pilot areas for the EUWI+ project (see below).

Map of Ukraine with the full Dniro basin as EUWI+ pilot basin



Water Framework Directive (WFD)

According to EU WFD, “Surface Water Body is defined as a discrete and significant element of surface water such as a lake, a reservoir, a stream, river or canal, part of a stream, river or canal, which differ from each other in specific natural characteristics, the nature of the impact of human activity, or any other significant and distinguishable parameters”.

Identification of Water Bodies

The *first step* in the analysis is the identification of the **surface water categories**. According to Annex II 1.1.(i) WFD “The surface water bodies within the river basin district shall be identified as falling within either one of the following surface water categories :

1. rivers,
2. lakes,
3. transitional waters
4. coastal waters
5. artificial and heavily modified surface water bodies.”

The *second step* is the identification of types for each category, which define groups of surface waters with common reference conditions and the anchor of the ecological classification.

The *third step* is the identification of **significant changes in ecological and/or chemical status or hydromorphology** of water bodies on the basis of monitoring data. This approach is also necessary for the identification of *heavily modified water bodies*. Initially, in the case of absence of information on status, the pressure and impact assessment procedure required under Article 5 of the WFD will provide estimates of status changes (refer to WFD CIS Guidance Document No.3). The monitoring programmes will provide the information necessary to confirm status-based boundaries. Hence, an iterative approach for identifying water bodies should be applied. At the same time, it is evident that the delineation of water bodies must be finally agreed at a certain point in time in order to enable the preparation of the river basin management plan. The competent authorities of a river basin district will have to ensure that a balance between an iterative identification and the final assignment of water bodies is achieved.

Heavily modified and *artificial water bodies* must be (at least) provisionally identified during the characterisation of surface waters. Their identification and designation should be finalised for the purposes of the first river basin planning cycle on publication of the river basin management plans. The identification of heavily modified water bodies must be based on the designation of criteria set out in Article 4.3 of the WFD. In principle, the boundaries of heavily modified water bodies are primarily delineated by the extent of changes to the hydromorphological characteristics that (a) result from physical alterations by human activity and (b) prevent the achievement of good ecological status.

9. SCOPE OF WORK AND DELIVERABLES

The specific objective of this contract is to assist the Ministry of Ecology and Natural Resources and State agency of water resources of Ukraine in identifying, delineating and characterising surface water bodies in the RBD of the full Dnipro river basin district in line with the WFD principles and approaches.

This work is to be based on the provisions laid down in the WFD and the methodologies given in the following guidance documents of the EU Common Implementation Strategy (CIS) for the WFD:

- CIS Guidance Document No. 2 on “Identification of Water Bodies”;
- CIS Guidance Document No. 3 on “Analysis of Pressures and Impacts”;
- CIS Guidance Document No. 4 on “Identification and Designation of Heavily Modified and Artificial Water Bodies”

- CIS Guidance Document No 5 on “Transitional and Coastal Waters. Typology, Reference Conditions and Classification Systems”
- CIS Guidance Document No. 9 on “Implementing the Geographical Information Systems (GIS)”
- Order of the MENR On the approval of the methodology of identification of surface and groundwater bodies

For key provisions of the WFD on the delineation of surface water bodies as well as a pragmatic stepwise approach and methodology for their delineation, the EPIRB report on water body identification and typology shall be used (*Environmental Protection of International River Basins: “Activity 2.2: Water body identification and typology – Dnipro pilot basin, Ukraine, August 2013”*).

Tasks to be performed by the Local Contractor

The selected local contractor for this assignment will perform the following tasks:

A. Surface water body delineation and typology

1. Identify and delineate SWB (rivers and lakes, including HMWB and AWB) in the selected RBD according to the provisions of the WFD and the relevant CIS guidance documents of the EU Common Implementation Strategy, based on available and relevant information (e.g. geological maps, profiles etc.). This methodology must be adapted to Dnipro RB significant size (around 289,000 km²).
2. Give each SWB a code and a name, considering national provisions;
3. Provide the boundaries of the delineated SWB electronically in GIS format fulfilling the requirements laid down in Annex 1 (e.g. production of datasets, shapefile layers, QGIS maps and accompanying metadata);
4. Characterise the main sub- catchments (grouped SWB) within the basin in text form
5. Characterise all SWB by completing the template attached in Annex 2, as far as the requested information is available
6. Compile a list of significant surface water-relevant human pressures within the selected RBDs (with support from IOWater)
7. Summarize the existing information about the current monitoring situation within the RBDs including information of ecological/chemical status
8. Compile the river and lake types in Ukraine following System A; evaluate the System A typology for rivers and lakes in the selected RBDs with information about pressures, hydro-morphology and status classification;
9. Prepare a summary text about lake and river types in the RBDs
10. Prepare a summary text about the main river catchments in the RBDs, which feeds into the River Basin Management Plan(s).
11. Prepare a summary of open issues and data gaps which need to be addressed in future (e.g. need for further research, data gathering etc.).
12. Prepare a summary explaining in detail the applied methodologies and considered information (inclusion of references and literature).

B. Training and Meetings

- Participate at several workshops (see below) for training and for discussing preliminary results in order to ensure that the implementation of the tendered tasks are in line with the expectations

C. Final report

- Provide a draft final and a final report summarising the progress made within this service contract with the main outputs of the tasks above, the deliverables below and detailed documentation on the applied methodologies and considered information (inclusion of references and literature). The report will follow the structure given in Annex 3 and will include text, tables and maps. To develop the final report based on the draft final report, the Local Contractor will consider all comments provided by the EUWI+ Thematic Leader and the EUWI+ local representative.

Deliverables

The selected Local Contractor for this assignment will deliver the following main products:

- The datasets, metadata, shapefile layers and QGIS maps as detailed in Annex 1 for all delineated and characterised SWB in the selected RBDs as well as all existing SWB monitoring sites
- A list of all SWB in the selected RBDs with code, name, quantitative attributes (length, size), type, significant groundwater-relevant human pressures (on chemistry and quantity) and the associated pollutants, based on available information and expert judgement;
- A summary description of the river basin;
- A summary text about the main river catchments in the RBDs, which feeds into the River Basin Management Plan;
- The characterisation of all SWB in the selected RBDs, in the form of completed templates (Annex 2, as far as the requested information is available);
- A summary description of the current monitoring situation in the selected RBDs as well as we existing information of ecological/chemical status;
- A summary of types with a brief description of reference conditions per type for the most relevant biological quality element
- A summary explaining in detail the applied methodologies and considered information (inclusion of references and literature) for the delineation and characterisation of SWB;
- A summary of open issues and data gaps which need to be addressed in future (e.g. further research, further data gathering, additional monitoring etc.);
- Agendas and minutes of all working meetings – including list of participants – held with participation of either a representative of the EUWI+ Thematic Leader or the Ministry of Ecology and Natural Resources of Ukraine and State agency of water resources;
- Draft final report and final report summarising the activities and products prepared under this contract, as specified under Annex 3 and delivered according to the given timeframe.

The final report and all data will be prepared in Ukrainian and English languages and submitted to the Thematic Leader of the contract from UBA and Ms. Oksana Konovalenko, Local Representative of the EU Member State Consortium in Ukraine under EUWI+, in printed (1 copy in each language) and electronic versions (the report in Word and PDF formats, the completed templates are provided as Excel files in xls or csv format). All GIS maps shall be provided as shapefile layers.

Meetings

- A kick-off meeting at the beginning of the assignment is devoted to an introduction to the principles of the WFD in general and the objectives of the tendered elements by the Thematic

Leader of the contract. Hereby a first hands-on training by a selected case study will be performed. The meeting (workshop) will be held on 25 May 2018 in Kyiv.

- A 2-days workshop on classification will be held in mid June 2018 in Minsk
- A national workshop on the WFD survey design will be held in July
- Depending on the progress of the implementation, 2 workshops (optionally organised via skype) will be organised where the progress and the draft work will be discussed in order to ensure that the implementation of the tendered tasks are in line with the expectations.
- A final workshop (third workshop) is foreseen at the end of the assignment for a de-briefing of the Ministry of Ecology and Natural Resources of Ukraine and State agency of water resources, as the lead organization in surface water body delineation in Ukraine, as well as the EUWI+ project national focal points in Ukraine.

Personal reports should be prepared from all missions, meetings and workshops held with participation of either a representative of the Thematic Leader of this contract or the Ministry of Ecology and Natural Resources of Ukraine and State agency of water resources

10. REPORTING

The Local Contractor shall report to Ms. Oksana Konovalenko, Local Representative of the EU Member State Consortium in Ukraine under EUWI+, regarding the progress of works and for all day-to-day management issues.

11. TIMEFRAME

The duration of the assignment is **7 months**. The expected commencement of the assignment is May 21, 2018 and the completion date is December 15, 2018 the latest.

| Month | Outputs |
|--------------------|---|
| 25 May 2018 | Participation at Workshop on SWB delineation in Kyiv (presentation and training session) |
| June 2018 | Review of EPIRB approach for SWB delineation Characterization of river and lake types (System A) |
| June 2018 | Participation at 2-days Workshop on classification in Minsk |
| June 2018 | Preliminary list of river types (System A) Preliminary list of lakes types (System A) Take account of the list of significant pressures (with support from IOWater) |
| July 2018 | 1 st workshop (or skype meeting): discussion of preliminary results (typology, significant pressures) National workshop on WFD survey design |
| end of August 2018 | 2 nd workshop (or skype meeting): revision of typology following System B based on hydromorphology, pressures and preliminary status assessment |

| | |
|-----------------------|--|
| June – September 2018 | Shp format and attribute tables with description for main groups of vector layers: River WBs, lake WBs and provisional HMWB/AWB Creation of a database of identified WBs, their mapping in a GIS format compatible with Geoportal |
| 15 September 2018 | Submission of preliminary WB database to the contracting authority |
| 15 November 2018 | Submission of draft final report |
| end of November 2018 | 3 rd workshop (de-briefing) |
| 15 December 2018 | Submission of final report |

The contracting authority reserves the right to extend the time framework of the tasks and deliverables, if external information and data required for performing the work (pressures, hydro-morphology etc.) are not available on time. The deadline for the final report may be postponed up to 31 March 2019 at latest. This postponement shall not have any influence on the agreed amount of work and budget.

12. REMUNERATION AND PAYMENT SCHEDULE

The tranches of payment made will be subject to acceptance of the tasks and deliverables and defined in the service contract.

13. IMPLEMENTATION MODALITY

The Local Contractor has to provide all means and technical equipment (e.g. hardware, software) necessary for a successful implementation of these services.

The Local Contractor has to implement the service in close contact and cooperation with the Ministry of Ecology and Natural Resources of Ukraine and State agency of water resources.

All correspondence and documents related to these services must be written in English.

The Thematic Leader will support the Local Contractor through helping with organization of necessary meetings through the EUWI+ project national coordinator for Ukraine, particularly with the respective staff of the Ministry of Ecology and Natural Resources of Ukraine and State agency of water resources.

The Ministry of Ecology and Natural Resources of Ukraine and State agency of water resources will assist in providing all data necessary to perform the tasks, especially a database and GIS shape files with the basic geographical data (river basins, rivers, lakes, political boundaries etc.).

The Local Contractor agrees to adhere to the EU visibility guidelines.

14. EXPERTISE AND QUALITY REQUIREMENTS OF THE CONTRACTOR

The local companies or expert must have the following qualifications and skills:

- At least 3 years of demonstrated experience in projects related to Integrated Water Resources Management (IWRM), the WFD, river basin planning and management and GIS mapping;

- Demonstrated experience in the implementation of donor-funded projects in the water sector, particularly in water resources management and surface water delineation and preferably in projects funded by the European Union;
- Demonstrated successful cooperation with the water-related authorities of Ukraine;
- Use of GIS system, preferably ESRI products or QGIS;
- Technical company staff or expert with demonstrated language skills required for smooth cooperation between all involved parties (fluent in the national language and good English).

15. SELECTION AND AWARD PROCEDURE

The Thematic Leader will invite local companies with these qualifications to submit an expression of interest and financial offer. In addition, these TORs will be published on the following web-sites:

- EUWI+ Project;
- Delegation of the European Union in Ukraine;
- Ministry of Ecology and Natural Resources.

The offers will be evaluated by an evaluation committee. In the following the Contracting Authority will award the contract according the best-bidder principle based on the best value for money.

16. CONTACT DETAILS

The full tender dossier can be inquired from the following address:
alexander.zinke@umweltbundesamt.at

Interested companies or experts must send their technical offer, including CVs of key staff, references, methodology and list of projects implemented, as well as their financial offer by email to the following address: alexander.zinke@umweltbundesamt.at

The deadline for submission is **May 7, 2018**, 12:00 CET. Tenders submitted after the deadline will not be considered.

The publication of these Terms of Reference does not commit the Contracting Authority to award the announced contract. The Contracting Authority can withdraw from this call at any given time. In no event shall the Contracting Authority be liable for any damages whatsoever including, without limitation, damages for loss of profits, in any way connected with the cancellation of a tender procedure.

Annex 1: Specifications for datasets, metadata and maps production

It is not allowed to present / use datasets in a map or an indicator if the corresponding data set:

- is not described in the catalogue of metadata established by the EUWI+ project;
- Is not made available in the national FTP

As a consequence, the task of the Local Contractor should include:

- To collect the necessary datasets at the level of the producers
- To work with the data producers in order that the dataset provided are described on line into the metadata catalogue made available by the project
- To copy the raw data made available by each producer on the ftp made available by the project.

The corresponding expected results can be formulated as follow:

- All datasets used are described in English and in Ukrainian into the metadata catalogue
- All raw dataset used are available on ftp.

Methodology for metadata production

The letter of request for data should include the obligation that the data producer provides the corresponding metadata sheet (to be provided by EUWI+ project).

The Local Contractor will ensure that the metadata are entered in the catalogue with:

- Capture of a thumbnail
- Capture of geographical limits
- Translation in English/Ukrainian of all metadata entered
- Description of right of dissemination
- Declare of public access in the metadata sheet

About specifications of data to be collected

- Layers the closest possible of scale 1/50 000
- Layers in Esri format (.shp)

Specifications for map production

- Maps are produced in QGIS format
- Maps are produced using the map template A4 or A3 prepared by the project
- Maps respects the standard GCS_WGS_1984 projection or the official projection adopted at national level

Maps include only layers and dataset described into the metadata catalogue and having raw data available on ftp.

Annex 2: Template for Characterisation of SWB

| Parameter | unit | Value |
|--|-----------------------------|-------|
| SWB code | | |
| SWB name | | |
| Geographical coordinates | | |
| Ecoregion | | |
| Bioregion or Sub-Ecoregion | | |
| River basin district | | |
| Category [river/lake, AWB, HMWB] | | |
| Temporary (intermittent) yes/no | | |
| Catchment area | [km ²] | |
| Length (rivers) | [km] | |
| Mean SWB altitude (rivers) | [m asl] | |
| Mean altitude of the catchment area (rivers) | [m asl] | |
| Altitude of source (rivers) | [m asl] | |
| Distance to the source (rivers) | [km] | |
| Discharge (rivers) | MQ, HQ1 [m ³ /s] | |
| Mean discharge class (rivers) | | |
| Mean slope (rivers) | [‰] | |
| Altitude (lakes) | [m asl] | |
| Surface area (lakes) | [ha] | |
| Surface area class (lakes) | | |
| Mean depth (lakes) | [m] | |
| Mean depth class (lakes) | | |
| Mixing type I [holo-/meromictic] | | |
| Mixing type II [mono-/di-/oligo-/polymictic] | | |
| Type | | |
| Geological type | | |
| Transboundary | [yes/no, country] | |
| Number of chemical monitoring sites | | |
| Number of biological monitoring sites | | |
| Number of quantitative monitoring sites | | |
| Annual precipitation | Min–Max, Mean [mm] | |
| Prevailing human pressures | | |
| Land use (CORINE land cover) | [%] | |
| Ecological status | | |
| Confidence of ecological status classification (data/ pressure information/expert judgment) | | |
| Chemical status | | |
| Confidence of chemical status classification (data/ pressure information/expert judgment) | | |

Annex 3: Proposed Outline of the Final Report

Surface water bodies

1. Summary description of the main river catchments within the selected RBDs including topography, the (hydro-)geological and climatic situation, the predominating anthropogenic uses and the significant pressures (human and non-human);
2. Characterisation of main river catchments (grouped SWB) in verbal (text) form summarising the hydrogeological characteristics, the main anthropogenic pressures and the importance of their main uses
3. List and summary description of river and lake types within the selected RBDs including a brief description of reference conditions for the most relevant biological quality elements
4. List of significant SWB human pressures and associated potential chemical pollutants per SWB
5. Summary description of the current monitoring situation with an inventory of the existing monitoring sites and ecological/chemical status;
6. Detailed documentation of the applied methodologies and implementation steps and considered information (inclusion of references and literature);
7. List of open issues or data gaps to be addressed in future.

Annexes

8. List of all SWB bodies in the selected RBDs, based on available information and expert judgement;
9. Completed characterisation templates for each SWB;
10. Overview of produced layers and datasets including full metadata;
11. QGIS maps of SWB with indication of types, pressures and existing monitoring network;
12. Agendas and minutes of all meetings including lists of participants;