
Monitoring Strategies in Transboundary Aquifers: Goals, Methods and Tools. The case study of Skadar/Shkoder – Buna/Bojana Delta transboundary alluvial aquifer

Technical Webinar - 20 October 2020, 10:00 am to 15:00 (GMT +2)

CONCEPT NOTE

Summary

Structured monitoring strategies are paramount to achieving **sustainable groundwater resources management** and meeting environmental goals. In the case of **transboundary aquifer management**, structured approaches are necessary in order to facilitate agreement on **joint monitoring strategies** among the involved countries; once in place, these strategies can enhance trust and cooperation for the management of transboundary water resources.

This Webinar will analyse existing groundwater monitoring strategies, tools and methods for transboundary aquifers and will provide guidelines on how to design monitoring plans that are **compliant with EU Water Framework Directive (WFD) regulations** and national frameworks. It will also provide specific guidelines for the operation of a monitoring network in the particular two-hydrogeology context (coastal area and inland alluvial aquifer) as applied in the **Drin project**.

The webinar is aimed at stakeholders with different backgrounds (geologists, lawyers, economists, engineers, etc) and from a variety of organizations (administration, research institutions, operators, etc).

Project Background

The Global Environment Facility (GEF) supported Project “Enabling transboundary cooperation and integrated water resources management in the extended Drin River Basin” (**GEF Drin Project**) aspires 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*. The Project is implemented by **UNDP** and executed by the **GWP-Mediterranean (GWP-Med)**.

Within the context of the project, **Pilot activities** are intended to provide multiple benefits to allow countries to (i) accrue direct experience on approaches, technologies, practices and organizational settings novel to the region and test their cost effectiveness and feasibility in the regional context, (ii) test cooperative arrangements, (iii) feed into the Strategic Action Programme formulation and implementation process.

UNESCO implements one of the six Pilot activities aiming to **design and pilot test a modern multi-purpose transboundary groundwater monitoring network in the Skadar/Shkoder – Buna/Bojana Delta transboundary alluvial aquifer (Albania & Montenegro)** in line with relevant EU legislation. An initial desk-study provided knowledge on the status of the aquifer’s groundwater resources, based on existing information, as well as on information related to surface waters, freshwater ecosystems, and coastal environment. These efforts were then complemented by developing the hydrogeological conceptual model and the aquifer’s comprehensive vulnerability analysis (examining both vertical and horizontal

vulnerability) for the study area which later helped in creating the basis for design of the groundwater monitoring network. The groundwater monitoring programme is currently being tested in the two countries. Within the framework of this project, and in collaboration with GEF IW:LEARN a webinar on groundwater monitoring, focusing on a hydrogeological context to design a monitoring network of the examined aquifers is being organized.

Webinar Objectives

The webinar aims to:

- Summarize existing monitoring strategies to attain groundwater management and environmental goals in transboundary aquifers;
- Provide guidelines to make monitoring plans compliant with EU Water Framework Directive (WFD) regulations and national frameworks;
- Provide specific guidelines for the operation of a monitoring network in the two-hydrogeology context (coastal area and inland alluvial aquifer) as applied in the Drin project.

Who should attend?

The webinar will be of particular interest to:

- ✓ Administration officials in charge of water resources management,
- ✓ Professionals and technicians involved in monitoring plans,
- ✓ Environmental professionals and stakeholders concerned with the management of transboundary aquifers and/or the implementation of the EU WFD (or similar regulations).

While the Pilot activity focuses on the Drin Basin, it offers valuable lessons and knowledge that can serve practitioners beyond the Drin Riparians. Partnering with GEF IW:LEARN, the webinar aims to reach audiences from multiple countries, management domains and GEF projects.

Webinar Contents

Morning session

Session 1.- Why monitoring is paramount to address appropriate groundwater resources management and to attain EU WFD environmental goals? The specific case of transboundary aquifers.

Session 2.- The hydrogeological conceptual model as an initial step towards design of a monitoring network. Data requirements, basic issues (including pressures, impacts, vulnerability and risks) to be considered.

Session 3.- Where must be monitoring wells located? Identifying and selecting the most representative spots in coastal aquifers and inland aquifers.

Session 4.- How to monitor groundwater levels? Instrumentation and practical considerations. Interpretation and reporting hydraulic head data.

Afternoon session

Session 5.- How to monitor groundwater quality? Groundwater sampling techniques and practical considerations. Interpretation and reporting hydro-chemical data.

Session 6.- Data management: Considerations on data processing, storage, quality assurance and reporting. Sharing databases in transboundary aquifer monitoring programs.

Session 7.- Summary: Proposal of a feasible monitoring plan based for a transboundary aquifer on the EU WFD regulations applied to the DRIN project.

A detailed agenda is presented in ANNEX I of this document.