



## Session 7

# Monitoring plan – DRIN project

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UNESCO Technical Webinar - October 2020  
Guidelines for Monitoring Strategies in Transboundary Aquifers: Goals, Methods and Tools.  
The Case of the DRIN project (ALB-MTN)

## Introduction & Goals

**Goal-** "Design and testing of a multipurpose transboundary groundwater monitoring network in the Extended Drin River Basin" (DRIN), undertaking technical activities related to groundwater monitoring of the transboundary aquifers located within the Skadar/Shkoder - Buna/Bojana area between Albania and Montenegro.

**Pressures and Impacts-** According to the WFD, a review of the effects of human activity on the status of surface waters and groundwater must be conducted. Human activity (as *drivers*) produces *pressures* that cause a malfunctioning of the hydrological system or water bodies, resulting in *impacts* that deteriorate water resources in quantity and quality (*states*). Management actions must be based on the knowledge of the water bodies, the identification of the existing pressures and the assessment of the resulting impacts. Actions should thus be devoted to correct such pressures so impacts are minimized (*response*), and good statuses are finally attained.

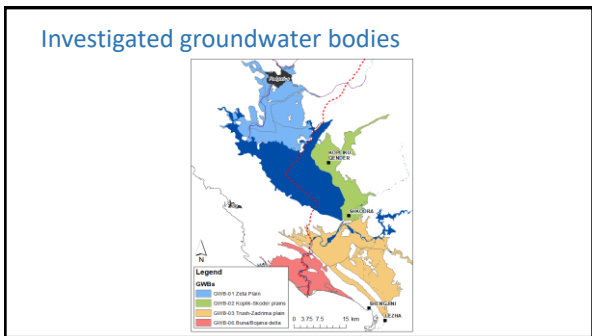
## Monitoring networks, according to WFD

**Surveillance vs operational monitoring**

Our proposal of sampling sites does not differentiate between surveillance and operational monitoring.

Indeed, it considers the available information, and sets which areas should be monitored. The report considers that all such zones must be monitored as operational sampling sites, while the rest of the database can be maintained as surveillance sampling sites.

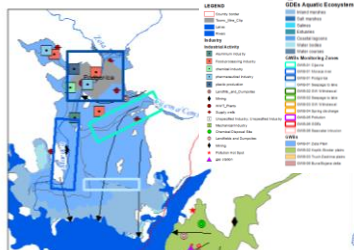
Local technicians and experts have the final decision about it.



## Monitoring zones in Montenegro

**GWB-01 Zeta plain -**

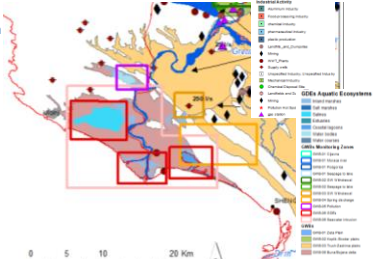
- ✓ Moraca River alluvial plain
- ✓ Podgorica urbanized area
- ✓ Cijevna River
- ✓ Groundwater seepage to Skadar/Shkoder Lake



## Monitoring zones in Montenegro

**GWB-06 Buna/Bojana delta area: a true transboundary aquifer**

- ✓ Seawater intrusion
- ✓ Groundwater Dependent Ecosystems



## Monitoring zones in Albania

### GWB-02 Koplik-Shkodër plain

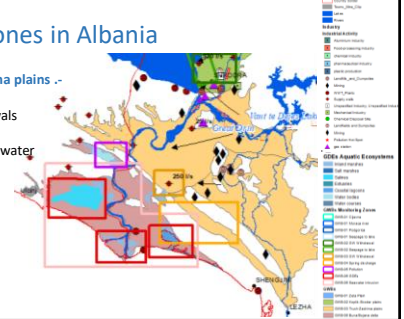
- ✓ Groundwater withdrawals
- ✓ Groundwater seepage to Skadar/Shkoder Lake



## Monitoring zones in Albania

### GWB-03 Trush and Zadrime plains

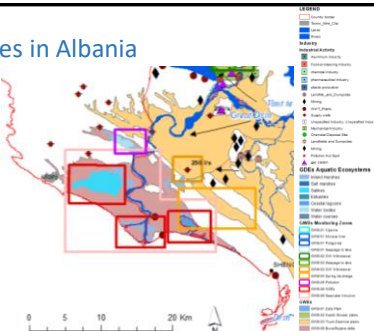
- ✓ Groundwater withdrawals
- ✓ Groundwater / Surface water relationship



## Monitoring zones in Albania

### GWB-06 Buna/Bojana delta area: a true transboundary aquifer

- ✓ Seawater intrusion
- ✓ Groundwater Dependent Ecosystems



## Monitoring networks, according to WFD

### Surveillance vs operational monitoring

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## Priority Monitoring Zones

### GWB-01 Zeta plain

Groundwater resources along the Moraca River, especially those hot-spot sites that represent a high risk of disaster, and the intensive groundwater domestic supply well area in Podgorica.

### GWB-03 Trush and Zadrime plains

The Trush groundwater withdrawal field to Velipojë as the main pressure to groundwater resources quantity, and nitrate pollution due to agricultural activity and poor sewage systems; however, available data for this area shows that the threshold limit of 50 mg/L has neither been reached or any upward trends detected.

### GWB-06 Buna/Bojana delta area

Monitor seawater intrusion along the coastal area, specifically around main wells for urban or domestic supply, if any.

## Final remarks

At the end, final selected monitoring sites and program in **Albania** and **Montenegro** must be defined and *validated by local technicians and experts*, according to the guidance of the nation Water Authorities, and *how they want to approach the monitoring tasks*: as a knowledge building effort, as a service to the community and to the environment, as a duty to fulfil administrative EU requirements, and so on. Also, stakeholders and government administrations.

Monitoring is *a costly task in resources and time* that should be planned so all potential objectives are covered in a *cost-effective way*. Monitoring planning is thus an assignment that it is conducted today, but must *have an eye on the future evolution* of the whole groundwater system.

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CORDA

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ITW

# Thank you!

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& Transboundary Cooperation  
Integrated Water Resources Management  
in the extended **DRIN RIVER BASIN**

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Session 5: Groundwater quality monitoring and data reporting (Dr. Josep Mas-Pla)  
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