

# **Collection and Use of Spatial Data for the Determination of Areas of Respect for the Tutelage of Groundwater and Springs**

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## **SUMMARY**

The main objective of this work is the identification and the delimitation of protected areas of natural water resources, particularly of spring and streams, and the possible surrounding critical areas. The process of identifying these protected areas of surface and groundwater for the human use is aimed for the protection of collected water from natural resources. The protected zones (areas) are categorized in “absolute protection zone” and “buffer zone” and they serve the purpose of protecting and preserving the quality of surface and groundwater by imposing restrictions on proper land use and control over land management. The process of determining the protected areas passes through several stages of spatial data collection. The data are then plotted to create different thematic maps. The first step is comprised primarily of a GNSS survey to determine the exact position of the spring on “Regional Technical Map” and on existing cadastral maps. The second step is the study of the catching basin and its network, its representation and its limitation on “Regional Technical Map.” In the third stage, various critical areas on and around the catching basins are identified through inspections, historical and geographical analyses. The last step is the representation of the elements gathered in the previous operations on the different thematic maps and the application of restrictions by the Public Administrations, on the designated areas.