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Integrated watershed management of water resources based on the water framework directive

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Abstract: The main purpose of this article is to describe the importance of integrated watershed management of water resources and defining the current state of the country's water resources in relation to integrated management in the aspect of Water Framework Directive. Watershed can be defined as an area surrounded by natural borders that control the basin hydrological system on the bases of integrated water management. The correct and easy understanding of the relationships between the processes affecting the hydrological system can be achieved by knowing the reactions of the system to different effects. In the determination of these reactions, it is important to examine watershed scale, which is considered as a whole determined by natural boundaries. In this context, our country has started to implement an integrated solution model specified in the European Union Directives. Within this scope, many different national and international projects are carried out for the harmonization studies of the European Union Water Framework Directive by the Ministry of Forestry and Water Affairs, Turkey. Based on the results of the mentioned projects, the Regulations are revised and integrated management of water resources is carried out on watershed basis. The Water Framework Directive is a key directive on the use and management of water resources under the EU Water Quality Sector. The main objective of this directive is to ensure that all water bodies in Europe reach good water status by 2027 at the latest due to the conservation, improvement and justification of the quality of aquatic ecosystems. Good water status is the improvement of water quality and ecological criteria based on integrated watershed management. Integrated Watershed Management is a plan in which the sustainable management, planning of natural resources in a river basin is coordinated and water resources are addressed at the basin scale with the participation of interest groups. Integrated watershed management can also be described as an integrated approach that takes into account the use of all stakeholders in the planning and management of surface and underground water resources in the basin and takes the necessary precautions to define and protect the status of waters. This approach is based on the implementation of a planning, organization and control mechanism that will balance the views, expectations and objectives of all segments. As a result, the problems in terms of water resources suggest that water management is important not only of water resources planning but also integrated watershed management should be adopted for the rational use of limited water resources.

Keywords: Integrated watershed management, Pollution, Water framework directive, Water resources, Surface and ground waters