

# **DETERMINATION OF ENVIRONMENTAL OBJECTIVES FOR IMPROVEMENT OF WATER QUALITY IN SURFACE WATER RESOURCES**

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## **EXPERTISE THESIS ABSTRACT**

In the study of the thesis, the determination of the environmental objectives within the scope of WFD and the steps of implementation for the measures required to take for the achievement of the environmental objectives are explained, quality elements required to deal for the achievement of the environmental quality objectives and good status, the status evaluation of these quality elements, the exemptions related to environmental objectives and the detailed information about the basic and complementary measures are included.

International approaches together with the present legislation in our country related with the control of water pollution are evaluated and suggestions which can be implemented in long and short-term for our country are presented.

In our country, in situations, where environmental quality objectives cannot be achieved, for Nilüfer River subbasin the implementation of the study of Total Maximum Daily Load, a proposed approach which can be implemented both in long and short-term, was performed for general chemical and physico-chemical quality elements together with the specific pollutants and priority substances. In this study, after characterizing the basin, evaluating the pressure and the impact and evaluating the analysis results with respect to Water Framework Directive, the implementation of Total Maximum Daily Load was performed for COD, TP and nickel parameters, for which environmental quality objectives cannot be achieved. During the study of Total Maximum Daily Load, different approaches were evaluating through scenarios and suggestions for implementation were presented. According to the results of the scenarios, in order to ensure the environmental quality objectives in the downstream of each water body by evaluating entire basin as a whole, it is revealed that for COD and TP parameters existing discharge standards must have a reduction in the ratio of 69 % and 87,71 %, respectively. Moreover, for the parameter of nickel having no discharge standard on sectoral basis in the

existing regulations, according to calculation results by accepting same discharge parameter for each sector, the discharge standard is determined as 16,98 µg/L.

**Keywords:** surface waters, water quality, priority pollutants, specific pollutants, total maximum daily load, environmental quality objectives