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title: **Determination of water pollution at Sultansazligi wetland
Kayseri — Turkey**

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INTRODUCTION

Develi Closed Basin is the sub-basin of Kızılırmak Basin in the border of Kayseri city in Turkey. Area of Develi Closed Basin (research area) is 3197 km². Sultansazligi Wetland is placed in Develi Closed Basin and it is one of the seven important wetlands of Turkey and the second important bird habitat of Turkey. Sultansazligi Wetland is also known as one of the most important wetlands of the Eastern Europe and the Middle East. There are Yay Lake, Col Lake, North and South marshland areas in Sultansazligi Wetland Region. This wetland area is a conservation area protected by International Ramsar Agreement. Sultansazligi Wetland has water scarcity and pollution problems. There is only one waste water treatment plant at Develi Closed Basin which is not operating sufficiently. So water pollution is also an important problem for Develi Closed Basin. This study describes surface and groundwater pollution at Develi Closed Basin and gives some recommendations in order to prevent the water pollution.

METHODOLOGY

This study describes surface and groundwater pollution at Develi Closed Basin and gives some recommendations in order to prevent the water pollution. Water samples from surface water, 22 deep wells and 16 springs, had been collected in 3 years (between 2003-2005) and chemical analysis of these water samples had been made by the 12th Regional Directorate of State of Hydraulic Works. Ilipinar Spring and two wells at Calbalma zone have high boron concentration and there is ammonium and nitrite pollution at the wells, located at Yesilhisar District. Surface water samples which had been collected from Camiz and Cöl Lake at Sultansazligi; have high EC values because drainage water feeds Sultansazligi Wetland. Surface water and groundwater contamination has been investigated in the content of this study. Figure 1 shows the location of the project area. Figure 2 shows electrical conductivity (EC) and total dissolved solid (TDS) values of groundwater samples which had been taken from Develi Closed Basin.

CONCLUSION

It is determined that there is ammonium and nitrate pollution at groundwater around Yesilhisar District. Also EC of these groundwater samples are very high. There is only one waste water treatment plant in the basin so industrial and domestic waste water pollute the surface water and groundwater at Develi Closed Basin. Drainage water feeds Sultansazligi and drainage water cause contamination at this wetland. Also the wastewater disposal pollute Sultansazligi Wetland. EC, nitrate, ortho-phosphate and ammonium concentrations are increased and dissolved oxygen concentrations are decreased from 1982 to 1998, 2000 and 2003 because of water pollution at Sultansazligi Wetland.

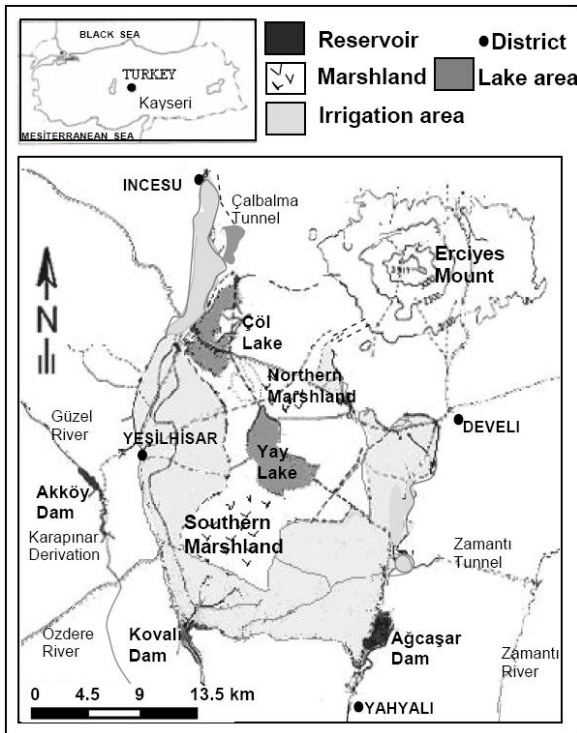


Figure 1. Location of Develi Closed Basin.

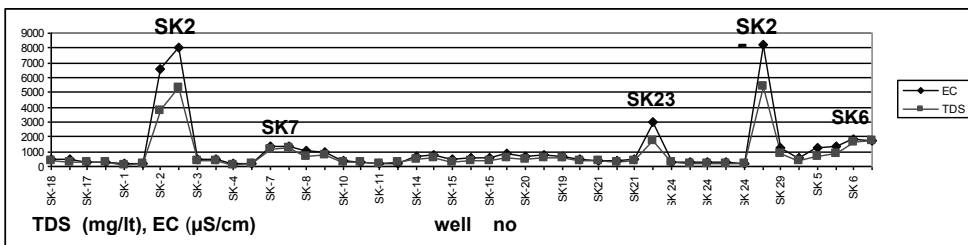


Figure 2. TDS and EC values of groundwater samples.

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