



Water Potential of the Gölbaşı Lakes and Their Sustainable Management[#]

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Abstract: Located at the interconnection point of the Mediterranean Region, East Anatolia Region and Southeast Anatolia Region, Gölbaşı Lakes is one of the important wetlands on the intercontinental bird migration routes. Located in the west of Gölbaşı district centre of Adıyaman province, this wetland is composed of three lakes, namely İnekli, Azaplı and Gölbaşı which have a total area of 5.97km². These lakes stretch along the northeast-southwest aligned long axis of the Gölbaşı depression which was formed in special conditions that developed under the control of East Anatolia Fault. The waters of the Gölbaşı Lakes, which are interconnected via the outlets, flow into the Aksu Creek. In this study, water potential of the Gölbaşı Lakes and the transfer of this potential to the following generations with sustainable management have been discussed. In this concept, the effects of the climatic, tectonic and hydrogeological features of the hydrographic basin of 210km² on the water potential have been set forth. Then, water balances of the lakes have been prepared. However; due to the fact that there are no adequate current measurements which put out the lakes' feeding with the surface flow, water balance has been calculated with M. Turc empirical method which gives more accurate results in Turkey's conditions. According to this, feeding and discharge of 40.167.992m³/year have been observed in the Gölbaşı Lake; feeding and discharge of 52.748.901m³/year have been observed in the Azaplı Lake; and feeding and discharge of 78.631.298m³/year have been observed in the İnekli Lake. Gölbaşı Lakes is under the threat of such factors as insensible irrigation and usage-intended water consumption which increasingly rises every year, drying activities for agricultural and residential purposes, decrease of the water sources which feed the system, and pollution. The transfer of a part of Aksu Creek's waters with gravitation from the north of the depression to the Gölbaşı Lake with a canal constitutes both the most economical and the most ecological solution for the elimination of the threats.

Key Words: Gölbaşı Depression, Gölbaşı Lakes, Hydrologic Balance, Sustainable Management.

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