



Assessment of environmental flows of Acheloos Delta

Anastasios Varveris (1), Panos Panagopoulos (1), Katerina Triantafillou (1), Aristotelis Tegos (2), Andreas Efstratiadis (2), Nikos Mamassis (2), and Demetris Koutsoyiannis (2)

(1) ECOS Consulting S.A, Athens, Greece, (2) Department of Water Resources and Environmental Engineering, School of Civil Engineering National Technical University of Athens, Greece

Acheloos, the river with the highest discharge among rivers of Greece, hosts three hydroelectric dams, while two more dams are under construction. In addition, there are plans for partial diversion of the river to a nearby water district, for irrigation and hydroelectric development. The Acheloos Delta is considered to be one of the most significant Mediterranean wetland habitats for its ecological importance, including fish fauna. In this case study we aim to redefine the ecological flow and propose an outflow management policy from the most downstream reservoir (Stratos), in order to preserve the ecosystem at the Acheloos Delta. A hydrological analysis is employed to reconstruct the natural discharge records along the river on a daily basis, accompanied by a detailed evaluation of alternative methodologies for the estimation of the ecological flow. Based on the results of the analyses, the corresponding water management policy is determined, taking into account the characteristics of the hydropower plan and the related hydraulic works.