

عنوان مقاله:

Potential assessment of water harvesting from local wastewater treatment plants (Case study: Rotating Biological Contactor, RBC)

محل انتشار:

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خلاصه مقاله:

In dry regions the reuse of treated wastewater plays a significant role in management, operation, scheduling and utilization of water resources. In design and operate of the sewage treatment plants, it is essential to measure and forecast the harvested water from wastewater plants and balance the groundwater depletion with these new resources. In this study, potential water harvested by local wastewater treatment plants, Rotating Biological Contactor (RBC) is determined and balanced with water requirement of plants. Based on the design basis of RBC, the production ratio of 80 % is used and the produced discharge ranges from 4 up to 8 liter per seconds, with 140000 cubic meters per year. To quantify the balancing between RBC produced water and irrigation water requirements, a plant-by-plant water requirement is calculated and the operation rule of groundwater wells in the case study are determined and proposed as an action plan to the operator of wells. Based on the results it was observed that the RBC can supply two times of pistachio orchard (23 hectares) irrigation requirements or 70 percent of the landscape and green space water needs in the case study.

کلمات کلیدی:

irrigation requirement, Rotating Biological Contactor (RBC), wastewater reuse, water harvesting

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