Investigation of Water Quality of Dez Dam from Interior, Reservoir and Exterior up to Regulatory Dam Using Indexs of NSFWQI and BCWQI

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Abstract

The Dez Dam reservoir with capacity of 3.3×10^9 m^3 water is one of the important dams of Iran. It has been constructed for multipurpose applications on the Dez River in the 25 km northeast of Dezful. Because of the role of this dam on the floods control of the Dez River, irrigation of large areas of Khuzestan plain lands and its importance in the production of electricity evaluation of water quality in this dam seems necessary. This study carried out for assessment of water quality in the interior and reservoir, also for evaluation effects of dam on the output water to its regulatory. The National Sanitation Foundation Water Quality Index (NSFWQI) and British Columbia Water Quality Index (BCWQI) characteristics of water studied. For these purpose, five sampling stations selected. Sampling done during the four seasons (once in each season; May, August, November and February) in 2012 year. The certain parameters including: nitrate, phosphate, BOD, TDS, pH, turbidity, fecal coliform, dissolved oxygen and temperature measured for each sample. Considering the classification system of water quality, our NSFWQI results are indicating that all stations at different seasons can classified in the second class as good. On the other hand, according to BCWQI results different stations classified in the range of first to third categories as suitable to excellent. These results expressed more validity of NSFWQI method on BCWQI.

Keywords: water quality, Dez dam, water quality indicators, NSFWQI, BCWQI.