The surface water of most Pakistani lakes is polluted due to the impact of anthropogenic activities. Rawal Lake located in Islamabad is one example of surface water bodies severely affected by the anthropogenic activities, land use mismanagement and climate change. Rawal Dam was constructed in 1960 on Korang River to meet the drinking water requirements of Rawalpindi City. At the time of its construction Rawal Lake was one of the cleanest drinking water lakes of the area but with the passage of time, its water quality has deteriorated drastically and presently this lake is at the verge of eutrophication. A Systematic and periodic monitoring was carried out for Rawal Lake water quality including chemical, biological, BOD, COD and toxic analysis by Water and Sanitation Agency, Rawalpindi, which has revealed that the water quality of Rawal Lake has reached alarming levels in terms of physical, chemical and bacteriological characteristics. Laboratory analysis, field surveys and satellite images have disclosed that this situation is mainly due to disposal of raw sewage from the unplanned human settlements in the catchment area of Rawal Lake, discharge of untreated domestic and agricultural waste into the Lake, Leisure activities in and around the Lake, and deforestation in the catchment area. This study has also pointed out that the storage capacity of Rawal Lake has reduced from 47500 acre feet to 34725 acre feet during last 50 years due to sediment load transport. This study has also proposed short, medium and long term measures for the conservation of Rawal Lake.