

## Monitoring and Management of Aquatic Macroinvertebrates for Determining the Level of Water Pollution Catchment Basin of Debed River, Armenia

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**Abstract :** Every year we do monitoring of water pollution of catchment basin of Debed River. Next, the Ministry of Nature Protection does modeling programme. Finally, we are managing the impact of water pollution in Debed river. Ecosystem technologies efficiency performance were estimated based on the physical, chemical, and microbiological analyses of water on regular base between 2012 to 2015. Algae community composition was determined to assess the ecological status of Debed river, while vegetation was determined to assess biodiversity. Last time, experts were speaking about global warming, which is having bad impact on the surface water, freshwater, etc. As, we know that global warming is caused by the current high levels of carbon dioxide in the water. Geochemical modelling is increasingly playing an important role in various areas of hydro sciences and earth sciences. Geochemical modelling of highly concentrated aqueous solutions represents an important topic in the study of many environments such as evaporation ponds, groundwater and soils in arid and semi-arid zones, coastal aquifers, etc. The sampling time is important for benthic macroinvertebrates, for that reason we have chosen in the spring (abundant flow of the river, the beginning of the vegetation season) and autumn (the flow of river is scarce). The macroinvertebrates are good indicator for a chronic pollution and aquatic ecosystems. Results of our earlier investigations in the Debed river reservoirs clearly show that management problem of ecosystem reservoirs is topical. Research results can be applied to studies of monitoring water quality in the rivers and allow for rate changes and to predict possible future changes in the nature of the lake.

**Keywords :** ecohydrological monitoring, flood risk management, global warming, aquatic macroinvertebrates

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