

MICROBIAL AND PHYSICO- CHEMICAL ASSESSMENT OF THE SACRED RIVER ALAKNANDA AT LOWER STRETCHES, UTTARAKHAND, INDIA

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Abstract : The Alaknanda River is one of the main rivers of Alaknanda sub- system which bubbles out from Alkapuri Glacier. Water quality of the sacred river Alaknanda was evaluated by microbiological and physico- chemical methods. The sampling was undertaken from various sites of lower stretches, including Rudraprayag (530 m a.s.l.), Srinagar (560 m a.s.l.) and Deoprayag upstream (457 m a.s.l.) on the river Alaknanda. A perusal of the data revealed that total viable count (CFU.ml⁻¹) was recorded minimum (25,850 CFU.ml⁻¹) in winter season and then it increased during summer (45,730 CFU.ml⁻¹) and attained peak (56,110 CFU.ml⁻¹) during monsoon season, when the maximum degradation in the water quality was observed. Due to the onset of autumn and winter seasons, the quality of water improved substantially and the density of the bacteria decreased (32,120 CFU.ml⁻¹) significantly during autumn from the monsoon season. It is revealed that the myriad of physico- chemical environmental variables and nutrient load from various sources in the habitat environment are responsible for density and diversity in the sacred river Alaknanda.

Keywords: Microbiological assessment, physico-chemical assessment, Alaknanda River, Water quality

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