

Abstract

The reality of water supplement and its use for hydroelectrical power claim for a demand of the real understanding of the population needs. The definition of environmental flow establishes as the amount of water that a community of organisms needs to be protected and this can be a relating of the conditions for water quality. The environmental flow in the rivers Pita and San Pedro has been evaluated under the term of polluted ecosystems, this way the environmental flow answers to a velocity of flow that is associated to a group or organisms together with dissolved oxygen in the water. The identified environmental flow is greater than the low water mark because of the needs of the communities to repopulate the bed of the river.

The importance of join the concepts of ecology and engineering are proved in the definition of the environmental flow as a response for the loss of the projects efficiency. The Pita and San Pedro rivers were not defined as ecosystems or plan units, facing this problem the proposal to join the concepts of conservation and preservation of the bed of the rivers. The water corps conditions deserve attention from politicians and technicians to incorporate the concept of environmental flow to the planning of shared trenches.

The applied methodologies have to be adapted to needs of the ecosystem with together to the demands of the population, in Ecuador the variability of weather offers different particular conditions which have awake some interest from international investigators in the area of hydrology. The LIFE methodology was used in this research, this methodology uses macroinvertebrates as indicators of water quality for the definition of environmental flow

Key Words: Environmental flow, Pita and San Pedro Rivers, Hydroecology, LIFE Methodology, macroinvertebrates.