

Accepted Manuscript

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PII: S0959-6526(17)31776-6

DOI: [10.1016/j.jclepro.2017.08.060](https://doi.org/10.1016/j.jclepro.2017.08.060)

Reference: JCLP 10318

To appear in: *Journal of Cleaner Production*

Received Date: 24 April 2017

Revised Date: 13 July 2017

Accepted Date: 7 August 2017

Please cite this article as: Pérez CJ, Vega-Rodríguez MA, Reder K, Flörke M, A multi-objective artificial bee colony-based optimization approach to design water quality monitoring networks in river basins, *Journal of Cleaner Production* (2017), doi: 10.1016/j.jclepro.2017.08.060.

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A multi-objective artificial bee colony-based optimization approach to design water quality monitoring networks in river basins

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Abstract

Water quality monitoring is important for the management of freshwater resources in river basins. Allocation of monitoring stations is the first step in the design of a water quality network. For this task, planning objectives are identified and a Multi-Objective Artificial Bee Colony-based optimization algorithm is **designed and implemented** in a Geographic Information System framework. Specifically, the number of stations is minimized in a range of values at the same time that the detection of lower compliance areas, the affected population and the relative importance of the river stretches are maximized. **The estimation of pollutant parameters such as Biochemical Oxygen Demand, Faecal Coliform Bacteria or To-**

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