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Ecological study of the DAYET Er-Roumi's ecosystem for sustainable management

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The ecosystem of Dayet Er-Roumi is the only continental, permanent and natural lake in the region of Khemisset. It's classified as a site of a biological and ecological interest. Nevertheless, this aquatic ecosystem is subjected to various sources of stress, caused by global changes, such as the increase in the temperature (climatic risks) and pollution (anthropic activities). This Daye knows several mortalities of different fish species (bluegill, largemouth bass) and at different stages, through the years (1997; 2001; 2007 and 2016). The purpose of this study is to determine the causes of pollution, fish mortality and to suggest strategies for sustainable management. Samples were collected, every month, for the Spatio-temporal monitoring. This objective is reached by the determination of physical and chemical parameters (Temperature, conductivity, pH, dissolved oxygen, alkalinity, sulphates, chlorides, orthophosphates, nitrates, and ammonium). The obtained results showed that the water of Dayet Er-Roumi is characterized by a high mineralization levels. Some parameters have largely

exceeded the values fixed by the European standards and those fixed by the Moroccan standards for the quality of piscicultural water. Moreover, these values are not in conformity with the standards defined by the World Health Organization (WHO), such as the chlorides and sulphates. The present study shows the existence of pollution related to the high concentrations of chemical elements. This leads to stress, metabolic imbalance in fish and also a decrease in the capacity of organisms to respond to environmental changes (which helps maintain homeostasis).



Biography

Sara Elghizi has completed her master degree in health and environment studies. Currently, she is pursuing her PhD degree on biology at the Laboratory of Environmental Engineering, Faculty of Sciences and Techniques, University of Sultan Moulay Slimane, BeniMellal, Morocco.

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