



Evaluation of Environmental Quality Productive Ecosystem Guayas (Ecuador).

Wilson Pozo (1), Francisco Pardo (2), Teófilo Sanfeliu (3), Gloria Carrera (4), Manuel Jordan (3), Jaume Bech (5), and Núria Roca (5)

(1) Facultad de Ciencias Naturales, Universidad de Guayaquil Av. Juan Tanca Marengo. Ecuador , (2) Department of Educational Sciences- Castellón. Universidad Cardenal Herrera. C/ Grecia (12006) Castellón de la Plana. Spain, (3) Department of Agrochemistry and Environment (GEA-UMH). University Miguel Hernández- Avda. de la Universidad. Elche, Spain, (4) Instituto de Investigaciones Agropecuarias, INIAP, Estación Experimental Cesar Apuero, Litoral Sur (Ecuador), (5) University of Barcelona, Laboratory of Soil Science, Faculty of Biology, Plant Biology, Barcelona, Spain

Natural resources are deteriorating very rapidly in the Gulf of Guayaquil and the area of influence in the Guayas Basin due to human activity. Specific problems are generated by the mismanagement of the aquaculture industry affecting the traditional agricultural sectors: rice, banana, sugarcane, cocoa, coffee, and soya also studied, and by human and industrial settlements. The development of industrial activities such as aquaculture (shrimp building for shrimp farming in ponds) and agriculture, have increasingly contributed to the generation of waste, degrading and potentially toxic elements in high concentrations, which can have adverse effects on organisms in the ecosystems, in the health of the population and damage the ecological and environmental balance. The productive Guayas ecosystem, consists of three interrelated ecosystems, the Gulf of Guayaquil, the Guayas River estuary and the Guayas Basin buffer. The objective of this study was to evaluate the environmental quality of the productive Guayas ecosystem (Ecuador), through operational and specific objectives: 1) Draw up the transition coastal zone in the Gulf of Guayaquil, 2) Set temporal spatial variability of soil salinity in wetlands rice, Lower Guayas Basin, 3) evaluate the heavy metals in wetland rice in the Lower Basin of Guayas. The physical and chemical parameters of the soils have been studied. These are indicators of environmental quality. The multivariate statistical method showed the relations of similarities and dissimilarities between variables and parameter studies as stable. Moreover, the boundaries of coastal transition areas, temporal spatial variability of soil salinity and heavy metals in rice cultivation in the Lower Basin of Guayas were researched. The sequential studies included and discussed represent a broad framework of fundamental issues that has been valued as a basic component of the productive Guayas ecosystem. They are determinants of the environmental quality of the Guayas productive ecosystem.

Keyword: Evaluation, Environmental Quality, Productive Ecosystem