

Title: USE OF BIOLOGICAL INDICATOR IN THE WATER QUALITY EVALUATION OF GUAMA RIVER

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ABSTRACT

Belém, of Pará has a hight hydrographic system, in this way is possible the entrance of tides come from Guajará's bay and of Guamá river. These are important aquatics ecosystems to the region. The purpose of these research is to evaluate the quality of water from Guajará's bay and Guamá river, through of mycrobilogics and biomarkers analysis. During the research were made four collects in four period: intermediate rainy( December), rainy( March), intermediate dry (June) and dry (September). Sample 100 ml of surface-water were collected in four places in Guajará's bay ( Arapari's harbor, Ver-O-Peso, Una's River and Barra's Island) and three places in Guamá's river ( Linhão, Tucunduba river, and Palha's harbor). The mycrobilogic analysis was done accordance with the description of 20 edition of standard methods for the examination of water and wastewater (APHA, 1998). To the analysis of biomarkers was captured *Brachyplatystoma rousseauxii* specie. After of collect we did analysis histological analysis of livers. The result of the microbiological analysis showed that in six places of the collect the concentration of total coliforms and termotolerants were higher during the intermediate rainy period. During the four period of collect, Barra's island showed a less concentration of these domestic polution. In accordance with law CONAMA 357/2005, the water of Guajará's bay and Guamá river belong to class two, but they have more total colifoms and termotolerants than is determinate to this water's class, however the in Barra's island was the exception. The microbiological analysis showed a high fecal contamination in the Guajará's bay and Guamá river. The result of analysis in the livers of *Brachyplatystoma rousseauxii* specie showed variations in hepatic tissue of some this fishes collected in places where the effluents are threw, we met 24 fishes with alteration. The Una's river had more fishes with alteration than others. The result of this studies showed that the environment of Guajará's bay and the Guamá river are in a initial degradation, because a lot of domestics and industrial effluents are throw in this waters. It affects the balance of aquatics community.

Key-words: Quality of water, coliforms, biomarkers, Guajará's bay, Guamá river, period.