

Title: **Water quality in a tropical hiperhaline ecosystem (Pisa Sal river, Galinhos, Rio Grande do Norte, Brazil).**

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ABSTRACT

The Northeast coast of Rio Grande do Norte State are under anthropic stress (mainly oil exploration, salt production and marine shrimp culture expansion etc). The present study was conducted in the Pisa Sal River estuary, which belongs to Galinhos-Guamaré ecosystem, and provides the main water supply and drainage to the Camarus shrimp culture farm. The present research was carried out to assess the influence of these activities on phytoplankton composition and biomass along with the abiotic parameters as environmental quality indicators. Sampling of plankton and hydrology were made in three fixed stations during the dry (September, November/02, January, May, July/03) and rainy (March/03) seasons, at the diurnal low and high tides, in spring tide. The microphytoplankton was collected with a net 38 micrometers of mesh size. It was identified 210 phytoplankton *taxa*, outranking the diatoms *Thalassiosira subtilis*, *Thalassionema nitzschioides*, *Asterionellopsis glacialis* and *Chaetoceros danicus* followed by dinoflagellates, blue-greens algae, and Euglenophyceae. The flora was composed by true marine planktonic species (neritic and oceanic) and tytoplanktonics, showing the direct influence of the coastal marine water. Some freshwater species were also registered due the rivers influence. Species diversity and evenness were high showing a balanced community. The analyzed results show that the Pisa Sal River estuary is hyperhaline, with a strong marine influence. Although the dissolved oxygen is high the environment is eutrophic, towards a hypereutrophic tendency condition during the rainy season, presenting already a poor condition.

Keywords: Pisa Sal river estuary, hyperhaline, phytoplankton, taxonomy, biomass, eutrophic.