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## TROPIC STATE INDEX IN THE PRESIDENTE PRUDENTE BALNEARY

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### RESUMO

The trophic status index is a very important property in water resources, as it directly reflects on water quality. By the way, it influences in the ecological functioning of reservoirs, lakes and rivers<sup>[1]</sup>. The nutrients concentration and the availability of light allows a view the stimulants of the development of algae biomass, usually by chlorophyll-a, which contributes to the increase of this condition in aquifers<sup>[2]</sup>. Eutrophication can damage aquatic ecosystems, and its control implies the use of different management and recovery techniques that must be applied both to the entire hydrographic basin and to the reservoir to be recovered. Normally, the recovery of the aquatic environment is slow, requiring continuous monitoring of the environment, which leads to high costs<sup>[3]</sup>. The Trophic State Index classifies water bodies in different eutrophic conditions, evaluating the quality of the water in terms of nutrient enrichment. This provides subsidies for the formulation of handle plans and management of aquatic ecosystems, through strategies aimed at the sustainability of water resources<sup>[4]</sup>. Therefore, the present study was focused on the trophic status index of the Amizade Balneary in Presidente Prudente-SP. Four representative samples were collected to study the eutrophic conditions in the balneary. The spectrophotometric technique reduction with ascorbic acid was used to quantify phosphorus and the spectrophotometric technique for extracting pigments with organic solvent by thermal shock for chlorophyll-a, as recommended by the Standard Methods for the examination Water and Wastewater<sup>[5]</sup> and Wetzel & Likens<sup>[6]</sup>, respectively. The result presented in the TSI tables was the simple arithmetic mean of the indices related to total phosphorus and chlorophyll-a, according to the equation available by the Companhia Ambiental do Estado de São Paulo (CETESB). In the classification of the trophic state for rivers according to the Modified Carlson Index, the averages between the concentration of phosphorus and the concentration of chlorophyll-a resulted in the category of trophic state, ultraoligotrophic, for presenting weighting 33, being allowed for this category TSI  $\leq 47$ . It

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concluded, the Amizade Balneary was considered a clean water body, with very low productivity and insignificant concentrations of nutrients that do not cause damage to water uses in relation to the eutrophic condition.

**PALAVRAS-CHAVE:** Grau de trofia, Monitoramento de ecossistemas aquáticos, Controle de nutrientes, Qualidade da água