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**RIVER BASIN QUALITY INDEX – TOOL TO IMPROVE MANAGEMENT OF WATER RESOURCES IN MIRANDA RIVER BASIN, SOUTH PANTANAL – BRAZIL**

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The reality of water resources management in Brazil is focused on water quantity and quality, concerning essentially human uses, forgetting the necessities of the aquatic ecosystems to carry on the ecological process, and therefore threaten the sustainability of the environmental services. The consequence is the shortages and quality degradation. An assessment taking into consideration several indicators of the characteristics and impacts of land use on hydro-ecological processes is a better approach for water resources management than the approach presently adopted by the Brazilian Environment National Council (CONAMA) Resolution, based only on water quality aspects. The River Basin Quality Index (RBQI) is the proposed improvement index that considers simultaneously several indexes related on land uses and occupation, level of deforestation, potential of erosion, sedimentation, contamination by heavy metals, pesticides, domestic, industrial and agro-industrial effluents, bioindicators, hydrological alteration, trophic state etc. By means of Fuzzy Logic analysis all the indexes were equally computed, producing a more completed single index for the Miranda River Basin, a low-medium impact environment that contributes to Pantanal wetland. It still needs to be validated in a participative way with the local community of the Basin Committee. However it already indicates to be an interesting tool for management, zoning and planning of a river basin area regarding its carrying capacity and the associated water resources conservation. The main purpose is safeguarding the more exigent uses, as the regional traditional uses (fishery, cattle ranching and tourism), which depend on the ecosystem health as well as sustainable production and consumption.