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## Indications for forest restoration of the Turquino interpretive trail, Alto del Naranjo – La Platica sector, Cuba

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### Abstract

The research was carried out in the protected area “Parque Nacional Turquino”, in the “Alto del Naranjo - La Platica” sector of the Turquino interpretive trail. In this area, the inadequate management of the ecosystem associated with the interpretive trail induces high levels of environmental deterioration in the montane rainforest. For the evaluation of the ecosystem and selection of actions, a floristic study of its structure and diversity was carried out, together with an evaluation of the state of conservation of the vegetation. The exploration was initially developed between the months of October 2014 and October 2015, the final data were taken between the months of October 2022 and September 2023. For data collection, a general inventory with systematic sampling was carried out, and 25 plots were collected. These plots were representative of species diversity, recording 3,123 individuals of 77 taxa belonging to 50 families. Spatial analyses were performed with QGIG software tools Version 3.34.0. The composition of the flora and the structure of the vegetation are due to secondary formations with ecotonal characteristics, superimposed by historical management practices lacking adequate regulation, which have served to deteriorate the forest. The state of conservation of the vegetation of the ecosystem associated with the trail is poor, based on the high degree of anthropogenic intervention, the unfavourable appearance of the vegetation, the low abundance of characteristic species, the disappearance of epiphytic sinusia and the discrete tenors of the leaf litter layer; with accentuated fragmentation and evident progressive deforestation. The indications for the forest restoration of the Turquino interpretive trail, Alto del Naranjo - La Platica sector, can be interpreted as an environmental alternative of ecological and socioeconomic management, which begins with the design of actions for sustainable development in the La Platica conservation zone based on forest intervention.

**Keywords:** Ecotourism, forest restoration, forestry, GIS, protected areas