Book of Abstracts

7ᵗʰ Conference of the Ecosystem Services partnership
Local action for the common good
8-12 September 2014, Costa Rica

ID: 505
Type: Poster

49. Rural landscapes and ES in Tropical countries (OPEN)

Indicators of forest patches conservation in Atlantic Forest, Sete Lagoas, Minas Gerais, Brazil.

Presenting author: Thomas Correa e Castro da Costa
Other authors: Elaine Cristina Cardoso Fidalgo, Juliana Leite Ribeiro, Marielle Aparecida de Moura Raid, Gabriel Avelar Miranda, Fabrício Nascimento Ferreira
Institution: Embrapa Solos
Contact: elaine.fidalgo

It is necessary to develop indicators to assess the state of conservation of the forest patches in fragmented landscapes. Furthermore it is necessary to measure the contribution of the patches for ecosystems services (ES) supplying, and to value these services to support programs for ecosystem services payment. However, how can we evaluate conservation state of forest patches in order to compare it to a hypothetical situation of well-preserved vegetation, without human disturbance or environmental constraints, ie whose attributes have their maximum expression? It is possible to measure some ecological processes, nutrient cycling, parameters of canopy (dendrometric, biophysical, and diversity), edaphic, topographic and hydrological conditions, and landscape attributes, and associate them to the conservation conditions. Where well-preserved forest remnants are rare, and we do not know the attributes of original well-preserved forest, it is possible to compare patches assessing the variability of their attributes. The study area, located in Sete Lagoas, Minas Gerais State, Brazil, contains tipology of Atlantic Forest, a biome rather fragmented and altered by the historical of land use, by the successive economic cycles and by the high rate of urban occupation. The contribution of the forest patches of this region to the supply of ES was studied based on the hypothesis that forest patches in better condition of conservation and with the greatest potential for providing ES have higher leaf area index, higher basal area, higher density of trees, greater height canopy, greater diversity and lower dominance, higher rates of litter decomposition, greater microbial activity, higher amount of soil nutrients, greater extension, more compact shape, shorter distance of its patches neighbors, and they are in areas of greatest depth of the A soil horizon and lower slope. The limits for favorable and unfavorable conditions for ES supply can be obtained to each group of indicators. Considering the above, the aim of this work is to explore relationship of relevance and to propose the valuation of the state of forest patches and the ES supply. The

Book of Abstracts

7th Conference of the Ecosystem Services partnership
Local action for the common good
8-12 September 2014, Costa Rica

methodology was developed considering 12 sites in eight forest patches. The results showed patches in different conditions of conservation, considering indicators of canopy, diversity, soil, topography, landscape and provide information that can support conservation strategies to enhance fragmented landscapes.