SER 2017
Iguassu Brazil

Linking Science and Practice for a Better World

VII World Conference on Ecological Restoration

V Congreso Iberoamericano y del Caribe de Restauración Ecológica

I Conferência Brasileira de Restauração Ecológica

August 27 to September 1, 2017
Recanto Cataratas Thermas Resort & Convention
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BOOK OF ABSTRACTS

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T01-P03 - Conservation strategies in the Bogotá botanical garden Jose Celestino Mutis

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The Bogotá botanical garden mission is to contribute to: the flora conservation in Bogotá and its influence area, the environmental sustainability in the territory and the genetic patrimony use though the scientific research, technological exchange and the environmental education. A over 150 people team, comprised of professionals, technicians and trained gardeners is conducting research projects, within the framework of 12 interrelated investigation lines, congruent with the conservation objectives of the garden. Those investigation lines embrace: 1. Ecological characterization and ecosystem services assessment of priority areas. 2. Design and execution of ecological restoration models. 3. Adaptive management of areas with ecological restoration research projects. 4. Development of research in biotic and abiotic interactions on the vegetation coverage in Bogotá and its green areas. 5. Promotion of the progress in the high Andean ecosystems research. 6. Dissemination of the knowledge concerning to the conservation and sustainable use of the biodiversity in academic environments. 7. Bogota Flora research as a strategy for the adaptation against the climate change. 8. Enrichment of the live collection of the Bogotá Botanical Garden. 9. Increase the reference collections in the Bogotá Botanical Garden. 10. Integral characterization of strategic species for the adaptation to climate change. 11. Conservation, restoration and use of those species for its introduction in the urban vegetation coverage. 12. Determine the propagation protocols for the strategic species in conservation. Finally, the generated knowledge is articulated by processes of social appropriation and application to preserve these resources and to enhance the citizen's life quality.

T01-P04 - Forest Restoration and Environmental Regularization in Agrarian Reform Settlements in Brazil: how to make this possible?

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Brazil has 88.8 million hectares of settlements for the agrarian reform. In order to comply with the Forestry Law, the government, in partnership with settled farmers, will have to restore areas that have been irregularly deforested in these settlements. However, besides not having an estimate of the size of the total area to be restored, many problems challenge the accomplishment of this task, such as the obstacles of public bureaucracy and the inefficiency of technical assistance. In order to quantify the amount of areas of natural vegetation that need to be restored and to analyze the best strategies to enable their restoration, we studied the settlements located in the sub-basin of the Alto Xingu, in the state of Mato Grosso. The results showed that the changes in the Forestry Law in 2012 practically exempted the need for restoration of 81,457 hectares of legal reserve that existed in the 37 settlements of the region. Nevertheless, there are still around 3,270 hectares within permanent preservation areas that need to be recovered. This study identified local initiatives that have been able to organize the necessary conditions for the processes of forest restoration in the region. The proposed solution for promoting the regularization of the settlements is the integration of the government to these initiatives, by qualifying the local socio-technical networks and the associations of settlers as social organizations and by establishing contracts of management. These conditions may promote the generation of employment and income to the settled families.

T01-P05 - Native ecological restoration techniques employed in Brazil

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Recently, the Brazilian government committed to restore and reforest 12 million hectares of forests until 2030 (Nationally Determined Contribution - NDC). Seeking to strategically subsidize large-scale restoration policies for Brazil, IPEA and TNC, with the support of EMBRAPA, the Brazilian Ministry of the Environment - MMA and the Deutsche Gesellschaft für Internationale Zusammenarbeit - GIZ, developed a study to characterize the main ecological restoration techniques applied in distinct biomes of Brazil. The methodology consisted in identifying widely used materials and management activities. To accomplish that, consultations were made with project executives, academic experts and public managers from various regions of Brazil. We received

94 responses that contributed to the analyzes performed. The result of this evaluation allowed the description of techniques, for each Brazilian biome, in terms of the following information: main inputs and activities employed; usual amount of inputs and labor (man-hours) employed; steps in which each input and activity is used (implementation phase and/or maintenance phase) and a general outline of each technique. Our results show large variability in the characteristics of intensive techniques, well established in the technical and scientific literature (e.g., dense tree planting of several species through seedling), as well as in techniques based on natural regeneration. The expressive number of projects reporting use of the latter (both with and without management) highlights the search for efficient results in ecological terms at lower cost and with easier implementation, focusing on natural processes and mechanisms of ecosystems recovery.

T01-P06 - Laws and forest cover changes in a rural/urban watershed in Brazil

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Forest restoration in Brazil is regulated by many laws, which have been changed in the last few decades. In this study, we aimed to evaluate changes in the forest cover in a 873 ha watershed, through passive and active restoration (from 2006 to 2014), in compliance with these laws. This study area can be considered as inserted in a rural/urban context. For this, we have used free geotechnologies (QGis and Google Earth). From 2006 to 2014, there was an increase of 85,74 ha in forest cover, most of it as result of passive restoration. We also made a simulation of legal compliance, considering three different scenarios. Considering an ancient law (from 1965), there would be 46,55 ha to be restored. However, according to a new forest law (from 2012), the requirement would be of 8,31 ha (if all the rural properties in the watershed were considered small), or of 40,86 ha (if the properties were of larger sizes). This law has different requirements for rural properties of different sizes. These results show that legal compliance have been positive in encouraging forest restoration in rural and urban landscapes. However, recent changes in the forest laws can cause a drastic reduction in forest cover in most landscapes. As already shown by many studies, this can lead to a decrease in the quality of these landscapes, with less conservation in natural and agro ecosystems, and reductions in the capacity of these ecosystems to provide environmental services.

T01-P07 - Public policies and ecological restoration in Brazil: process of elaboration of the Environmental Compliance Programs in the states of Acre, Rondônia and Bahia

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In 2012, the promulgation of changes in the Forest Law brought challenges to the elaboration and implementation of its new instruments, mainly the Environmental Rural Registration and the Environmental Compliance Programs (CAR and PRA, acronyms in Portuguese). The elaboration of the PRA is in charge of state governments, in Acre, Rondônia and Bahia, the development of PRA was supported by ESALQ / USP researchers based on three main themes: (1) approaches for restoration implementation and ecological parameters for its monitoring; (2) administrative mechanisms to support program management by state agencies; and (3) the construction of a legal instrument to regulate the program. This process was leaded by each state government, together with NGOs and private companies. An important aspect of this process in these three states is that it was an open process, on which different decision-makers and stakeholders involved in the 'restoration supply chain' at each state had to be part of the PRA elaboration process to foster the creation of an implementable policy. This evolvement is crucial to the efficacy of the policy, since the PRA is self-declaratory and demands a long term monitoring and adaptive management. In open meetings, these different stakeholders discussed and recommended the most appropriate restoration approach for each biome, environmental characteristics and socioeconomic situation, based on their previous knowledge and scientific data. Were also discussed with the state governments, the ecological parameters that indicates the restored area is following an acceptable trajectory and has a real chance to evolve to a self-sustaining ecosystem.