natural areas. Adopting the urban silviculture concept will support innovative research and management strategies capable of addressing the impacts of urban stressors and climate change, and therefore sustain the benefits of urban forests over time.

Assessing the performance of least cost path modelling in defining ecological corridors for birds in urban landscapes

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Although connectivity is fundamental for species conservation, this topic in urban landscapes remains understudied. In order to fill this gap, this project aims to verify the accuracy of least-cost path (LCP) modeling in finding the best routes for birds between urban parks. We also intend to evaluate how different aspects of urban landscapes (such as tree density and exposure to noise) influence the taxonomic and functional characteristics of bird communities inhabiting streets and urban parks of a Neotropical city (Bauru, São Paulo, Brazil). First, we produced a land use/land cover map to characterize the urban landscape structure. The connectivity was assessed by simulating least-cost paths between 10 urban parks using the LSCorridors software. With the simulation results, we selected 10 streets considered as preferential routes and 10 streets not crossed by least cost paths. Currently we are performing bird surveys using the *point count* method in these three contexts (30 sampling points). We expect that streets nearby or considered as preferential routes will present higher species richness, number of individuals, functional richness and evenness. We also expect that urban parks and streets with higher tree density and lower exposure to noise will positively influence the taxonomic and functional characteristics of these urban bird communities. With these results, it will be possible to suggest guidelines for urban planning in order to create multifunctional urban ecological corridors and management strategies to assist in the conservation of bird species inhabiting Neotropical cities.

Conservation of natural ecosystems within urban ecosystems in Eastern Amazonia

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The Macrodrainage project in Belém, Capital of Pará, was a public policy strategy that aggregated value and quality of life to the urban population, principally in low-lying areas and peripheral neighborhoods at the end of the 1990's. Projects such as "Ação Metrópole" (Metropolitan Action) amplified the Trabalhadores Highway by removing vegetation from a nearby park. The objective of this work was to evaluate loss of tree cover in the area of the park called "Gunnar Vingren" due to these projects by quantifying the percentage of the natural ecosystem converted to urban area. A forestry inventory was done of trees with CAB≥15cm in a 44.06 ha area, and geoprocessing and GIS methods were applied to evaluate vegetation removal. The results show that there are stands of pioneer species in large openings with a predominance of formations of macega, an open field transition area with aquatic macrophytes (17.94%). Secondary vegetation typical of shrubby secondary forest was present in low-statured (6.03%) and high-statured (2.95%) formations. High-statured forest was present in the várzea (river margin) (65.36%) and terra firme (upland) (2.89%) areas. Of the 3,160 stems inventoried there were 21 families, 42 genera and 48 species. The "Ação Metrópole" project caused significant disappearance of terra firme forest and exposed the flora and fauna of the northeastern portion of the park to human pressure. There is a great necessity to conserve this ecosystem and its water springs as a strategy of environmental compensation for ecosystem services for the population of Belém.

Developing and evaluating the Korean Green Gym for implementing citizen-participatory forest- management activities

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The present study proposed an operational model for a citizen-participatory forest-management activity based on forest welfare to encourage active public participation in forest management. The Green Gym initiative introduced in England is a representative regional forest-improvement activity. This initiative is concerned not only with environmental conservation but also with individuals' health statuses. Therefore, the present study involved the development and evaluation of model citizen-participatory forest-management activities based on forest welfare by referring the Green Gym. In the field experiment, the model Green Gym program involved removing vines, pruning, stacking cut branches following pruning, planting containerized seedlings, and cleaning the forest (picking up trash). The Ovako Work Posture Analysis System was used to investigate any potential harm to the musculoskeletal system based on the forest management activity performed. Workload index was analyzed using the percentage of heart rate reserve to determine the work level associated with each activity. In addition, the psychological states of the participants before and after performing forest management activities were evaluated using the following tests: Positive and Negative Affect Schedule, Rosenberg Self-Esteem Scale, WHO Quality of Life, and Perceived Restorativeness Scale. Thus, we found that forest management activities were light work-level activities, which did not burden the musculoskeletal system and had positive physical and mental effects. The application of the proposed model can help in providing forest welfare service with personal and social benefits concerning the forests.

Studies on the relationship between primary production of *Pinus densiflora* forest and climate change factors in Mt. Namsan, Seoul Metropolitan City

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To find out the impact of climate change on the carbon budget and cycle, we monitored standing biomass, litter production, net primary production and soil respiration for 10 years in *Pinus* densiflora forest of Namsan Mountain, South Korea's representative urban forest ecosystem. Also regression analysis was performed to find correlation between its ecological change phase and climate change components (average annual temperature, average monthly amounts of precipitation, tree days, average monthly temperature from March to May (in the beginning period of growing season), average monthly amounts of precipitation from March to May (in the beginning period of growing season), number of typhoons). Standing biomass was related positively with average annual temperature and frequency of monsoon typhoons. Litter production was related negatively with frequency of monsoon typhoons. Net primary production was related positively with average monthly amounts of precipitation at the beginning period of growth season, but average annual temperature and number of monsoon