

landscapes become more heterogeneous in land development and conservation costs, the inclusion of econometric models in the selection strategy becomes necessary for optimal reserve selection.

Keywords: Reserves, Biodiversity, Anthropogenic change, Landscape, Development

317. Harvesting forest residues for bioenergy influences amphibian and herbaceous plant community assemblages in northern hardwood forests

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Poster #12 - Monday (2011-04-04): 17:30 - 19:00 - Plaza Foyer

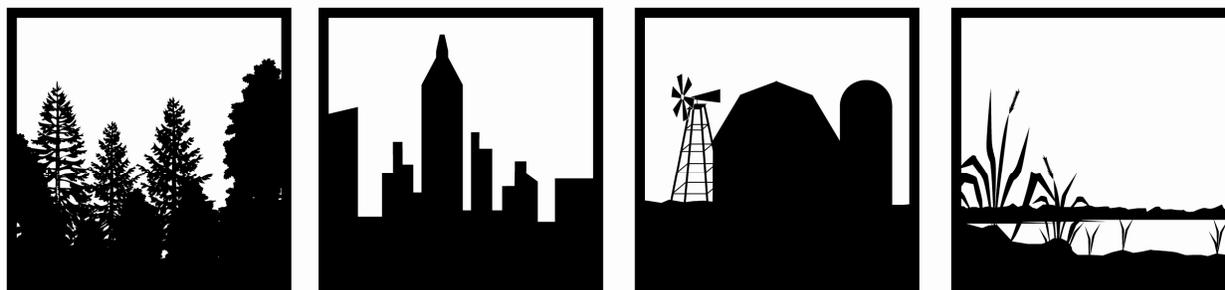
Abstract: The most readily available source of woody biomass is through whole-tree harvesting that removes what has been traditionally left as slash [i.e., fine woody debris (FWD)]. While FWD has the potential to be used as energy feedstock, a critical element of managing for biodiversity is maintaining woody debris on the forest floor. Woody biomass is important for providing seed beds, and creating habitat structure for wildlife. Loss of FWD may result in a change in species that may have cascading effects across trophic levels; and cause shifts in the size, distribution, and vertical zonation of vegetation over large areas. Land managers are concerned with removing FWD in northern hardwood systems because of the existing lack of large woody debris and understory structural diversity. We examined the impact of FWD removal on amphibian and herbaceous plants on rich soils under regenerating northern hardwood stands in Wisconsin. During winter 2010, we manipulated the amount of FWD removed after timber harvest (0, 65 and 100%) at 9 sites within the Chequamegon-Nicolet National Forest to compare the abundance and diversity of plants and amphibians across treatments. Preliminary analysis showed the abundance of Wood Frog and Red-backed salamander declined in all treatments after FWD removal compared to pre-treatment data. American Toad and Spring Peeper declined except in 100% tipwood removal where the number of individuals increased. In contrast, the community of herbaceous plant species remained consistent across years; *Viola* spp., Pennsylvania sedge, sweet cicely, wild lily-of-the-valley, and big-leaf aster were the most common summer plants.

318. Relief as spatial drivers for savanna distribution in the Campos Gerais region, Paran

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Abstract: The Campos Gerais region is located in the state of Paraná, Brazil, and marks the austral limit of the savanna (cerrado) biome. The regional plant cover shows similarities to pastures in western São Paulo state and in Brazil's Central Plateau. In the Campos Gerais, savanna patches now occur as small scattered disjunct habitat islands and enclaves, mostly on private farms, where they are under strong pressure from agricultural activities. In spite of the importance of the region for savanna conservation, few studies have focused on understanding the factors that influence or maintain its distribution in the regional landscape. The objective of this study was to identify the relative contribution of climate and relief variables to explain the present savanna distribution in Paraná. Savanna habitat patches were mapped in the field, and vegetation types were characterized using the Rapid Ecological Assessment and Path methods. In analyzing climate data related to savanna occurrence in the Campos Gerais, we observed that temperature and evapotranspiration did not act as environmental filters. Relief orientation (i.e., sun exposure) was an important factor, and the fragments were preferentially oriented toward the east (azimuth between -70 and 20 degrees).



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