Abstract

The purpose of this study was to investigate the use of green infrastructure concepts, regarded as state-of-the-art in landscape ecological planning – as an instrument of sustainable urban planning. The green infrastructure theory supports the argument that natural systems conservation, restoration and maintenance not only protect the ecological values and functions, but also promote various economic, social and cultural benefits. The study first analyzes the evolution of environmental philosophy and its incorporation into landscape planning, from 1850 until nowadays, reaching green infrastructure. Then it goes on to address the issue of green infrastructure, scrutinizing its principles, functions, benefits and applications. Finally, concepts and methods in developing a Basic Land Use Plan for a specific area are applied to the city of Nova Friburgo (RJ): Córrego D'Antas Environmental Basin. The location choice was motivated by the tragic consequences of heavy rains in January 2011 in the mountainous region of the state of Rio de Janeiro, which represented an important example of how natural disasters take greater proportions due to lack of planning and human settlement in inappropriate areas susceptible to risks. The Córrego D'Antas Environmental Basin case study intends to demonstrate the importance of understanding ecological landscape processes while planning human occupancy. It assumes that once the natural systems behavior is understood, planners can direct settlement to safer areas. The planned green infrastructure network for the Córrego D'Antas Environmental Basin begins with mapping the natural biophysical support, identifying important areas which support the functioning of landscape’s natural processes, classified as preservation priority and as basic elements of the network. In parallel, urban settlement is managed to defined areas suitable for occupancy. Thus, the study presents a methodology for landscape analysis in the context of urban settlement planning based on green infrastructure concepts, as a final result, it yields a Basic Occupancy Plan for the Córrego D'Antas Environmental Basin.
Keywords

Green infrastructure; Urban and environmental planning; Sustainable urban planning; Landscape ecology.