The effectiveness of ecological restoration actions to conserve biodiversity depends on local and landscape constraints. Despite an extensive literature on local constraints, few studies consider the landscape context when planning restoration actions. We propose a multi-scale framework based on landscape cover and connectivity to infer landscape resilience and to set priority areas for restoration. We present a case study of the Brazilian Atlantic Forest (~150 million hectares). Landscapes with high restoration effectiveness represent only 10% of the Atlantic Forest, but contain approximately 15 million hectares of non-forest areas that should be the focus of restoration actions. The proposed methodology represents a practical way to plan restoration actions and optimize efforts by focusing on landscapes that would result in greater benefits to biodiversity conservation.