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IMPACTS OF HUMAN ACTIONS ON VEGETATION CONNECTIVITY: ASSESSMENT, MITIGATION AND MONITORING

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Abstract

Connectivity is essential to ensure vegetation conservation and adaptation to climate change. Human actions produce a progressive fragmentation of the vegetation, affecting its quality and persistence. Adequate consideration of this effect in environmental assessment is necessary, but is often lacking; project impacts are frequently considered negligible, despite being cumulative. The aim of this review is to analyse the literature on fragmentation and loss of ecological connectivity in vegetation, to identify the main impacts and how to mitigate them. A novelty is the linking of these impacts to the human actions that generate them, which facilitates their consideration in the environmental assessment. Vegetation clearing results in fragmentation, separating patches whose persistence will depend on their size, shape or isolation. Reduced flow also causes loss of connectivity between rivers and floodplains. Fragmentation and induced connectivity favour the entry of invasive plants. These effects become more significant when threatened species or habitats are affected. Mitigation measures need to be implemented to avoid, minimise, restore and compensate for these impacts; ecological corridors can combine all these types of measures. Monitoring is essential to assess the dynamics of restored areas, and to detect changes in vegetation or the entry of invasive species. Only proper consideration of these impacts in decision-making, and appropriate mitigation, can control the negative cumulative effects that are currently occurring.

Keywords: ecological corridors, environmental impact assessment, vegetation connectivity, vegetation fragmentation, vegetation patches

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