

Effectiveness of corridors relative to enlargement of habitat patches

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The establishment of biological corridors between two otherwise isolated habitat patches is a common yet contentious strategy for conserving populations in fragmented landscapes. We compared the effectiveness of corridors with the effectiveness of an alternate conservation strategy, the enlargement of existing habitat patches. We used a spatially explicit population model that simulated population size in two kinds of patches. One patch had a corridor that connected it to a larger "source" patch and the other patch was unconnected and enlarged at the periphery by an area the same size as the corridor. Patch isolation, corridor width, patch size, and the probability that individuals would cross the border from habitat to matrix were varied independently. In general, population size was greater in enlarged patches than in connected patches when patches were relatively large and isolated. Corridor width and the probability of crossing the border from habitat to matrix did not affect the r