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Effect of cost of movement between patches on survival of competing populations in a multiple patch environment

A key assumption of the ideal free distribution (IFD) is that there are no costs in moving between habitat patches. However, because many populations exhibit more or less continuous population movement between patches, and travelling cost is a frequent factor, it is important to determine the effects of costs on expected population movement patterns and spatial distributions. We consider a food chain in which one species moves between patches, with energy cost or mortality risk in movement and investigate whether there is an ESS.

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