

## **Viability of dispersing animal populations in fragmented habitats**

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Many animals depend on habitats that provide adequate conditions for foraging and reproduction. Resulting from human influence, however, patches of suitable habitat often become separated by long distances. To understand how and when individuals leave a patch and disperse to other ones is of crucial importance for the conservation of threatened species. One approach to gain insight into dispersal patterns is to construct models of animal populations that are living in fragmented habitats and are characterized by demographic traits. In particular, for a population that is at ecological equilibrium, we can analyze the fate of an individual with a different dispersal rate appearing in the population: will its offspring grow in population size and eventually replace the formerly resident type? Such investigations can help us to understand and predict the evolution of dispersal rates in different animal species. An important application of these analyses is the design of protected corridors constructed between nature reserves.