

1 **Appendix A.** Definitions of frequently used symbols.

Symbol	Definition
q_{jk}	Probability of patch j in state k , where $k = 0$ (uninhabitable), 1 (habitable and unoccupied) or 2 (habitable and occupied)
C_i	Colonization rate of patch i
E_i	Extinction rate of patch i
d_{ij}	Distance between patch i and j
A_i	Area of patch i
c	Colonization rate constant
e	Extinction rate constant
$1/\alpha$	Mean dispersal distance ; where $\alpha =$ dispersal range of species
a	Landscape-level growth rate
s	Long-term expected amount of suitable habitat in landscape
$\lambda_i; \lambda$	Destruction rate of patch i ; destruction rate for landscape
$\beta_i; \beta$	Creation rate of patch i ; creation rate for landscape
τ	Long-term expected life span of habitable patches ($1/\beta$)
λ_M	Metapopulation capacity following Ovaskainen and Hanski (2000)
$\lambda_{self}; \lambda_L; \lambda_{L,self}$	Metapopulation capacity adjusted for self-colonization in patches; for local population dynamics; and for both
$\hat{\delta}$	Extinction Threshold
R_0	Landscape-level effective reproductive number
Q_A^*	Expected landscape occupancy

RS; PC; PD	Resource structure, Patch connectivity and Patch dynamics respectively
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