Model parameter settings of the specific use case

Table 1: Landscape parameters

Parameter	Description	Values
Landscape file	Filename(s) of the landscape map(s)	LCM_Scotland_2015_1000.asc
Resolution	Resolution in meters	1000
HabPercent	Whether habitat types/codes or habitat cover/quality	FALSE
NHabitats	Number of different habitat codes	10
K_or_DensDep	Demographic density dependence	0, 0, 0, 0, 0, 0, 0.000285, 0, 0, 0
PatchFile	Filename(s) of the patch map(s)	woodland_patchIDs_1000.asc
DynamicLandYears	Years of landscape changes	0

Table 2: Demography parameters

Parameter	Description	Values
Stages	Number of life stages	4
TransMatrix	Transition matrix. Defines the development probabilities from each stage into the next as well as the respective survival probabilities and fecundities	$\begin{bmatrix} 0 & 0 & 0 & 5 \\ 1 & 0 & 0 & 0 \\ 0 & 0.53 & 0 & 0 \\ 0 & 0 & 0.63 & 0.8 \end{bmatrix}$
MaxAge	Maximum age in years	17
MinAge	Ages which an individual in stage i-1 must already have reached before it can develop into the next stage i.	0, 0, 0, 0
RepSeasons	Number of potential reproduction events per year	1
RepInterval	Number of reproductive seasons which must be missed following a reproduction attempt before another reproduction attempt may occur	0

Parameter	Description	Values
PRep	Probability of reproducing in subsequent reproductive seasons	1
SurvSched	Scheduling of survival (0: at reproduction, 1: between reproductive events, 2: annually)	1
FecDensDep	whether density dependent fecundity probability is modelled	TRUE
DevDensDep	Whether density dependent development probability is modelled	FALSE
SurvDensDep	Whether density dependent survival probability is modelled	FALSE
DevDensCoeff	Relative density dependence coefficient for development	1
SurvDensCoeff	Relative density dependence coefficient for survival	1
FecStageWtsMatrix	Stage dependent weights in density dependence of fecundity	Not selected.
DevStageWtsMatrix	Stage dependent weights in density dependence of development	Not selected.
SurvStageWtsMatrix	Stage dependent weights in density dependence of survival	Not selected.
PostDestructn	Whether individuals of a population die (FALSE) or disperse (TRUE) if its patch gets destroyed	FALSE
ReproductionType	Describes the reproduction type (0: asexual/only female; 1: simple sexual model; 2: sexual model with explicit mating system)	1
PropMales	Proportion of males in the population	0.5

Table 3: Initialisation parameters

Parameter	Description	Values
InitType	Type of initialisation (0: free initialisation according to habitat map, 1: from loaded species distribution map, 2: from initial individuals list file) (0: random in given number of cells,	2

Parameter	Description	Values
	1: all suitable cells/patches) species distribution map (0: all suitable cells within all distribution presence cells, 1: all suitable cells within given number of randomly chosen presence cells)	
InitIndsFile	Name if the initial individuals list file	InitInds_29.txt
InitDens	Number of individuals seeded in each cell/patch (0: at demographic density dependence, 1: at half of the demographic density dependence, 2: according to quasi-equilibrium distribution) (0: minimum age for the respective stage, 1: random age between the minimum and maximum age for the respective stage, 2: according to a quasi-equilibrium distribution)	0
InitFreezeYear	Year until which species is confined to its initial range limits	0
RestrictRows	Number of rows at northern front to restrict range.	0
RestrictFreq	Frequency in years at which range is restricted to northern front.	0
FinalFreezeYear	The year after which species is confined to its new, current range limits, after a period of range expansion.	0

Table 4: Simulation parameters

Parameter	Description	Values
Year	Number of simulated years	100
Replicates	Number of simulation iterations	100
Absorbing	Whether non-valid cells lead to direct mortality of the individual during transfer	FALSE
LocalExt	Local extinction	FALSE
EnvStoch	Environmental stochasticity (0: none, 1: global, 2: local) stochasticity acts (0: growth rate/fecundity, 1: demographic density dependence)	0
OutIntRange	Output of range file	1
OutIntOcc	Output of occupancy file	1
OutIntPop	Output of population file	1
OutIntInd	Output of individual file	0
OutIntConn	Output of connectivity file	0
OutIntPaths	Output of SMS paths file	0
OutStartPop	Starting year for output population file	0
OutStartInd	Starting year for output individual file	0
OutStartConn	Starting year for output connectivity file	0
OutStartPaths	Starting year for output SMS paths file	0
SMSHeatMap	Output SMS heat map raster file	FALSE