Amphibian and Reptile Conservation

RESEARCH REPORT 18/01

Jersey multi-species distribution, habitat suitability & connectivity modelling

Appendix G

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amphibian and reptile conservation

Appendix G – Prioritisation based on connectivity

Table G1 Correlations between five connectivity indices for each focal species, and summarised across all species as the mean value with the range shown in brackets. Pearson's correlations ≥ 0.7 are shown in **bold**.

Species		dPC_k	$dPCintra_k$	$dPCflux_k$	$dPCconnector_k$
Without built-up areas					
Western toad	$dIIC_k$	**0.93**	**0.83**	**0.90**	0.35
	dPC_k		**0.88**	**0.93**	0.50
	$dPCintra_k$			0.68	0.10
	$dPCflux_k$				0.55
Grass snake	$dIIC_k$	**0.97**	**0.97**	**0.89**	0.17
	dPC_k		**0.97**	**0.94**	0.25
	$dPCintra_k$			**0.85**	0.08
	$dPCflux_k$				0.25
Bank vole	$dIIC_k$	**0.94**	**0.91**	**0.94**	0.26
	dPC_k		**0.98**	**0.97**	0.26
	$dPCintra_k$			**0.93**	0.12
	$dPCflux_k$				0.24
Common pipistrelle bat	$dIIC_k$	0.69	**0.80**	0.64	0.33
	dPC_k		**0.85**	**0.98**	**0.76**
	$dPCintra_k$			**0.77**	0.42
	$dPCflux_k$				**0.74**
Long-eared bats	$dIIC_k$	**0.83**	**0.82**	**0.82**	0.57
	dPC_k		**0.91**	**0.99**	**0.80**
	$dPCintra_k$			**0.88**	0.55
	$dPCflux_k$				**0.76**
Red squirrel	$dIIC_k$	**0.95**	**0.93**	**0.96**	**0.79**
	dPC_k		**0.88**	**0.97**	**0.91**
	$dPCintra_k$			**0.94**	0.65
	$dPCflux_k$				**0.79**
Field cricket	$dIIC_k$	**1.00**	**0.98**	**0.99**	0.25
	dPC_k		**0.98**	**0.99**	0.29
	$dPCintra_k$			**0.98**	0.09
	$dPCflux_k$				0.19

Table G1 continued

Species		dPC_k	$dPCintra_k$	$dPCflux_k$	$dPCconnector_k$
Waxcap fungi	$dIIC_k$	**0.96**	**0.95**	**0.96**	0.49
	dPC_k		**0.92**	**0.98**	0.66
	$dPCintra_k$			**0.91**	0.36
	$dPCflux_k$				0.55
Scaly stalkball	$dIIC_k$	**1.00**	**0.99**	**0.92**	0.70
	dPC_k		**0.99**	**0.92**	**0.71**
	$dPCintra_k$			**0.87**	0.70
	$dPCflux_k$				0.65
Green-winged orchid	$dIIC_k$	**1.00**	**0.99**	**0.88**	0.09
	dPC_k		**0.98**	**0.87**	0.18
	$dPCintra_k$			**0.79**	0.01
	$dPCflux_k$				0.18
Pyramidal orchid	$dIIC_k$	**1.00**	**0.97**	**0.98**	0.60
	dPC_k		**0.95**	**0.99**	0.65
	$dPCintra_k$			**0.89**	0.38
	$dPCflux_k$				**0.75**
Southern-marsh orchid	$dIIC_k$	**0.99**	**0.98**	**0.95**	0.22
	dPC_k		**0.99**	**0.95**	0.23
	$dPCintra_k$			**0.91**	0.14
	$dPCflux_k$				0.42
Lizard orchid	$dIIC_k$	**0.96**	**0.93**	**0.97**	0.45
	dPC_k		**1.00**	**0.92**	0.25
	$dPCintra_k$			**0.89**	0.18
	$dPCflux_k$				0.47
Early-purple orchid	$dIIC_k$	**0.84**	**0.91**	**0.73**	0.27
	dPC_k		**0.78**	**0.92**	0.61
	$dPCintra_k$			0.59	0.20
	$dPCflux_k$				0.43
Jersey buttercup	$dIIC_k$	**1.00**	**1.00**	**0.90**	0.21
	dPC_k		**1.00**	**0.91**	0.21
	$dPCintra_k$			**0.88**	0.18
	$dPCflux_k$				0.40
Ragged robin	$dIIC_k$	**0.74**	**0.72**	0.68	0.34
	dPC_k		**0.98**	**0.93**	0.44

Table G1 continued

Species		dPC_k	$dPCintra_k$	$dPCflux_k$	$dPCconnector_k$
	$dPCintra_k$			**0.84**	0.28
	$dPCflux_k$				0.59
Autumn lady's-tresses	$dIIC_k$	**0.95**	**0.87**	**0.91**	0.46
	dPC_k		**0.85**	**0.95**	0.62
	$dPCintra_k$			**0.70**	0.20
	$dPCflux_k$				0.62
Western toad (BU)	$dIIC_k$	**0.80**	**0.78**	**0.79**	0.45
	dPC_k		0.54	**0.94**	**0.85**
	$dPCintra_k$			0.45	0.13
	$dPCflux_k$				**0.71**
With built-up areas					
Common pipistrelle bat	$dIIC_k$	0.54	**0.77**	0.53	0.24
	dPC_k		**0.71**	**0.98**	**0.84**
	$dPCintra_k$			0.69	0.35
	$dPCflux_k$				**0.74**
Long-eared bats	$dIIC_k$	**0.85**	**0.83**	**0.86**	0.59
	dPC_k		**0.87**	**0.98**	**0.83**
	$dPCintra_k$			**0.86**	0.51
	$dPCflux_k$				**0.75**
Red squirrel	$dIIC_k$	**0.96**	**0.93**	**0.97**	**0.81**
	dPC_k		**0.87**	**0.96**	**0.92**
	$dPCintra_k$			**0.94**	0.63
	$dPCflux_k$				**0.78**
Autumn lady's-tresses	$dIIC_k$	**0.94**	**0.83**	**0.91**	0.47
	dPC_k		**0.86**	**0.94**	0.61
	$dPCintra_k$			0.69	0.21
	$dPCflux_k$				0.62
Mean (range)	$dIIC_k$	0.90 (0.54–1.00)	0.89 (0.72–1.00)	0.87 (0.53–0.99)	0.41 (0.09–0.81)
	dPC_k		0.90 (0.54–1.00)	0.95 (0.87–0.99)	0.56 (0.18–0.92)
	$dPCintra_k$			0.81 (0.45–0.98)	0.29 (0.01–0.70)
	$dPCflux_k$				0.56 (0.18–0.79)

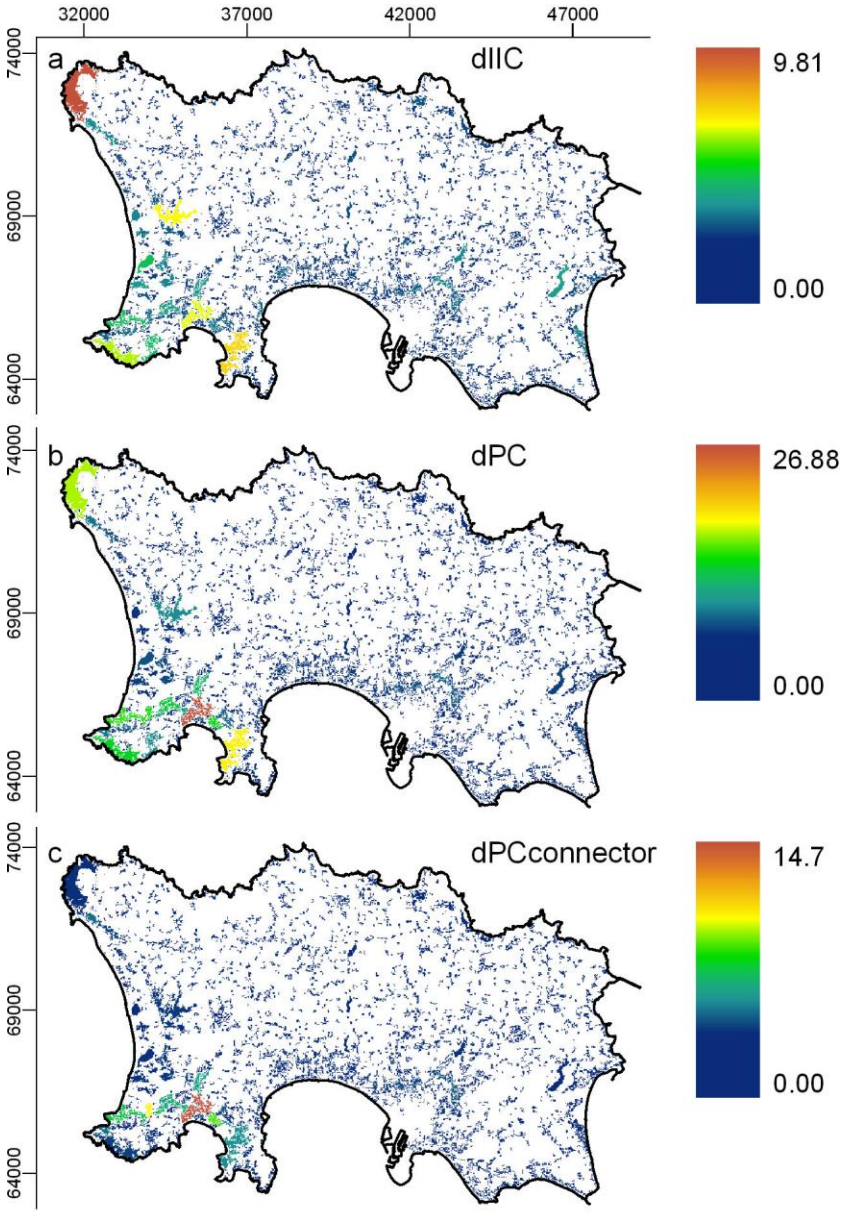

Figure G1 Connectivity scores for Habitat Concentration Areas (HCAs) including built-up areas for the Western toad (*Bufo spinosus*). Scores are shown for three indices; (a) the Integral Index of Connectivity (*dIIC*), (b) the Probability of Connectivity (*dPC*) and (c) the connector fraction of the Probability of Connectivity (*dPCconnector*). Warmer colours indicate higher connectivity scores.

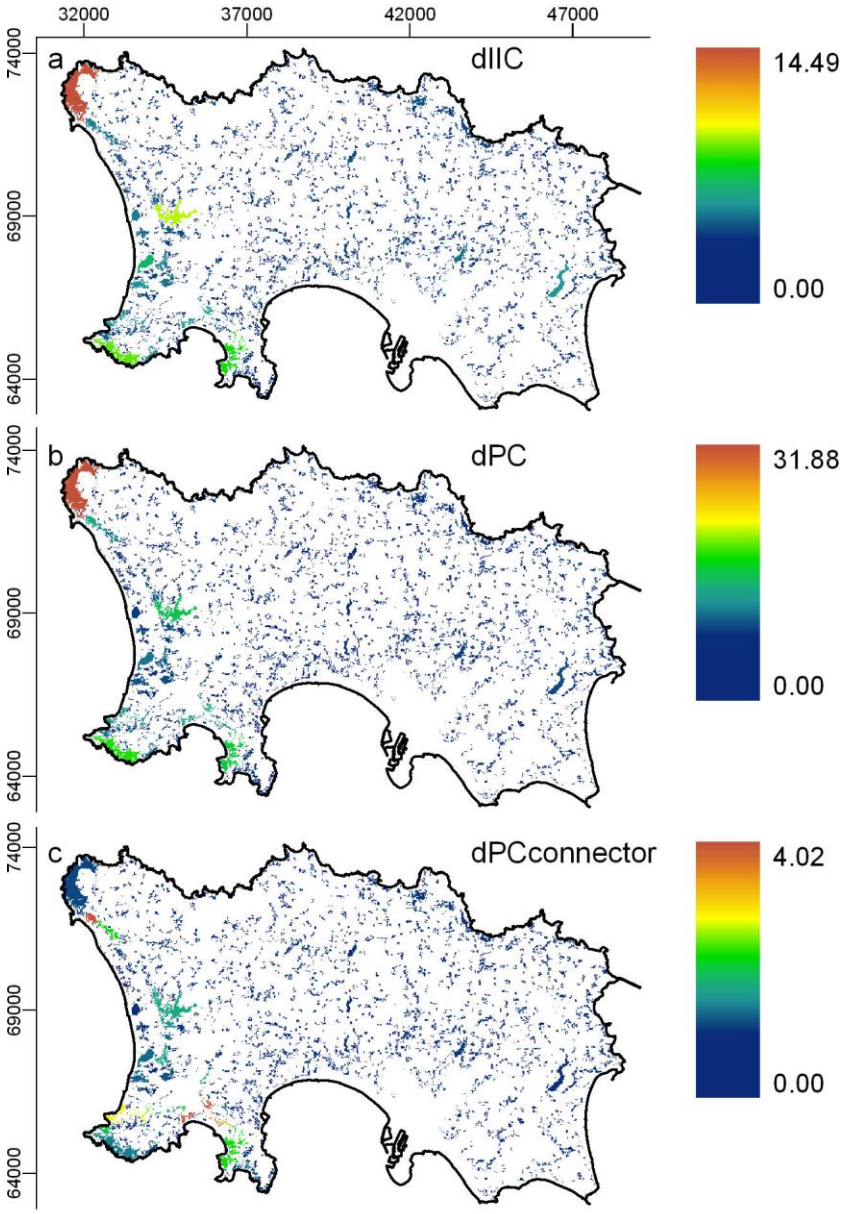

Figure G2 Connectivity scores for Habitat Concentration Areas (HCAs) excluding built-up areas for the Western toad (*Bufo spinosus*). Scores are shown for three indices; (a) the Integral Index of Connectivity (*dIIC*), (b) the Probability of Connectivity (*dPC*) and (c) the connector fraction of the Probability of Connectivity (*dPCconnector*). Warmer colours indicate higher connectivity scores.

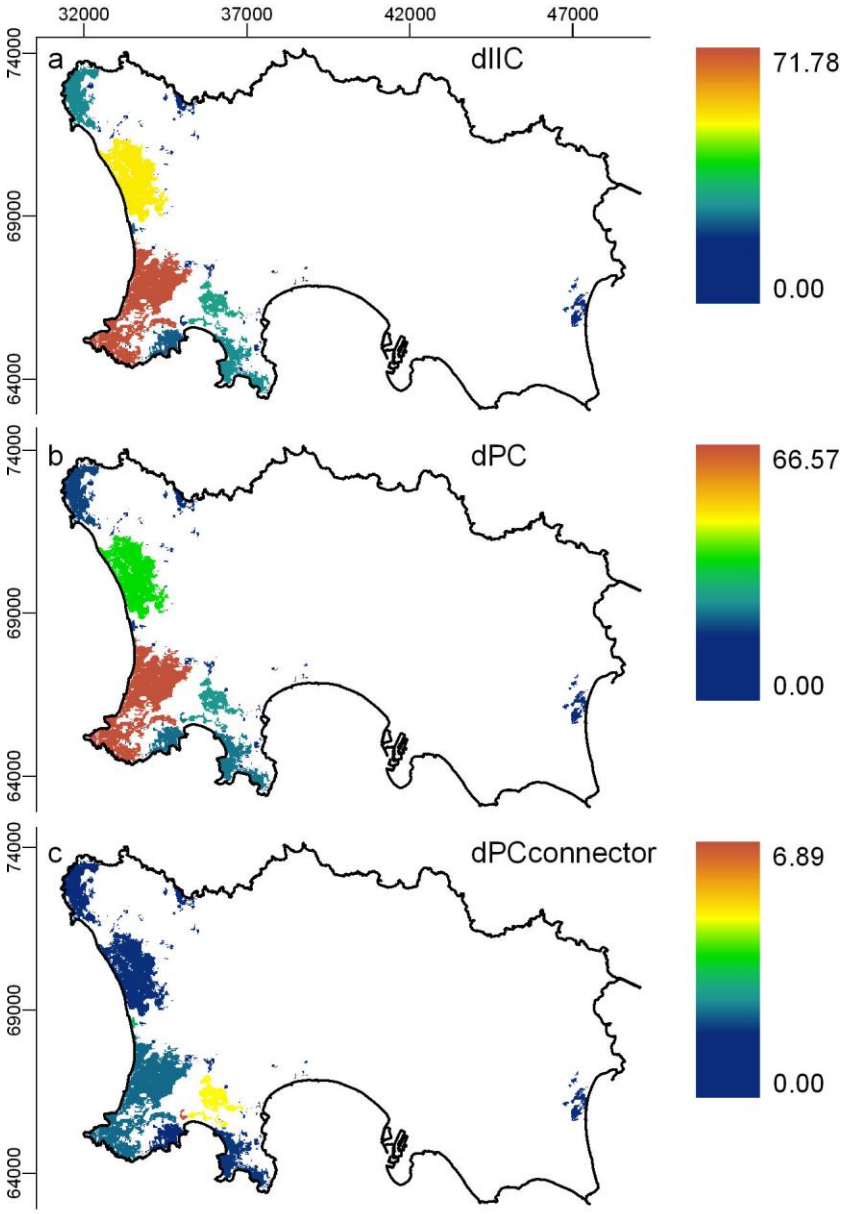

Figure G3 Connectivity scores for Habitat Concentration Areas (HCAs) excluding built-up areas for the grass snake (*Natrix helvetica*). Scores are shown for three indices; (a) the Integral Index of Connectivity (*dIIC*), (b) the Probability of Connectivity (*dPC*) and (c) the connector fraction of the Probability of Connectivity (*dPCconnector*). Warmer colours indicate higher connectivity scores.

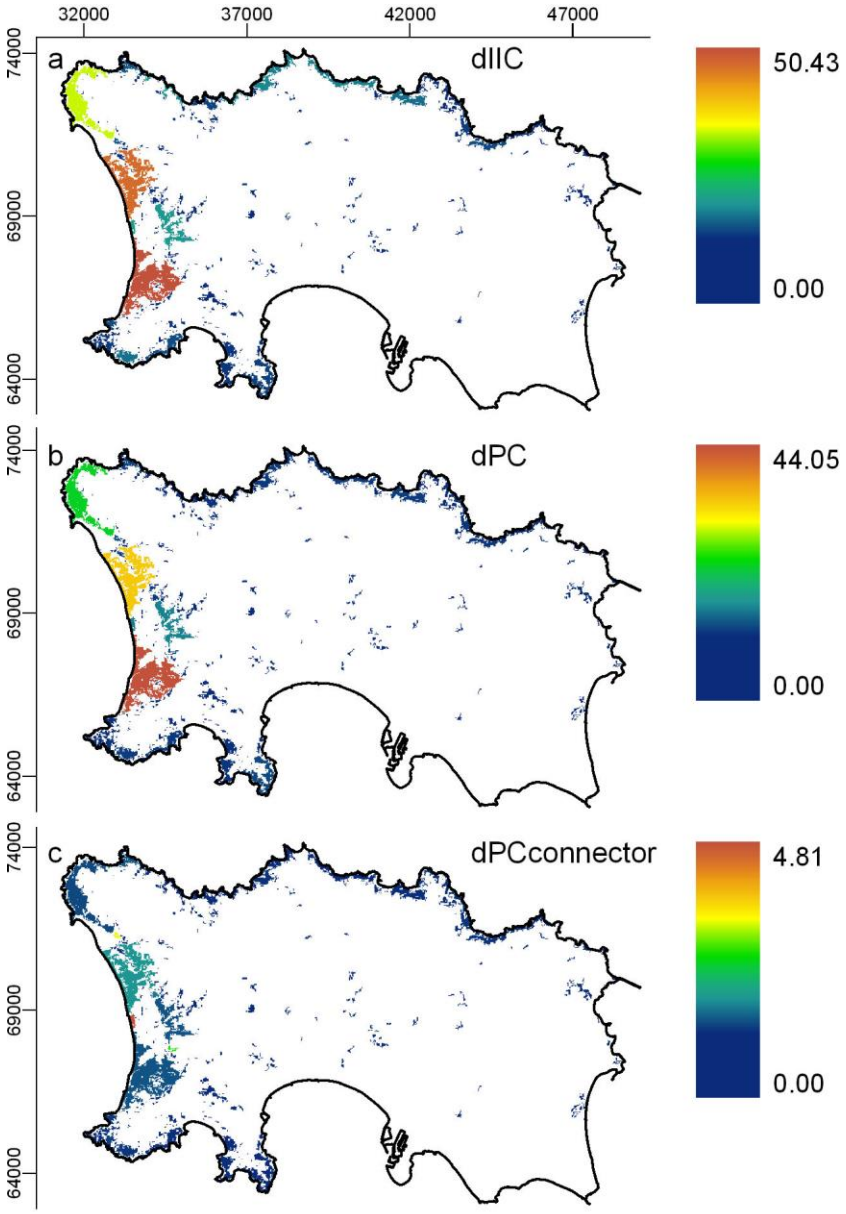

Figure G4 Connectivity scores for Habitat Concentration Areas (HCAs) excluding built-up areas for the bank vole (*Myodes glareolus*). Scores are shown for three indices; (a) the Integral Index of Connectivity (*dIIC*), (b) the Probability of Connectivity (*dPC*) and (c) the connector fraction of the Probability of Connectivity (*dPCconnector*). Warmer colours indicate higher connectivity scores.

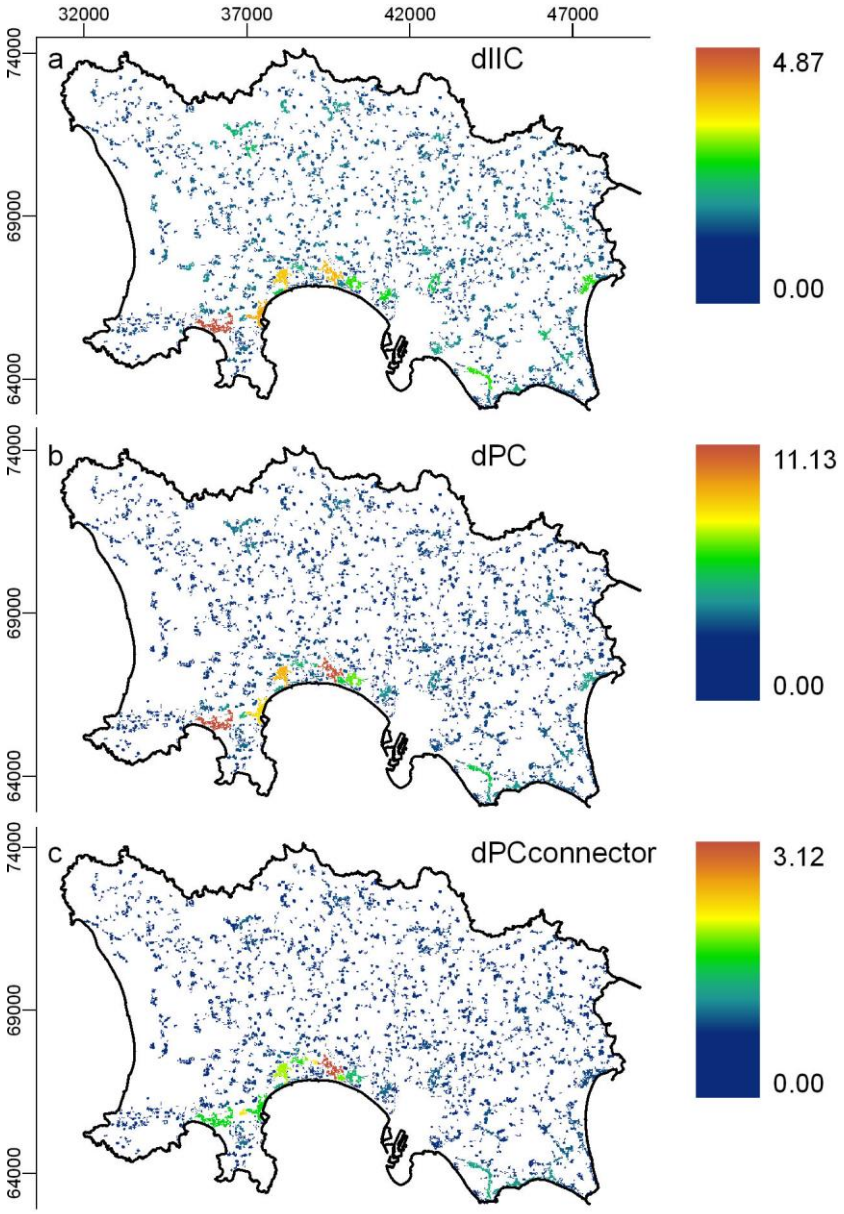

Figure G5 Connectivity scores for Habitat Concentration Areas (HCAs) including built-up areas for the common pipistrelle bat (*Pipistrellus pipistrellus*). Scores are shown for three indices; (a) the Integral Index of Connectivity (*dIIC*), (b) the Probability of Connectivity (*dPC*) and (c) the connector fraction of the Probability of Connectivity (*dPCconnector*). Warmer colours indicate higher connectivity scores.

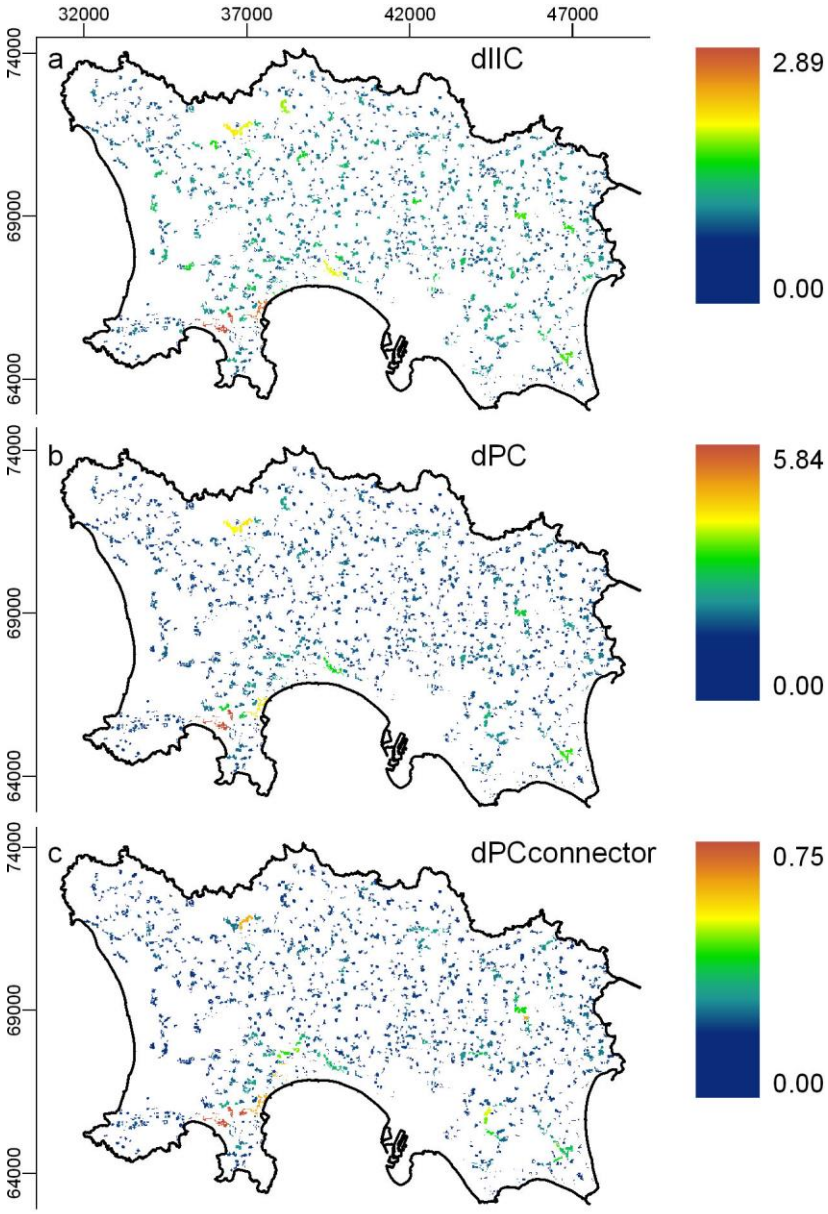

Figure G6 Connectivity scores for Habitat Concentration Areas (HCAs) excluding built-up areas for the common pipistrelle bat (*Pipistrellus pipistrellus*). Scores are shown for three indices; (a) the Integral Index of Connectivity (*dIIC*), (b) the Probability of Connectivity (*dPC*) and (c) the connector fraction of the Probability of Connectivity (*dPCconnector*). Warmer colours indicate higher connectivity scores.

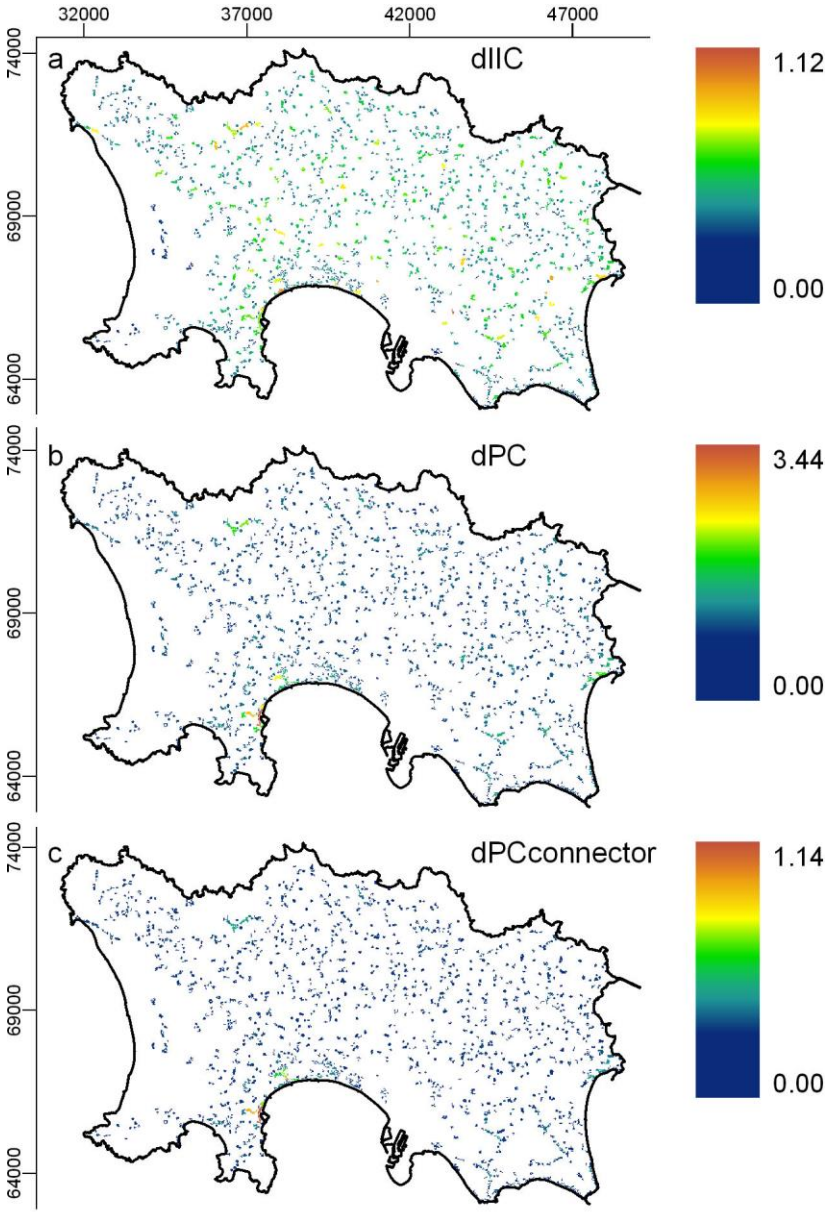

Figure G7 Connectivity scores for Habitat Concentration Areas (HCAs) including built-up areas for long-eared bats (*Plecotus* spp.). Scores are shown for three indices; (a) the Integral Index of Connectivity (*dIIC*), (b) the Probability of Connectivity (*dPC*) and (c) the connector fraction of the Probability of Connectivity (*dPCconnector*). Warmer colours indicate higher connectivity scores.

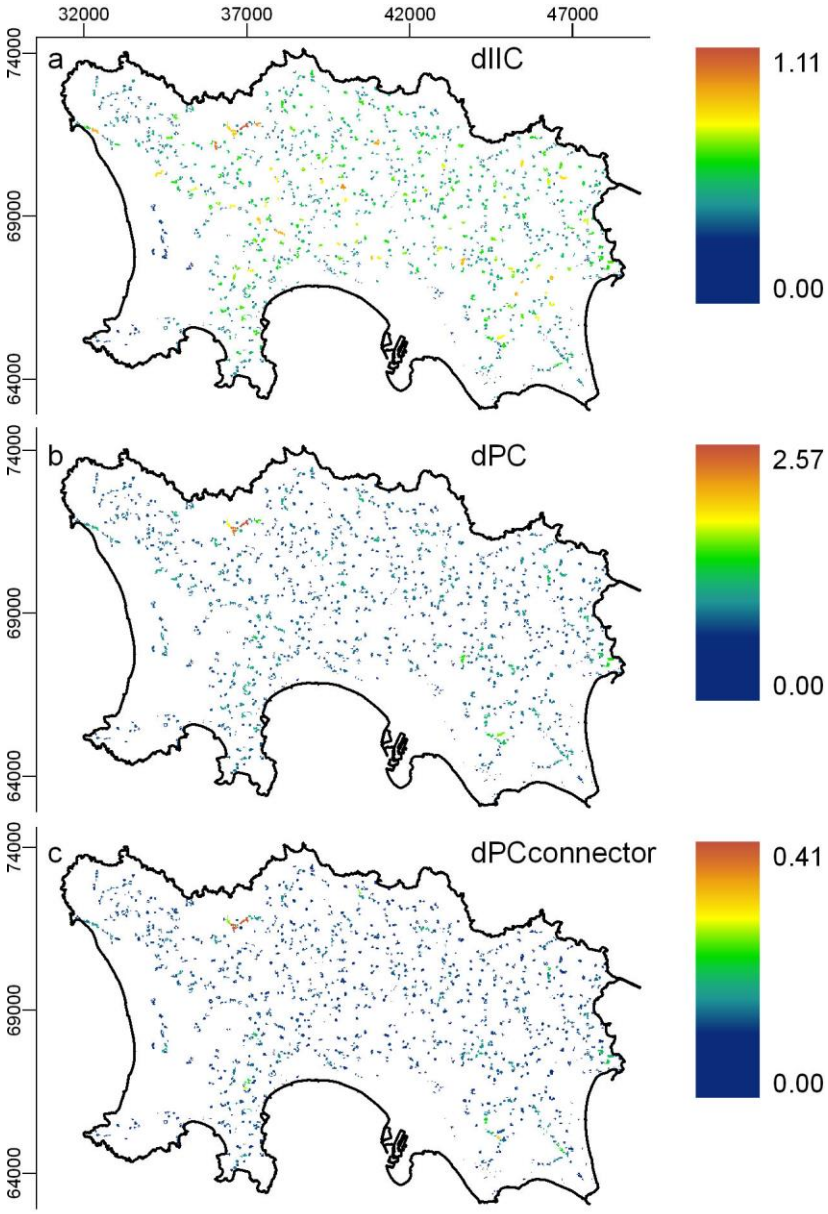

Figure G8 Connectivity scores for Habitat Concentration Areas (HCAs) excluding built-up areas for long-eared bats (*Plecotus* spp.). Scores are shown for three indices; (a) the Integral Index of Connectivity (*dIIC*), (b) the Probability of Connectivity (*dPC*) and (c) the connector fraction of the Probability of Connectivity (*dPCconnector*). Warmer colours indicate higher connectivity scores.

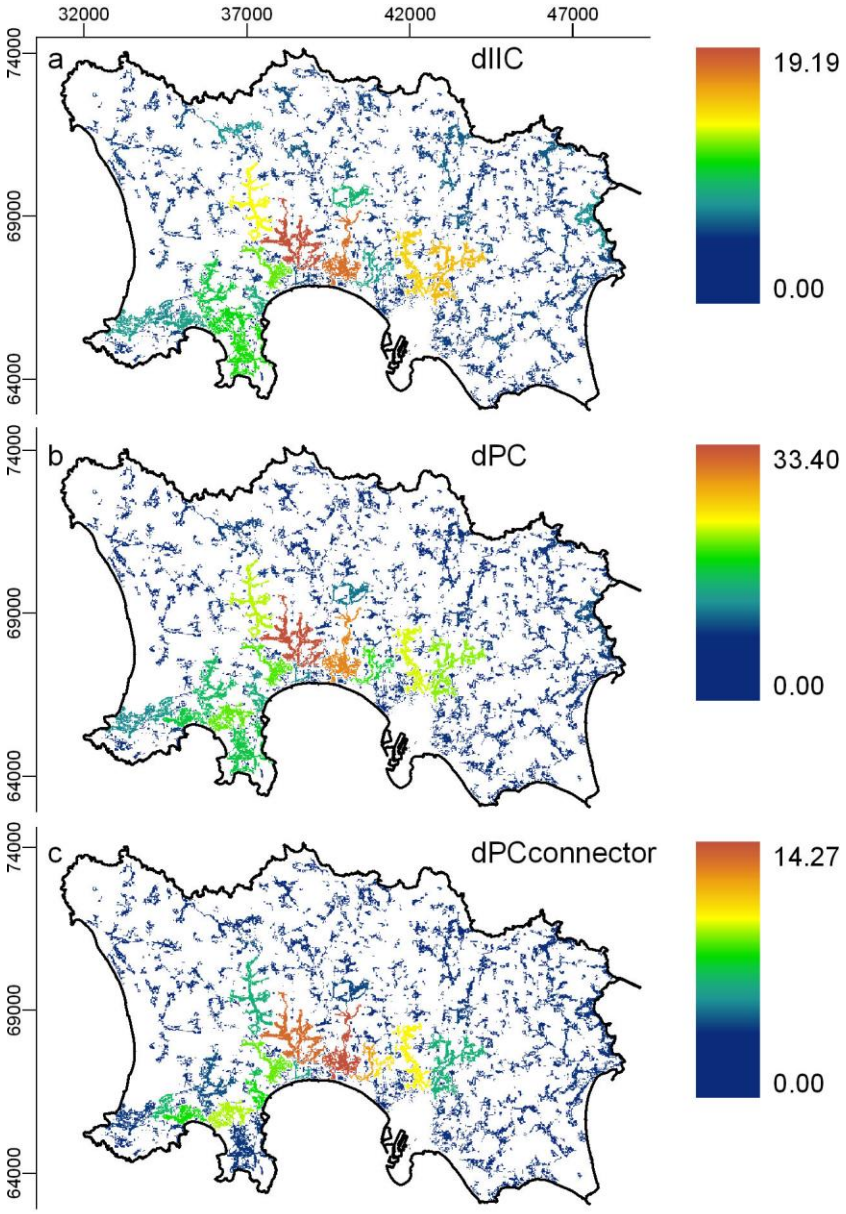

Figure G9 Connectivity scores for Habitat Concentration Areas (HCAs) including built-up areas for red squirrels (*Sciurus vulgaris*). Scores are shown for three indices; (a) the Integral Index of Connectivity (*dIIC*), (b) the Probability of Connectivity (*dPC*) and (c) the connector fraction of the Probability of Connectivity (*dPCconnector*). Warmer colours indicate higher connectivity scores.

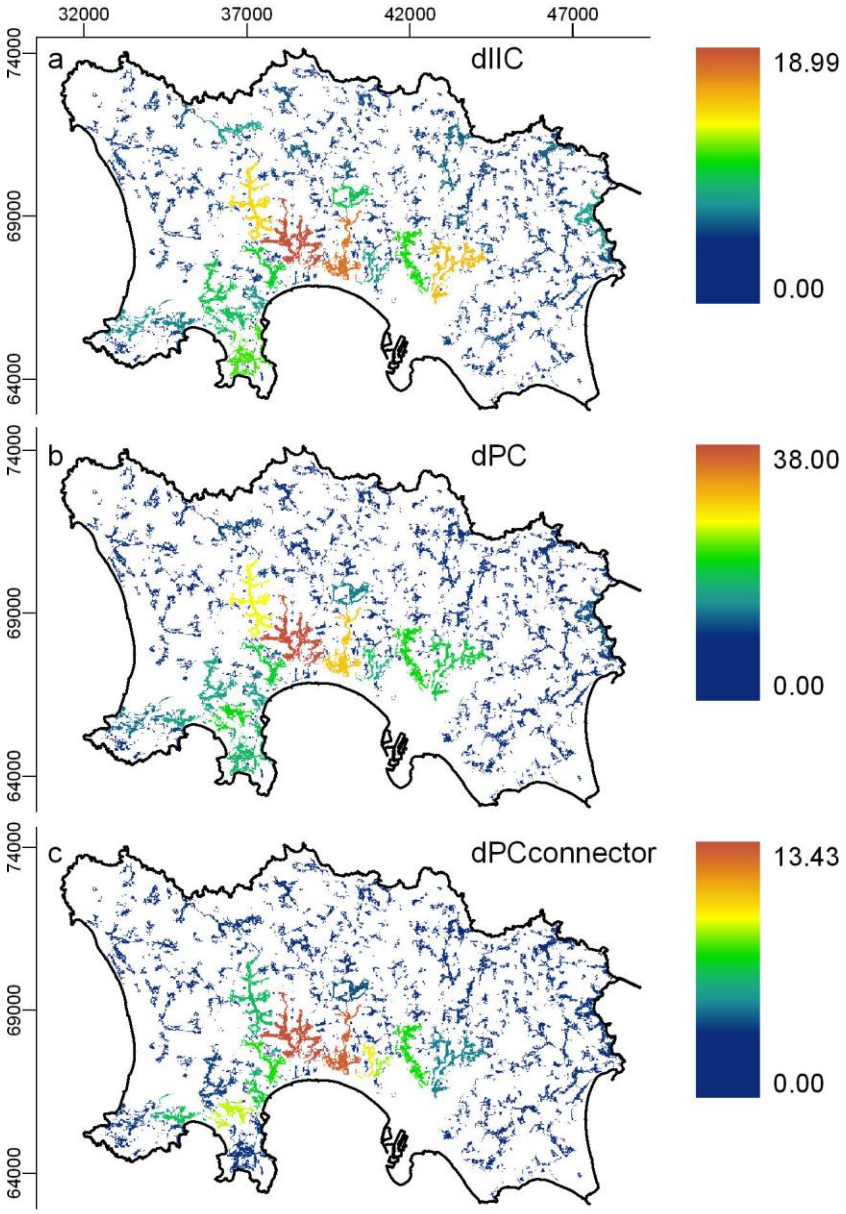

Figure G10 Connectivity scores for Habitat Concentration Areas (HCAs) excluding built-up areas for red squirrels (*Sciurus vulgaris*). Scores are shown for three indices; (a) the Integral Index of Connectivity (*dIIC*), (b) the Probability of Connectivity (*dPC*) and (c) the connector fraction of the Probability of Connectivity (*dPCconnector*). Warmer colours indicate higher connectivity scores.

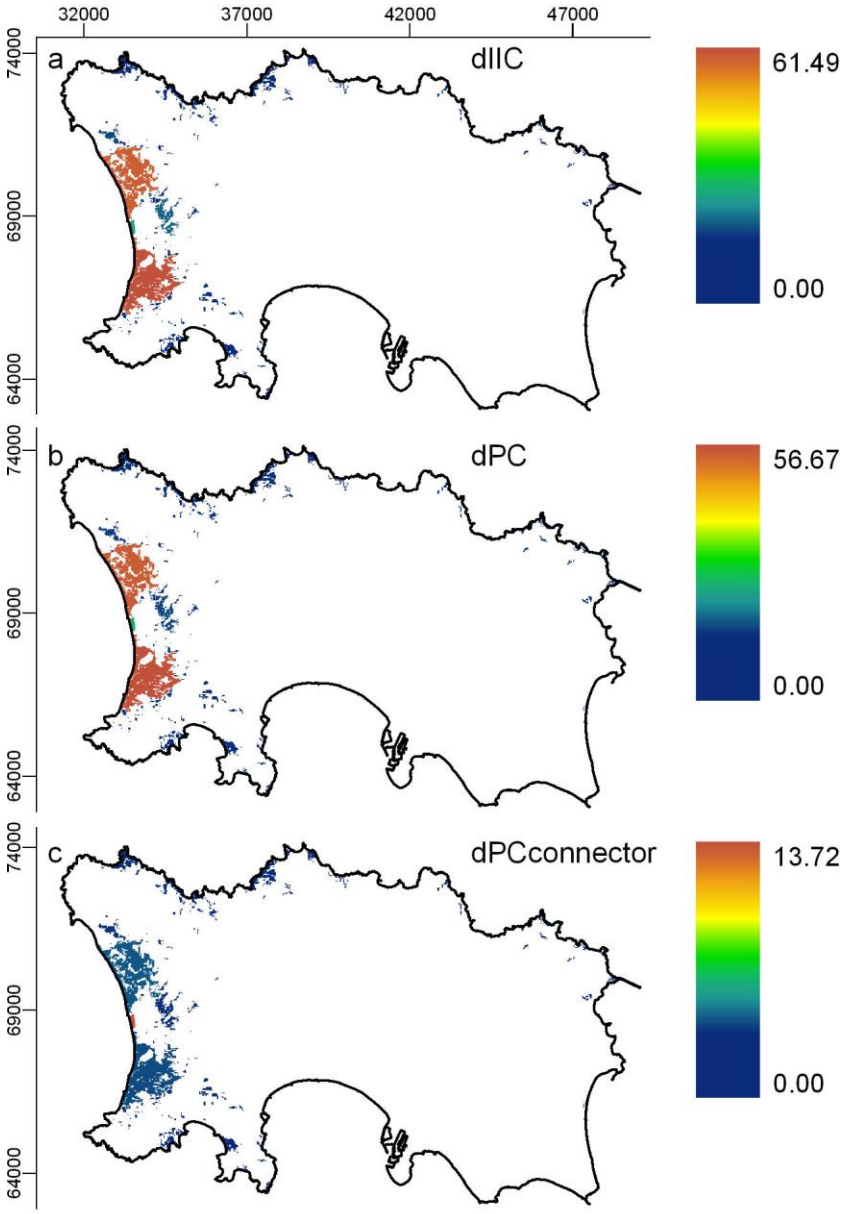

Figure G11 Connectivity scores for Habitat Concentration Areas (HCAs) excluding built-up areas for field crickets (*Gryllus campestris*). Scores are shown for three indices; (a) the Integral Index of Connectivity (*dIIC*), (b) the Probability of Connectivity (*dPC*) and (c) the connector fraction of the Probability of Connectivity (*dPCconnector*). Warmer colours indicate higher connectivity scores.

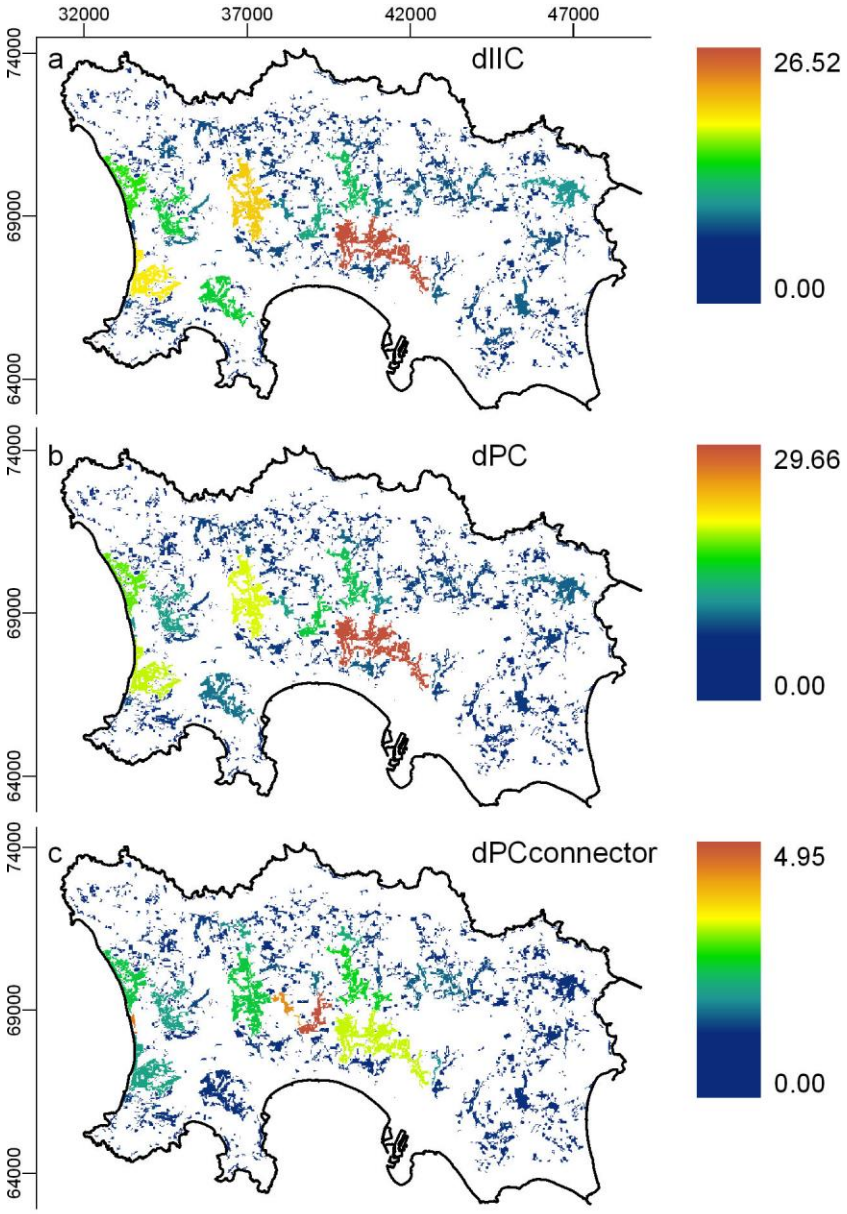

Figure G12 Connectivity scores for Habitat Concentration Areas (HCAs) excluding built-up areas for waxcap fungi (*Hygrocybe* spp.). Scores are shown for three indices; (a) the Integral Index of Connectivity (*dIIC*), (b) the Probability of Connectivity (*dPC*) and (c) the connector fraction of the Probability of Connectivity (*dPCconnector*). Warmer colours indicate higher connectivity scores.

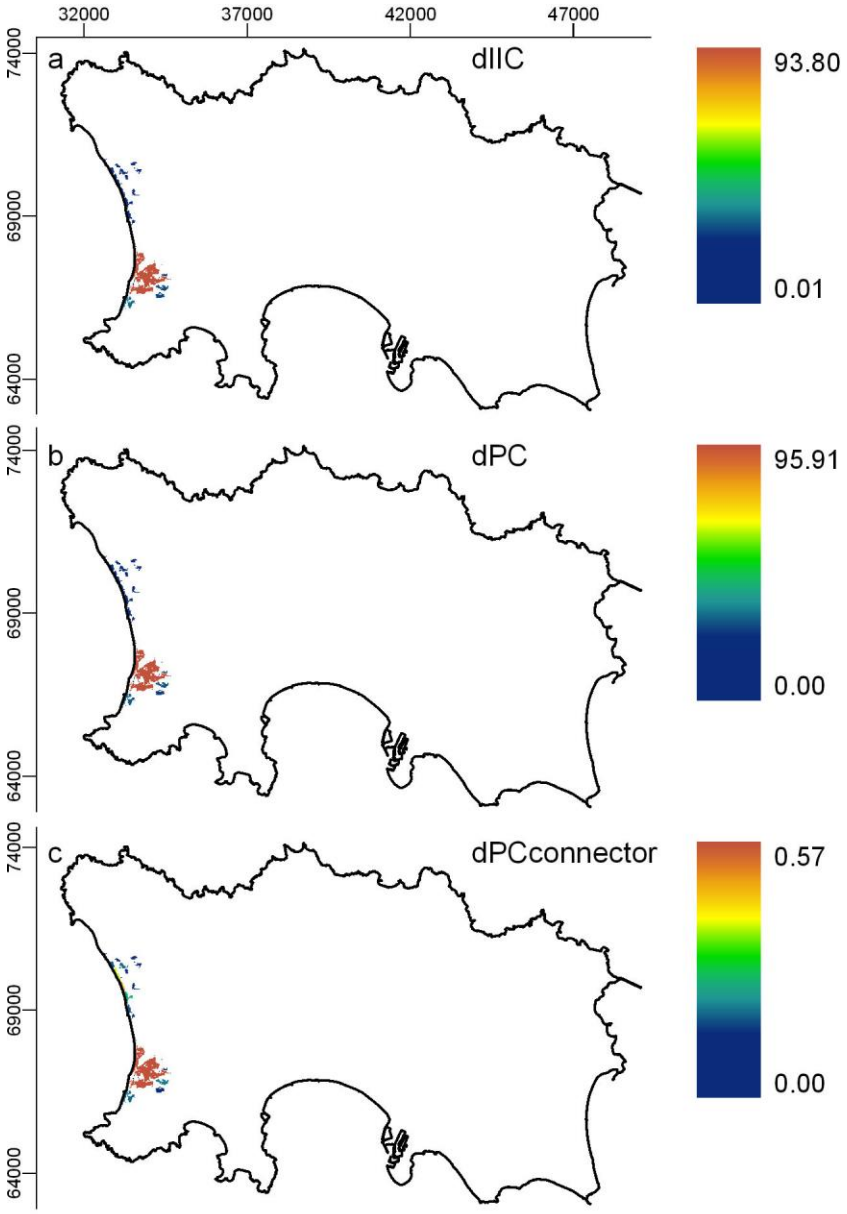

Figure G13 Connectivity scores for Habitat Concentration Areas (HCAs) excluding built-up areas for scaly stalkball fungi (*Tulostoma melanocyclum*). Scores are shown for three indices; (a) the Integral Index of Connectivity (*dIIC*), (b) the Probability of Connectivity (*dPC*) and (c) the connector fraction of the Probability of Connectivity (*dPCconnector*). Warmer colours indicate higher connectivity scores.

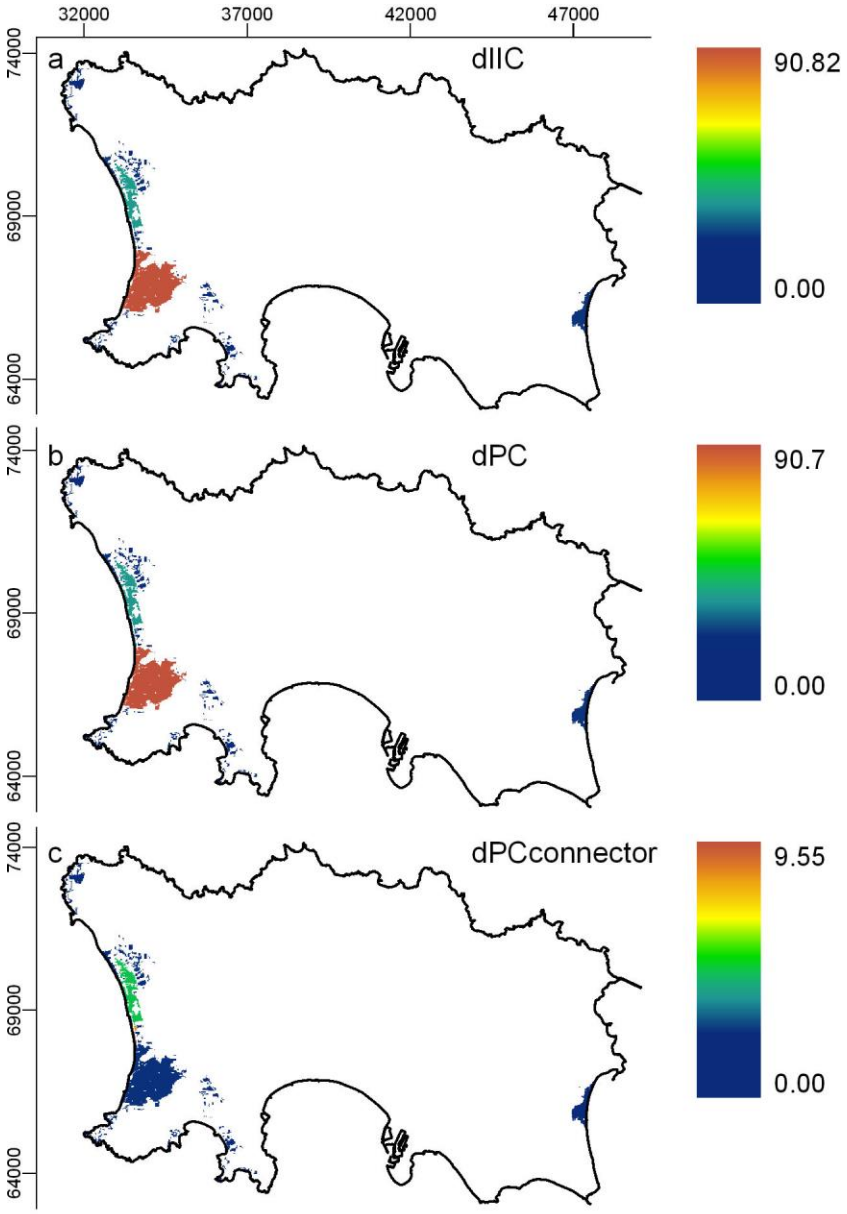

Figure G14 Connectivity scores for Habitat Concentration Areas (HCAs) excluding built-up areas for green-winged orchids (*Anacamptis morio*). Scores are shown for three indices; (a) the Integral Index of Connectivity (*dIIC*), (b) the Probability of Connectivity (*dPC*) and (c) the connector fraction of the Probability of Connectivity (*dPCconnector*). Warmer colours indicate higher connectivity scores.

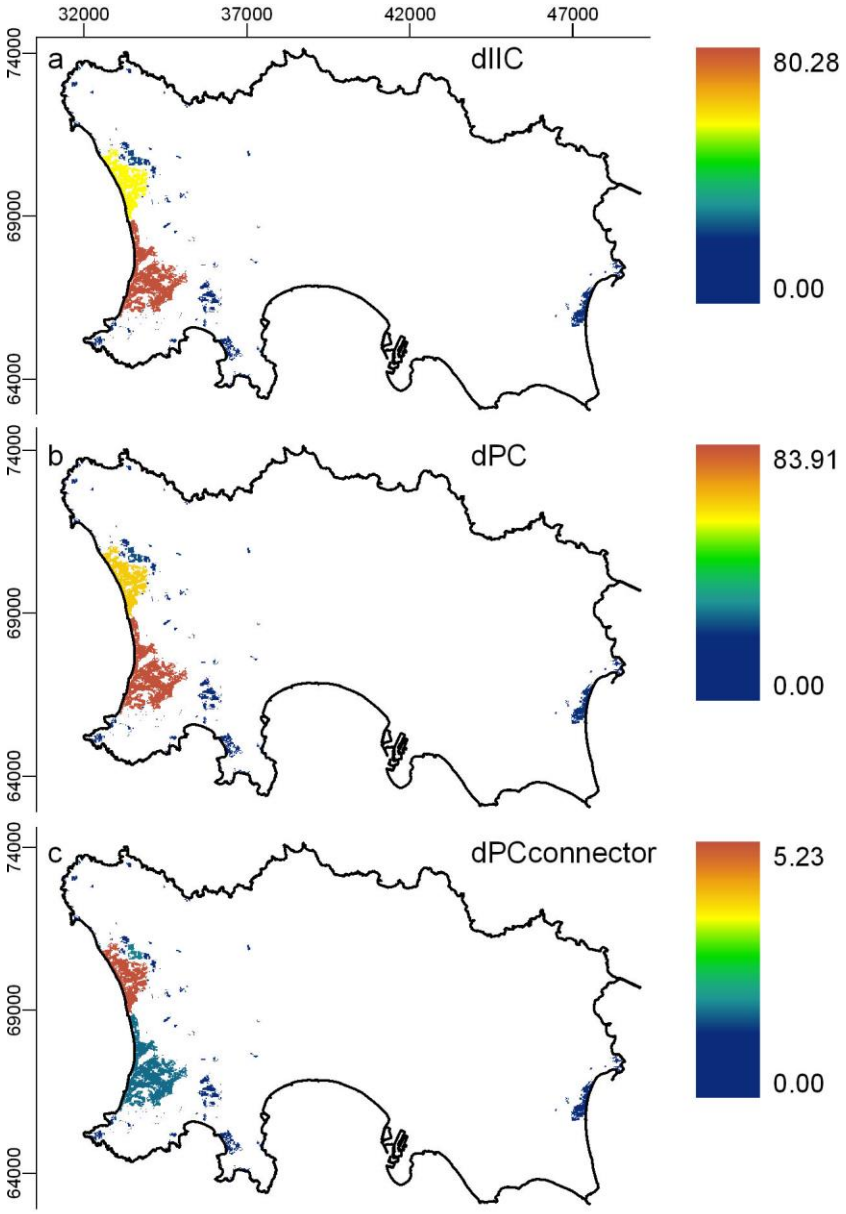

Figure G15 Connectivity scores for Habitat Concentration Areas (HCAs) excluding built-up areas for pyramidal orchids (*Anacamptis pyramidalis*). Scores are shown for three indices; (a) the Integral Index of Connectivity (*dIIC*), (b) the Probability of Connectivity (*dPC*) and (c) the connector fraction of the Probability of Connectivity (*dPCconnector*). Warmer colours indicate higher connectivity scores.

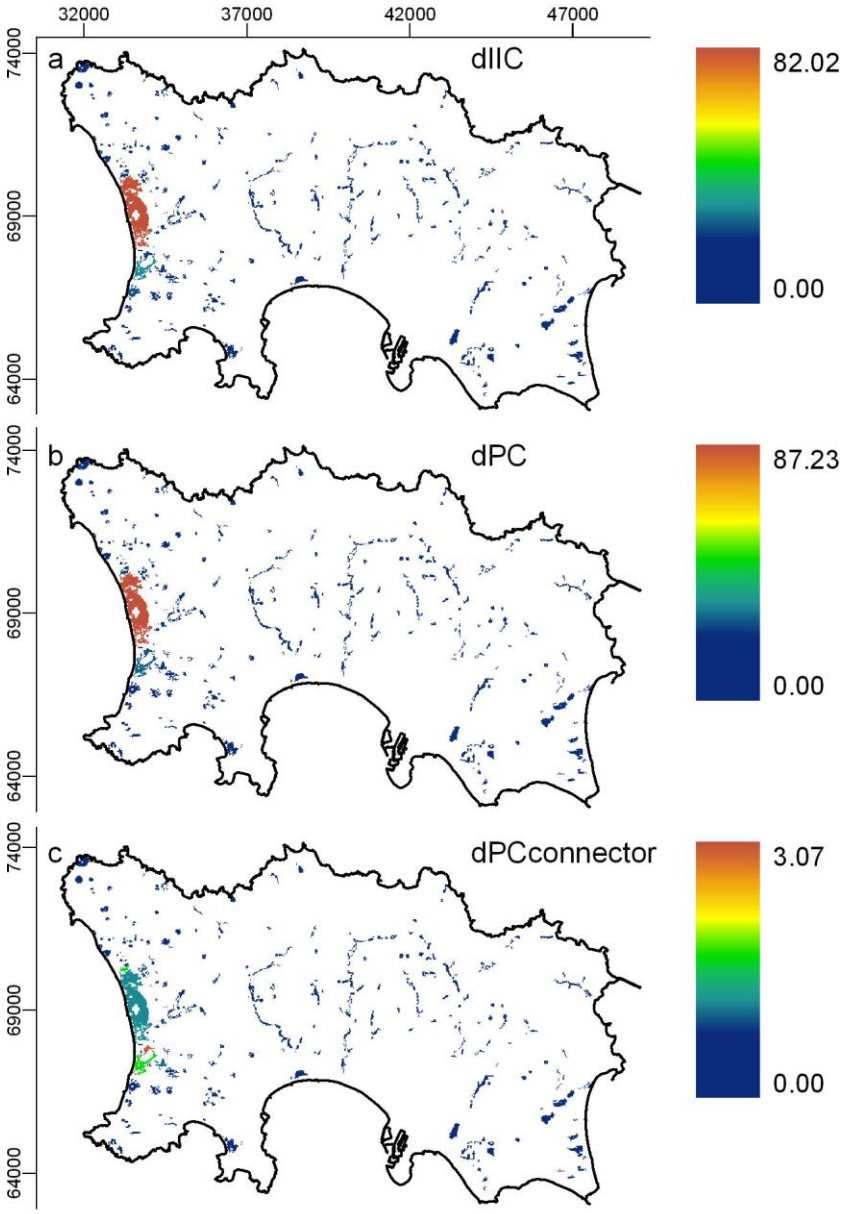

Figure G16 Connectivity scores for Habitat Concentration Areas (HCAs) excluding built-up areas for Southern marsh-orchids (*Dactylorhiza praetermissa*). Scores are shown for three indices; (a) the Integral Index of Connectivity (*dIIC*), (b) the Probability of Connectivity (*dPC*) and (c) the connector fraction of the Probability of Connectivity (*dPCconnector*). Warmer colours indicate higher connectivity scores.

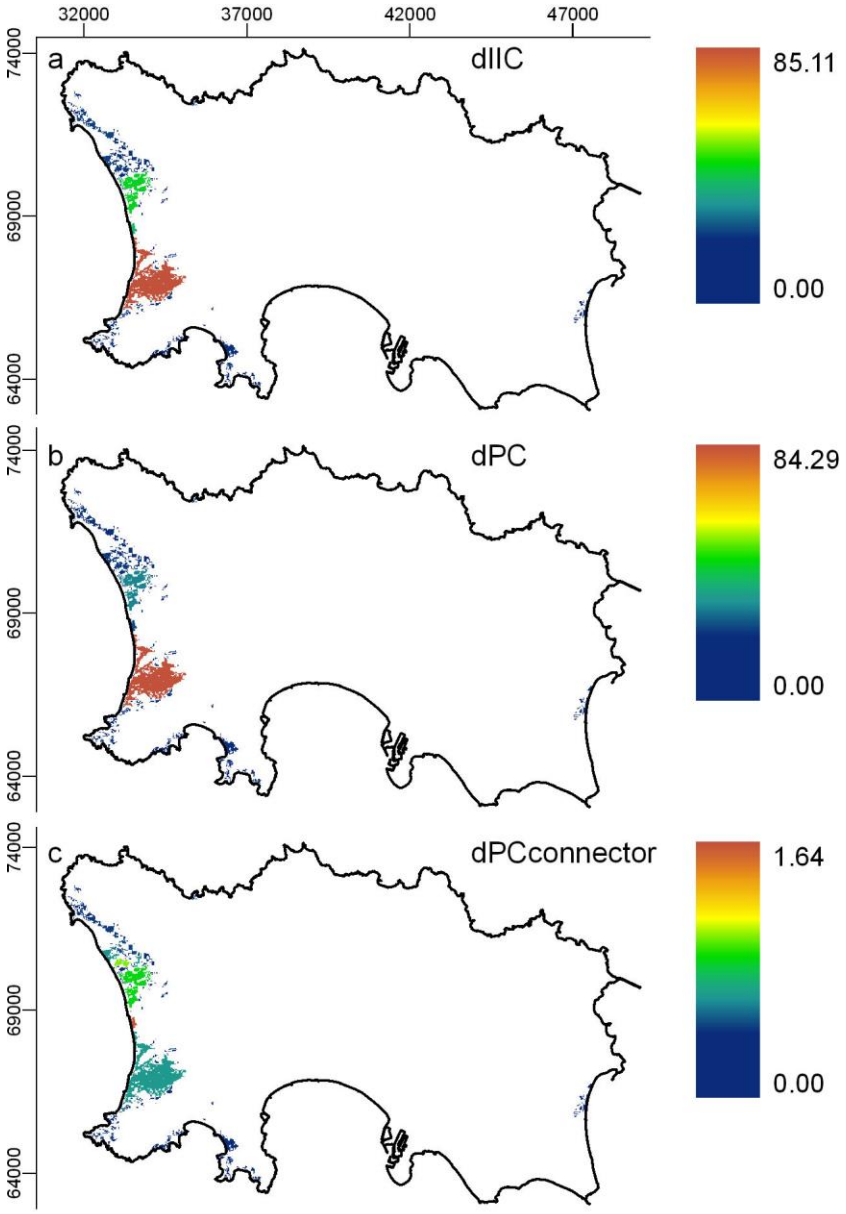

Figure G17 Connectivity scores for Habitat Concentration Areas (HCAs) excluding built-up areas for lizard orchids (*Himantoglossum hircinum*). Scores are shown for three indices; (a) the Integral Index of Connectivity (*dIIC*), (b) the Probability of Connectivity (*dPC*) and (c) the connector fraction of the Probability of Connectivity (*dPCconnector*). Warmer colours indicate higher connectivity scores.

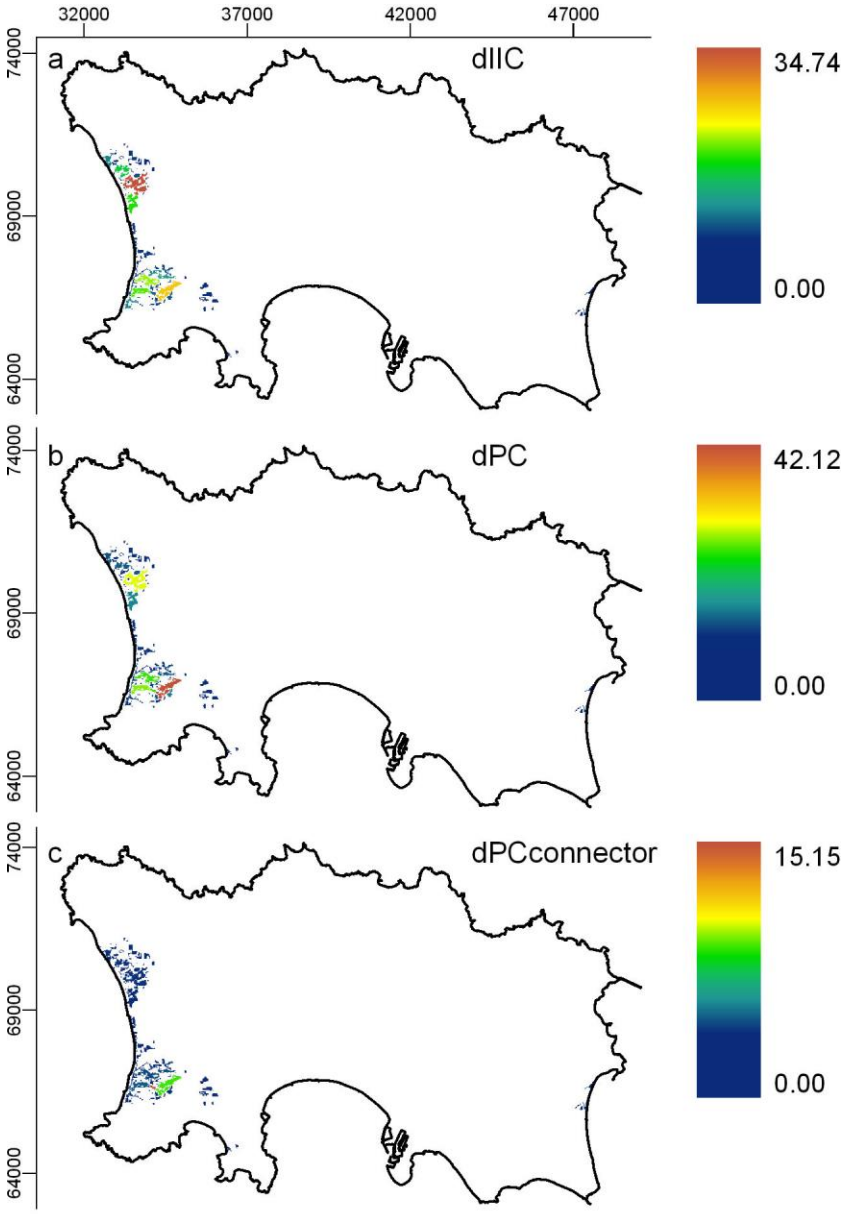

Figure G18 Connectivity scores for Habitat Concentration Areas (HCAs) excluding built-up areas for early-purple orchids (*Orchis mascula*). Scores are shown for three indices; (a) the Integral Index of Connectivity (*dIIC*), (b) the Probability of Connectivity (*dPC*) and (c) the connector fraction of the Probability of Connectivity (*dPCconnector*). Warmer colours indicate higher connectivity scores.

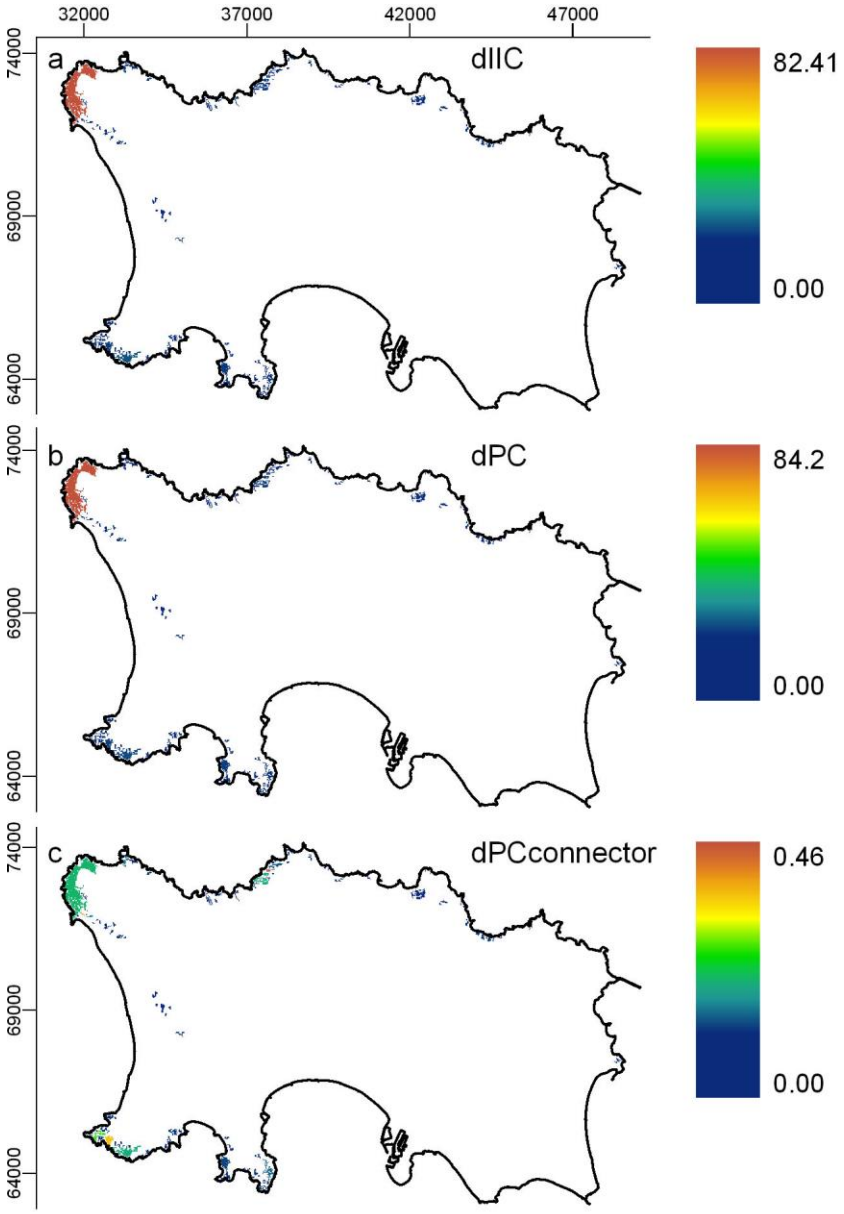

Figure G19 Connectivity scores for Habitat Concentration Areas (HCAs) excluding built-up areas for Jersey buttercups (*Ranunculus paludosus*). Scores are shown for three indices; (a) the Integral Index of Connectivity (*dIIC*), (b) the Probability of Connectivity (*dPC*) and (c) the connector fraction of the Probability of Connectivity (*dPCconnector*). Warmer colours indicate higher connectivity scores.

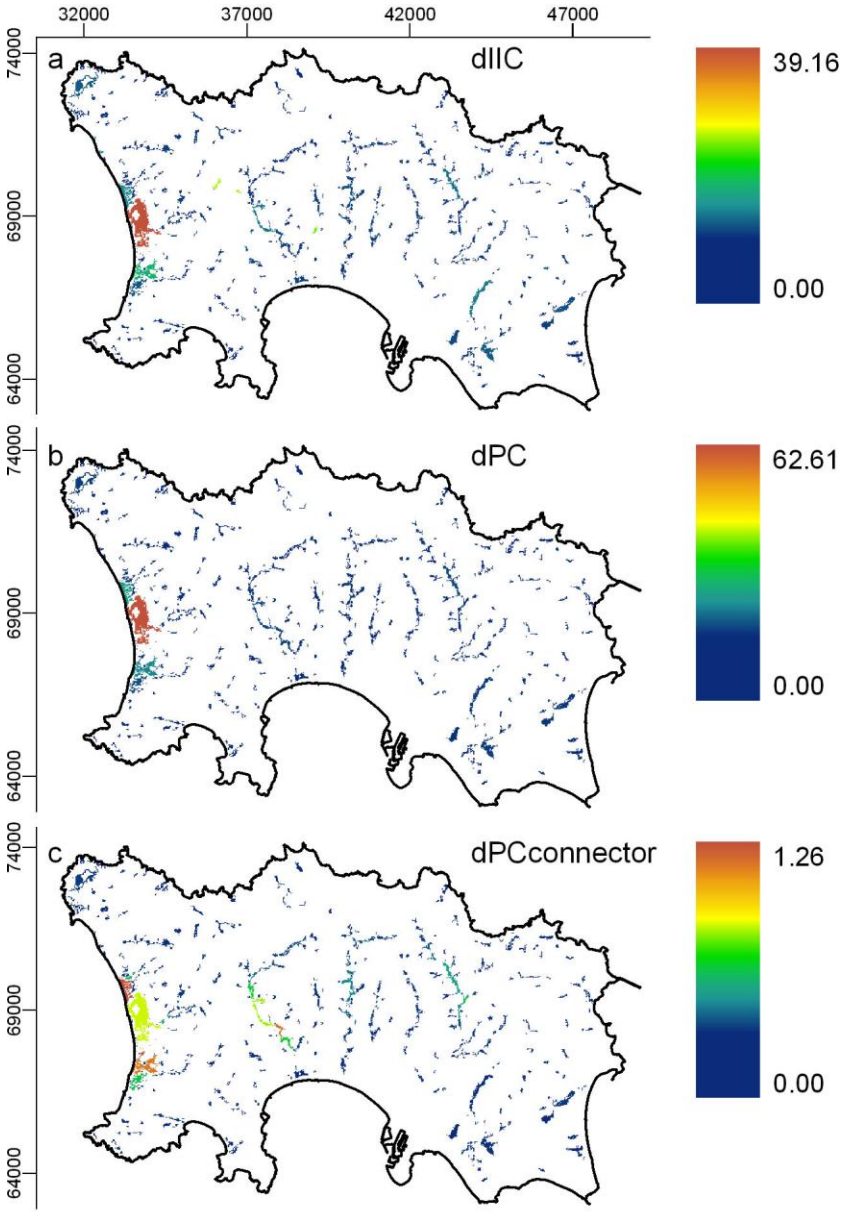

Figure G20 Connectivity scores for Habitat Concentration Areas (HCAs) excluding built-up areas for ragged robin (*Silene flos-cuculi*). Scores are shown for three indices; (a) the Integral Index of Connectivity (*dIIC*), (b) the Probability of Connectivity (*dPC*) and (c) the connector fraction of the Probability of Connectivity (*dPCconnector*). Warmer colours indicate higher connectivity scores.

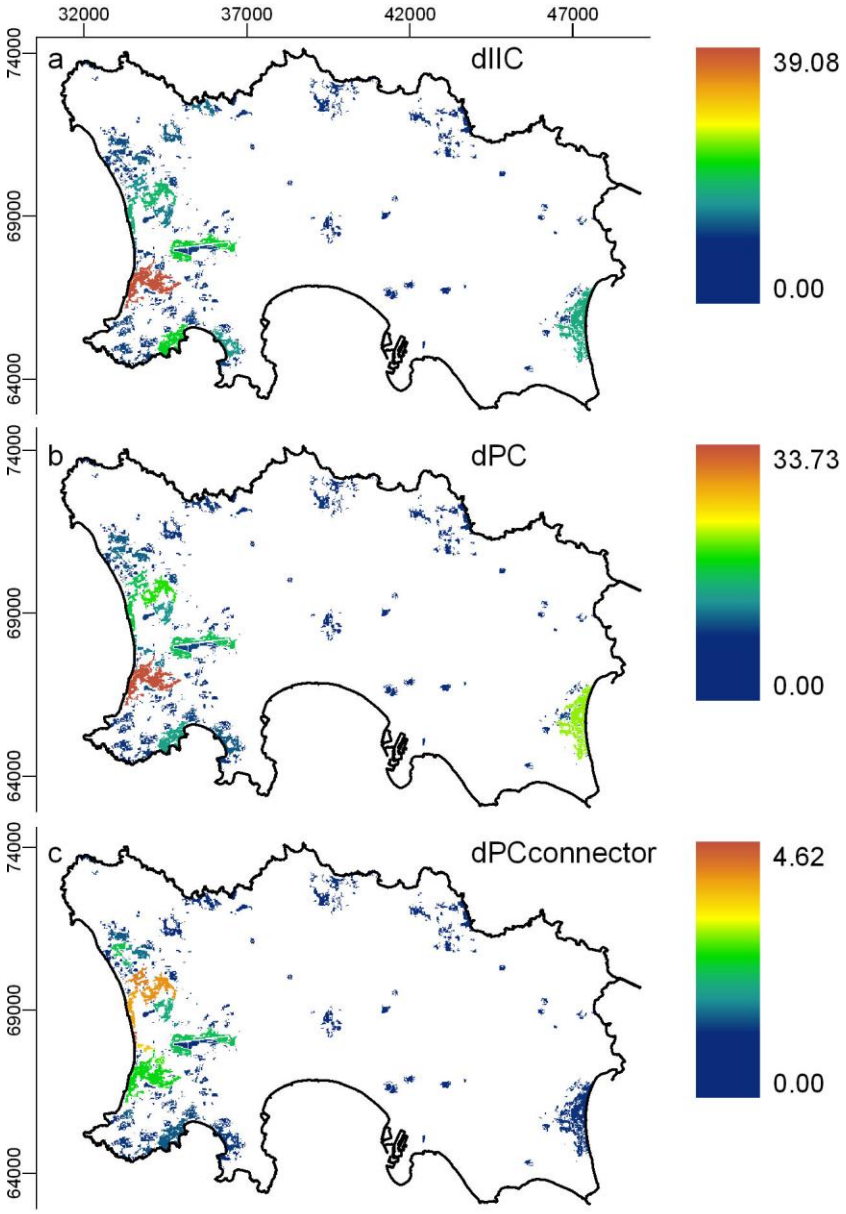

Figure G21 Connectivity scores for Habitat Concentration Areas (HCAs) including built-up areas for Autumn lady's-tresses (*Spiranthes spiralis*). Scores are shown for three indices; (a) the Integral Index of Connectivity (*dIIC*), (b) the Probability of Connectivity (*dPC*) and (c) the connector fraction of the Probability of Connectivity (*dPCconnector*). Warmer colours indicate higher connectivity scores.

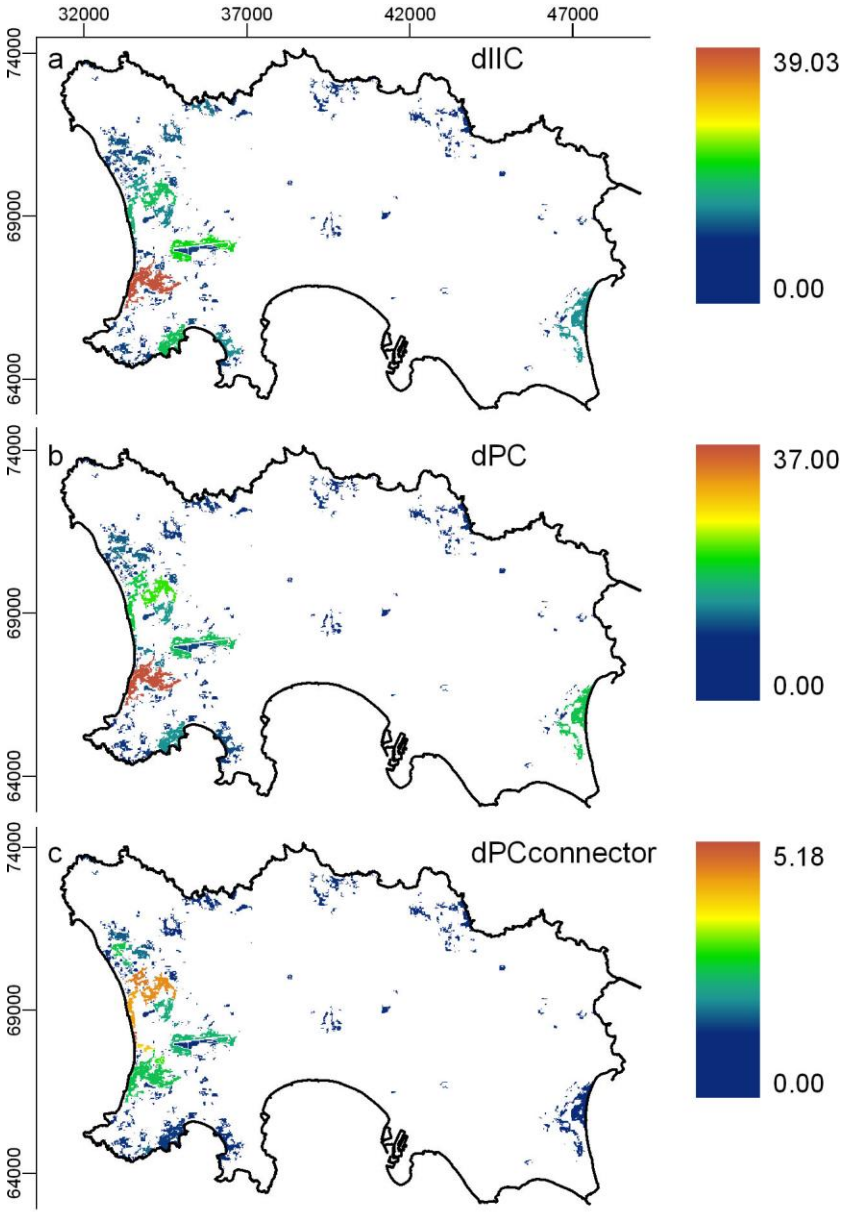

Figure G22 Connectivity scores for Habitat Concentration Areas (HCAs) excluding built-up areas for Autumn lady's-tresses (*Spiranthes spiralis*). Scores are shown for three indices; (a) the Integral Index of Connectivity (*dIIC*), (b) the Probability of Connectivity (*dPC*) and (c) the connector fraction of the Probability of Connectivity (*dPCconnector*). Warmer colours indicate higher connectivity scores.