



Amphibian and Reptile Conservation

RESEARCH REPORT 18/01



Jersey multi-species distribution, habitat suitability & connectivity modelling

Appendix G

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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		ur ok	ar Sintrak	ar Onax	ar Goormeotork
Western toad	$dIIC_k$	0.93	0.83	0.90	0.35
Troctorii todd	dPC _k	0.00	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 parad bata	$dIIC_k$	0.83	0.82	0.82	0.57
Long-eared bats	dPC _k	0.03	0.82	0.82	0.80
	dPCintra _k		0.91	0.88	0.55
	dPCflux _k			0.00	0.76
	urGilux _k				0.70
Red squirrel	$dIIC_k$	0.95	0.93	0.96	0.79
rtoa oquirioi	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 dPCx dPCintrax dPCitrax dPCconnectors						able G1 continued
Barrier Barr	Species		dPC_k	dPCintra _k	$dPCflux_k$	$dPCconnector_k$
APCflux Common	Waxcap fungi	dIIC _k	0.96	0.95	0.96	0.49
Scaly stalkball		dPC_k		0.92	0.98	0.66
Scaly stalkball		$dPCintra_k$			0.91	0.36
dPCk dPCintrak dPCIluxe 0.99 0.92 0.71 0.70 0.65 Green-winged orchid dPCluxe dIICk dPCk 0.98 0.87 0.18 0.87 0.18 0.87 0.18 0.79 0.01 0.18 0.18 0.79 0.01 0.18 Pyramidal orchid dPCluxe dIICk dPCk 0.95 0.99 0.65 0.18 0.89 0.38 0.60 0.40 0.95 0.89 0.38 0.89 0.38 0.40 0.75 Southern-marsh orchid dPCluxe dIICk 0.99 0.98 0.95 0.22 0.75 0.99 0.65 0.22 0.99 0.95 0.23 0.97 0.42 0.42 0.42 0.91 0.91 0.14 0.42 0.42 0.91 0.91 0.14 0.42 0.42 0.91 0.91 0.45 0.45 0.40 0.91 0.47 0.45 0.40 0.91 0.47 0.45 0.47 0.45 0.89 0.89 0.18 0.47 0.47 0.78 0.92 0.61 0.47 0.43 0.40 0.91 0.59 0.20 0.43 0.43 0.40 0.91 0.59 0.20 0.43 0.43 0.40 0.88 0.18 0.18 0.18 0.18 0.18 0.18 0.1		$dPCflux_k$				0.55
dPCk dPCintrak dPCIluxe 0.99 0.92 0.71 0.70 0.65 Green-winged orchid dPCluxe dIICk dPCk 0.98 0.87 0.18 0.87 0.18 0.87 0.18 0.79 0.01 0.18 0.18 0.79 0.01 0.18 Pyramidal orchid dPCluxe dIICk dPCk 0.95 0.99 0.65 0.18 0.89 0.38 0.60 0.40 0.95 0.89 0.38 0.89 0.38 0.40 0.75 Southern-marsh orchid dPCluxe dIICk 0.99 0.98 0.95 0.22 0.75 0.99 0.65 0.22 0.99 0.95 0.23 0.97 0.42 0.42 0.42 0.91 0.91 0.14 0.42 0.42 0.91 0.91 0.14 0.42 0.42 0.91 0.91 0.45 0.45 0.40 0.91 0.47 0.45 0.40 0.91 0.47 0.45 0.47 0.45 0.89 0.89 0.18 0.47 0.47 0.78 0.92 0.61 0.47 0.43 0.40 0.91 0.59 0.20 0.43 0.43 0.40 0.91 0.59 0.20 0.43 0.43 0.40 0.88 0.18 0.18 0.18 0.18 0.18 0.18 0.1						
Green-winged orchid dIIC _k dPC	Scaly stalkball	$dIIC_k$	1.00	0.99	0.92	0.70
Green-winged orchid dIICk 1.00 0.99 0.88 0.09 0.40 0.98 0.87 0.18 0.18 0.79 0.18 0.18 0.79 0.18 0.10 0.14		dPC_k		0.99	0.92	0.71
Green-winged orchid		dPCintra _k			0.87	0.70
APCR		$dPCflux_k$				0.65
APCR						
APCfluxk 1.00 0.97 0.98 0.60	Green-winged orchid	$dIIC_k$	1.00	0.99	0.88	0.09
dPCfluxk 0.18 Pyramidal orchid dIICk dPCk dPCintrak dPCfluxk 1.00 0.95 0.99 0.65 0.99 0.65 0.38 0.38 0.75 0.38 0.38 0.75 0.75 Southern-marsh orchid dPCfluxk dIICk dPCk dPCintrak dPCfluxk 0.99 0.95 0.23 0.91 0.14 0.14 0.42 Lizard orchid dIICk dPCk dPCk dPCintrak dPCfluxk 0.96 0.93 0.97 0.45 0.22 0.25 0.25 0.22 0.25 0.20 0.47 Early-purple orchid dIICk dPCk dPCintrak dPCfluxk 0.84 0.91 0.73 0.27 0.47 Early-purple orchid dPCfluxk dIICk 0.84 0.91 0.78 0.92 0.61 0.43 Jersey buttercup dIICk dPCk dPCk dPCintrak dPCfluxk 1.00 0.90 0.21 0.21 0.21 0.21 0.21 0.21 0.21 0.2		dPC_k		0.98	0.87	0.18
Pyramidal orchid dHCk dPCk dPCintrak dPCfluxk 1.00 0.95 0.99 0.65 0.99 0.65 0.38 0.38 0.75 Southern-marsh orchid dPCfluxk dHCk 0.99 0.98 0.95 0.22 0.25 0.23 0.91 0.14 0.14 0.42 Lizard orchid dHCk 0.96 0.96 0.93 0.97 0.45 0.25 0.25 0.22 0.42 Lizard orchid dHCk 0.96 0.93 0.97 0.45 0.25 0.25 0.25 0.25 0.22 0.25 0.25 0.2		dPCintra _k			0.79	0.01
Company		$dPCflux_k$				0.18
Company						
Southern-marsh orchid dIICk dPCfluxk D.89 D.95 D.22 dPCk dPCfluxk D.99 D.95 D.23 D.91 D.14 D.14 D.42 D.91 D.14 D.42 D.91 D.14 D.14 D.15 D.	Pyramidal orchid	$dIIC_k$	1.00	0.97	0.98	0.60
Southern-marsh orchid dIICk dPC/k dPC/k dPC/lluxk dPC/		dPC_k		0.95	0.99	0.65
Southern-marsh orchid dPCk dPCk dPClluxk D.99 0.98 0.95 0.23 0.23 0.99 0.91 0.14 0.42 0.42 0.42 0.42 0.42 0.42 0.42 0.4		$dPCintra_k$			0.89	0.38
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$		$dPCflux_k$				0.75
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$						
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	Southern-marsh orchid	$dIIC_k$	0.99	0.98	0.95	0.22
Lizard orchid $dIIC_k$ 0.96 0.93 0.97 0.45 dPC_k 1.00 0.92 0.25 dPC_k 0.47 0.47 Early-purple orchid $dIIC_k$ 0.84 0.91 0.73 0.27 dPC_k 0.78 0.92 0.61 dPC_k 0.43 Jersey buttercup $dIIC_k$ 1.00 1.00 0.90 0.21 dPC_k 0.43 Ragged robin $dIIC_k$ 0.74 0.72 0.68 0.34		dPC_k		0.99	0.95	0.23
Lizard orchid dIIC _k dPC _k dPC _k dPCintra _k dPCflux _k 0.96 0.93 0.97 0.45 0.92 0.25 0.25 0.89 0.18 0.89 0.18 0.47 Early-purple orchid dIIC _k dPC _k dPC _k 0.78 0.92 0.61 0.73 0.27 0.20 0.20 0.20 0.43 Jersey buttercup dIIC _k dPC _k 1.00 1.00 0.90 0.21 0.21 0.21 0.21 0.21 0.88 0.18 0.18 0.40 Ragged robin dIIC _k 0.74 0.72 0.68 0.34		$dPCintra_k$			0.91	0.14
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$		$dPCflux_k$				0.42
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$						
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	Lizard orchid	$dIIC_k$	0.96	0.93	0.97	0.45
Early-purple orchid $dIIC_k$ 0.84 0.91 0.73 0.27 dPC_k 0.78 0.92 0.61 dPC_k 0.59 0.20 dPC_k 0.43 0.43 0.43 0.43 0.43 0.40 0.90 0.90 0.21 dPC_k 1.00 0.91 0.21 dPC_k 0.88 0.18 dPC_k 0.40 0.40 0.72 0.68 0.34		dPC_k		1.00	0.92	0.25
Early-purple orchid $\begin{array}{c ccccccccccccccccccccccccccccccccccc$		$dPCintra_k$			0.89	0.18
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$		$dPCflux_k$				0.47
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$						
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	Early-purple orchid	$dIIC_k$	0.84		0.73	0.27
		dPC_k		0.78	0.92	0.61
Jersey buttercup $dIIC_k$ 1.00 1.00 0.90 0.21 dPC_k 1.00 0.91 0.21 dPC_k 0.88 0.18 $dPCflux_k$ 0.74 0.72 0.68 0.34		$dPCintra_k$			0.59	0.20
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$		$dPCflux_k$				0.43
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$						
	Jersey buttercup		1.00			
$ \frac{dPCflux_k}{\text{Ragged robin}} \qquad \frac{dIIC_k}{\text{0.74}} \qquad \frac{\textbf{0.72}}{\text{0.68}} \qquad \frac{0.34}{\text{0.34}} $				1.00		
Ragged robin $dIIC_k$ 0.74 0.72 0.68 0.34					0.88	
		$dPCflux_k$				0.40
dPC_k 0.98 0.93 0.44	Ragged robin		0.74			
		dPC _k		0.98	0.93	0.44

				Ta	able G1 continued
Species		dPC _k	dPCintra _k	dPCfluxk	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
Addition lady 5 treeses	dPC _k	0.00	0.85	0.95	0.62
	dPCintra _k		0.00	0.70	0.20
	$dPCflux_k$				0.62
\\\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.		0.00	0.70	0.70	0.45
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
With built up areas	dPCflux _k				0.71
With built-up areas	all C	0.54	0.77	0.52	0.24
Common pipistrelle bat	$dIIC_k$	0.54	0.77 0.71	0.53	0.24
	dPCk		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
Dod oguirral	dIICk	0.96	0.93	0.97	0.81
Red squirrel	dPC _k	0.90	0.93	0.96	0.92
	dPCintra _k		0.67	0.94	0.63
				0.94	
	dPCflux _k				0.78
Autumn lady's-tresses	dIICk	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	dIICk	0.90	0.89	0.87	0.41
(range)	unok	(0.54–1.00)	(0.72–1.00)	(0.53–0.99)	(0.09–0.81)
(3-/	dPC_k	(5.5 : 1.55)	0.90	0.95	0.56
			(0.54-1.00)	(0.87-0.99)	(0.18–0.92)
	dPCintra _k			0.81	0.29
	ADOU.			(0.45–0.98)	(0.01–0.70)
	dPCflux _k				0.56 (0.18–0.79)
					(0.18–0.79)

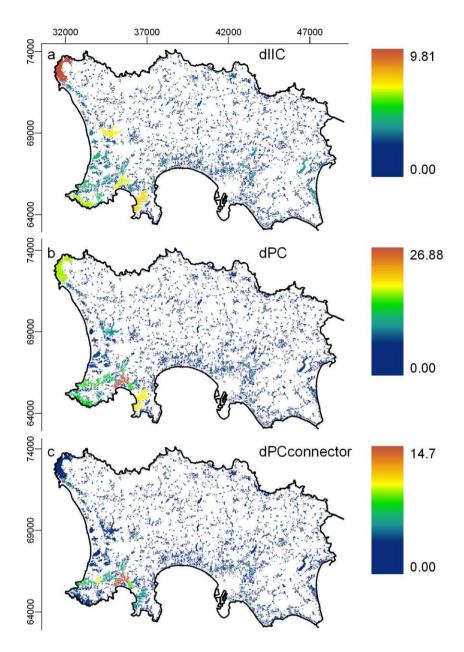


Figure G1 Connectivity scores for Habitat Concentration Areas (HCAs) including built-up areas for the Western toad (*Bufo spinosus*). Scores are shown for three indices; (a) the Integral Index of Connectivity (*dIIC*), (b) the Probability of Connectivity (*dPC*) and (c) the connector fraction of the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

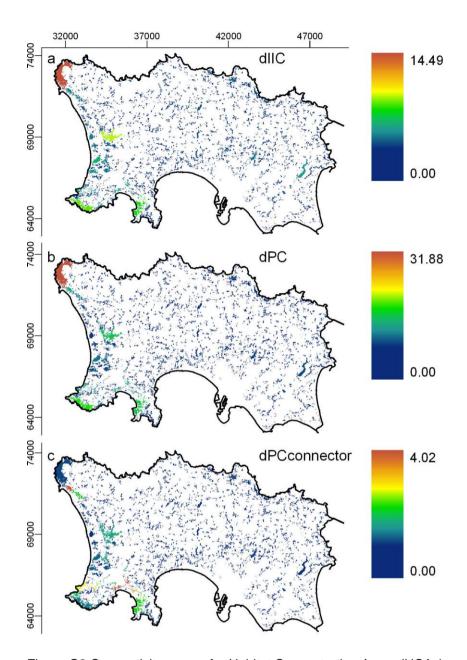


Figure G2 Connectivity scores for Habitat Concentration Areas (HCAs) excluding built-up areas for the Western toad (*Bufo spinosus*). Scores are shown for three indices; (a) the Integral Index of Connectivity (*dIIC*), (b) the Probability of Connectivity (*dPC*) and (c) the connector fraction of the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

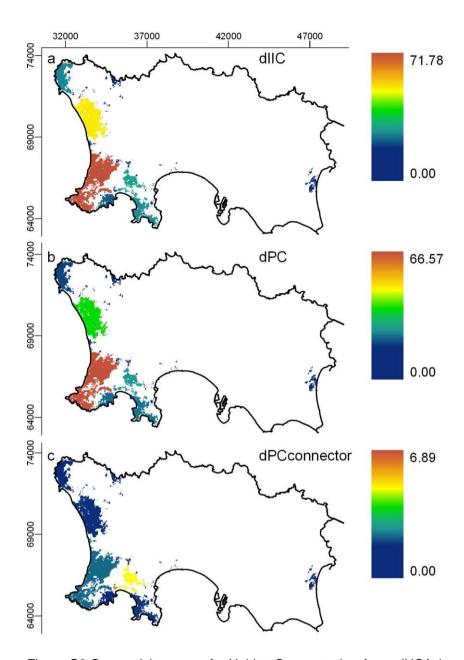


Figure G3 Connectivity scores for Habitat Concentration Areas (HCAs) excluding built-up areas for the grass snake (*Natrix helvetica*). Scores are shown for three indices; (a) the Integral Index of Connectivity (*dIIC*), (b) the Probability of Connectivity (*dPC*) and (c) the connector fraction of the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

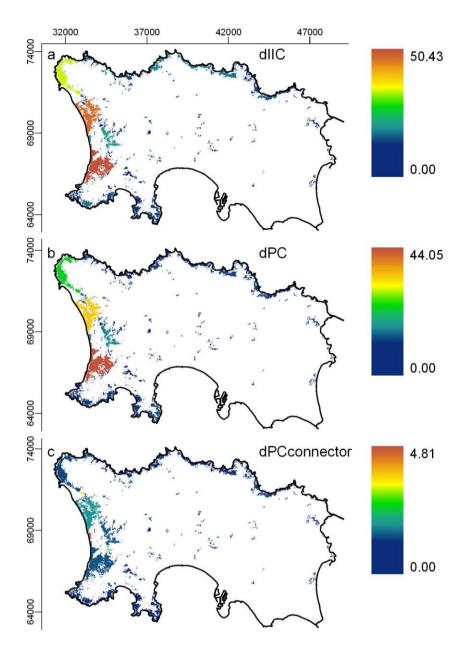


Figure G4 Connectivity scores for Habitat Concentration Areas (HCAs) excluding built-up areas for the bank vole (*Myodes glareolus*). Scores are shown for three indices; (a) the Integral Index of Connectivity (*dIIC*), (b) the Probability of Connectivity (*dPC*) and (c) the connector fraction of the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

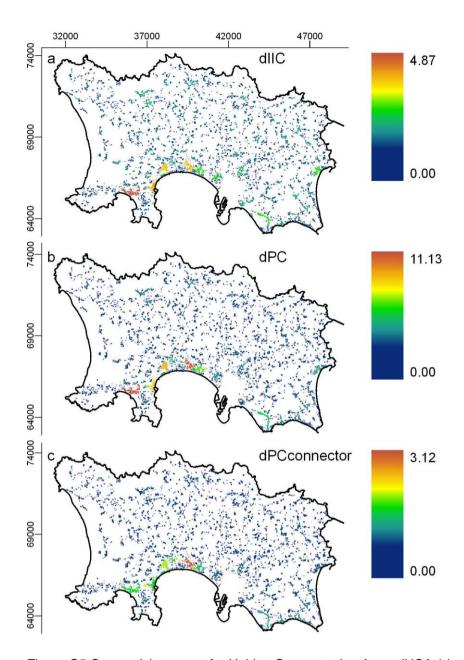


Figure G5 Connectivity scores for Habitat Concentration Areas (HCAs) including built-up areas for the common pipistrelle bat (*Pipistrellus pipistrellus*). Scores are shown for three indices; (a) the Integral Index of Connectivity (*dIIC*), (b) the Probability of Connectivity (*dPC*) and (c) the connector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

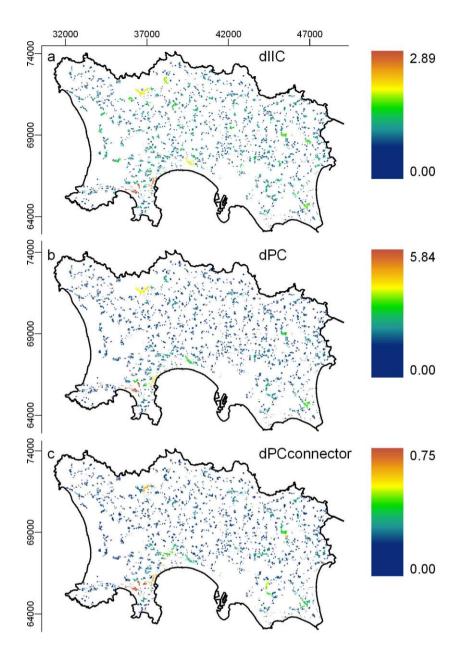


Figure G6 Connectivity scores for Habitat Concentration Areas (HCAs) excluding built-up areas for the common pipistrelle bat (*Pipistrellus pipistrellus*). Scores are shown for three indices; (a) the Integral Index of Connectivity (*dIIC*), (b) the Probability of Connectivity (*dPC*) and (c) the connector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

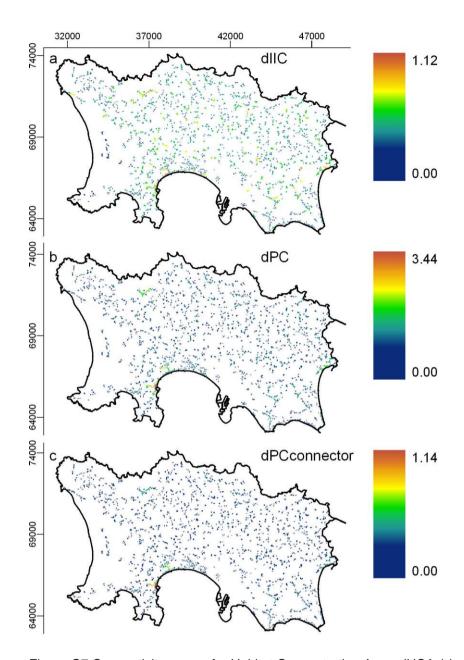


Figure G7 Connectivity scores for Habitat Concentration Areas (HCAs) including built-up areas for long-eared bats (*Plecotus* spp.). Scores are shown for three indices; (a) the Integral Index of Connectivity (*dIIC*), (b) the Probability of Connectivity (*dPC*) and (c) the connector fraction of the Probability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

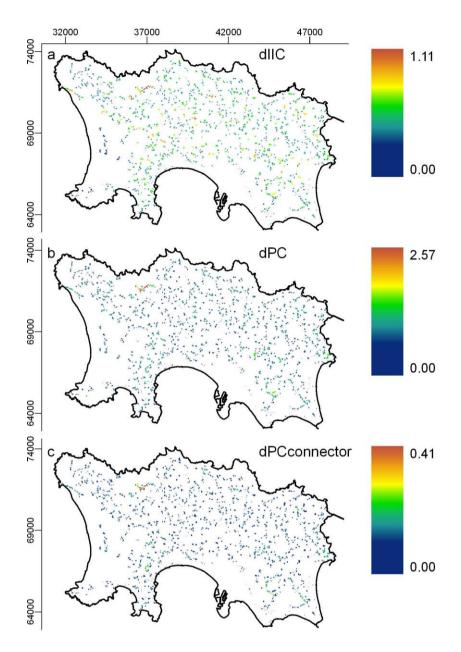


Figure G8 Connectivity scores for Habitat Concentration Areas (HCAs) excluding built-up areas for long-eared bats (*Plecotus* spp.). Scores are shown for three indices; (a) the Integral Index of Connectivity (*dIIC*), (b) the Probability of Connectivity (*dPC*) and (c) the connector fraction of the Probability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

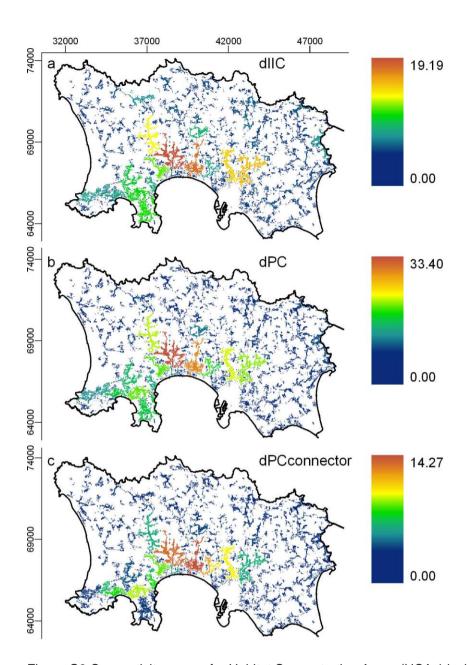


Figure G9 Connectivity scores for Habitat Concentration Areas (HCAs) including built-up areas for red squirrels (*Sciurus vulgaris*). Scores are shown for three indices; (a) the Integral Index of Connectivity (*dIIC*), (b) the Probability of Connectivity (*dPC*) and (c) the connector fraction of the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

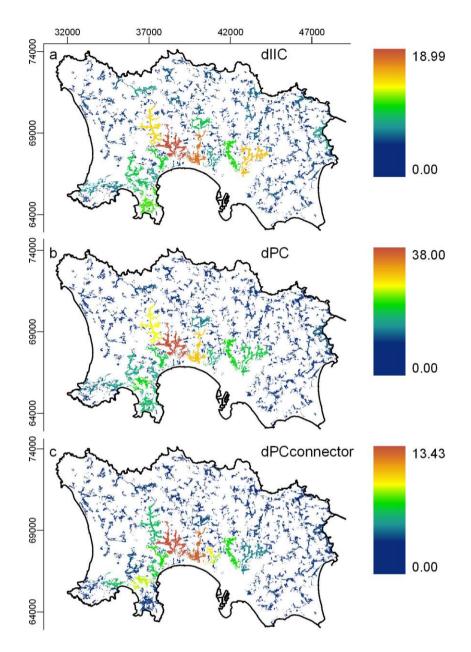


Figure G10 Connectivity scores for Habitat Concentration Areas (HCAs) excluding built-up areas for red squirrels (*Sciurus vulgaris*). Scores are shown for three indices; (a) the Integral Index of Connectivity (*dIIC*), (b) the Probability of Connectivity (*dPC*) and (c) the connector fraction of the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

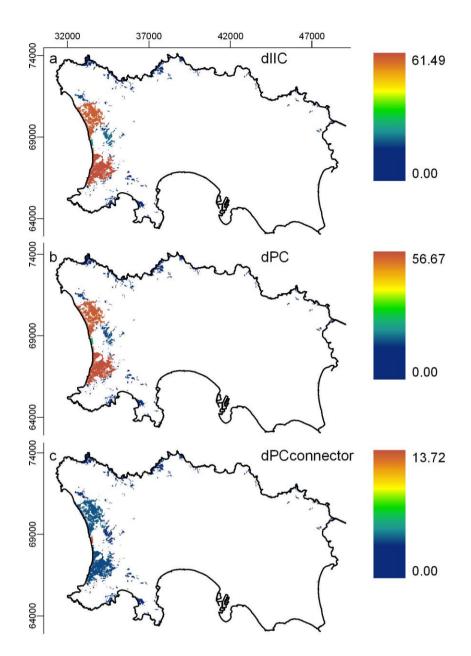


Figure G11 Connectivity scores for Habitat Concentration Areas (HCAs) excluding built-up areas for field crickets (*Gryllus campestris*). Scores are shown for three indices; (a) the Integral Index of Connectivity (*dIIC*), (b) the Probability of Connectivity (*dPC*) and (c) the connector fraction of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

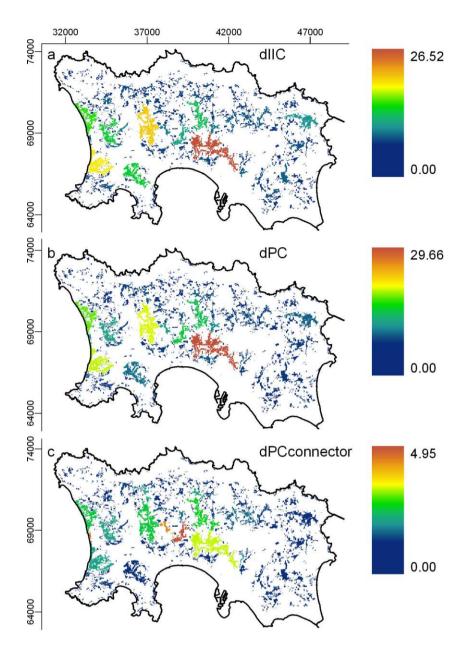


Figure G12 Connectivity scores for Habitat Concentration Areas (HCAs) excluding built-up areas for waxcap fungi (*Hygrocybe* spp.). Scores are shown for three indices; (a) the Integral Index of Connectivity (*dIIC*), (b) the Probability of Connectivity (*dPC*) and (c) the connector fraction of the Probability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

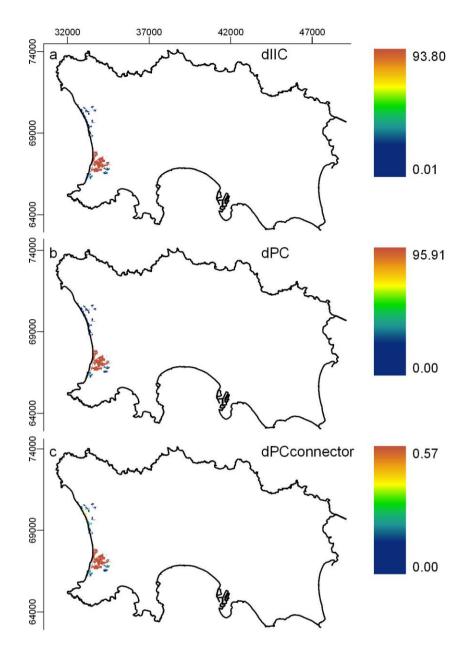


Figure G13 Connectivity scores for Habitat Concentration Areas (HCAs) excluding built-up areas for scaly stalkball fungi (*Tulostoma melanocyclum*). Scores are shown for three indices; (a) the Integral Index of Connectivity (*dIIC*), (b) the Probability of Connectivity (*dPC*) and (c) the connector fraction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

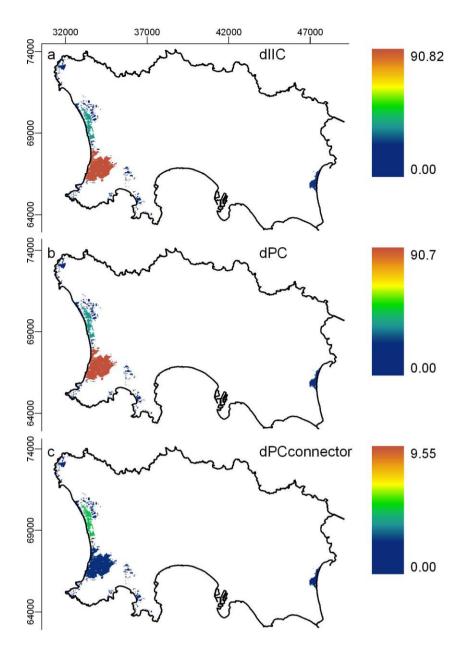


Figure G14 Connectivity scores for Habitat Concentration Areas (HCAs) excluding built-up areas for green-winged orchids (*Anacamptis morio*). Scores are shown for three indices; (a) the Integral Index of Connectivity (*dIIC*), (b) the Probability of Connectivity (*dPC*) and (c) the connector fraction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

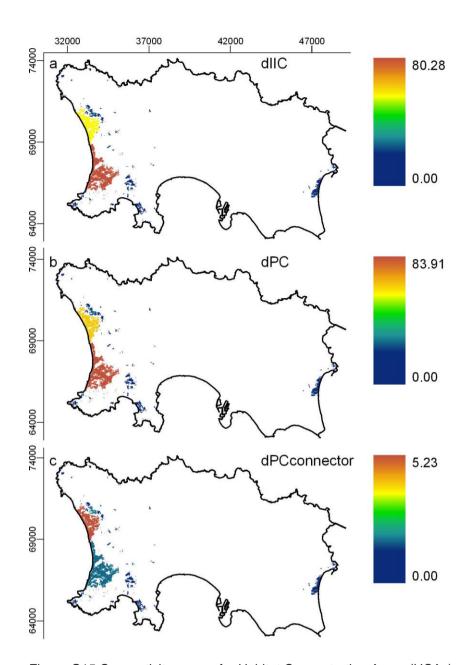


Figure G15 Connectivity scores for Habitat Concentration Areas (HCAs) excluding built-up areas for pyramidal orchids (*Anacamptis pyramidalis*). Scores are shown for three indices; (a) the Integral Index of Connectivity (*dIIC*), (b) the Probability of Connectivity (*dPC*) and (c) the connector fraction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

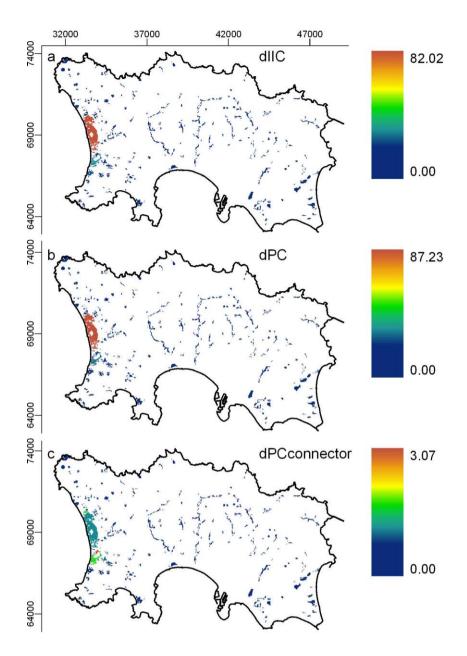


Figure G16 Connectivity scores for Habitat Concentration Areas (HCAs) excluding built-up areas for Southern marsh-orchids (*Dactylorhiza praetermissa*). Scores are shown for three indices; (a) the Integral Index of Connectivity (*dIIC*), (b) the Probability of Connectivity (*dPC*) and (c) the connector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

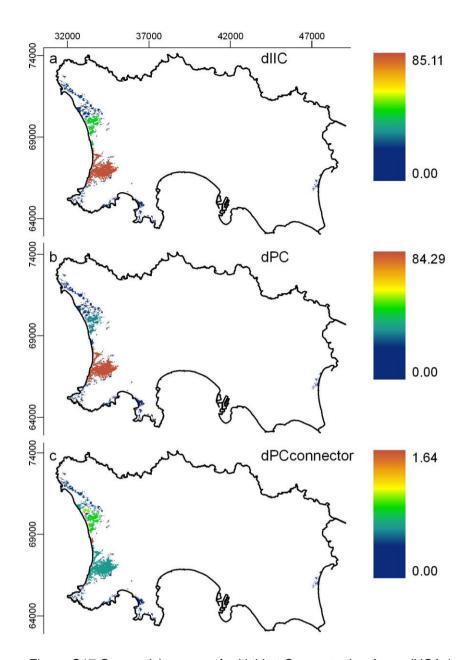


Figure G17 Connectivity scores for Habitat Concentration Areas (HCAs) excluding built-up areas for lizard orchids (*Himantoglossum hircinum*). Scores are shown for three indices; (a) the Integral Index of Connectivity (*dIIC*), (b) the Probability of Connectivity (*dPC*) and (c) the connector fraction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

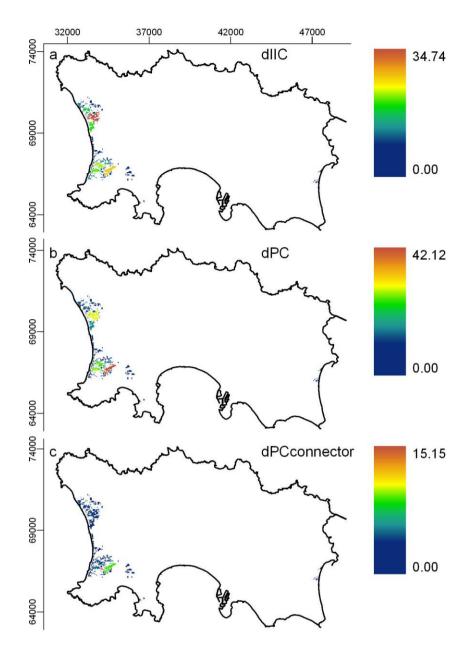


Figure G18 Connectivity scores for Habitat Concentration Areas (HCAs) excluding built-up areas for early-purple orchids (*Orchis mascula*). Scores are shown for three indices; (a) the Integral Index of Connectivity (*dIIC*), (b) the Probability of Connectivity (*dPC*) and (c) the connector fraction of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

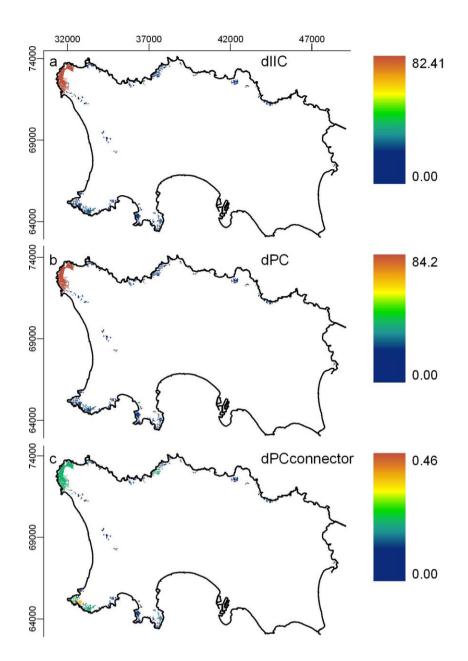


Figure G19 Connectivity scores for Habitat Concentration Areas (HCAs) excluding built-up areas for Jersey buttercups (*Ranunculus paludosus*). Scores are shown for three indices; (a) the Integral Index of Connectivity (*dIIC*), (b) the Probability of Connectivity (*dPC*) and (c) the connector fraction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

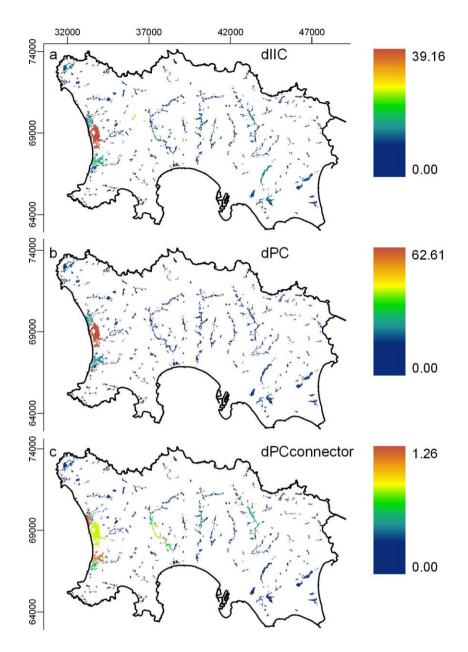


Figure G20 Connectivity scores for Habitat Concentration Areas (HCAs) excluding built-up areas for ragged robin (*Silene flos-cuculi*). Scores are shown for three indices; (a) the Integral Index of Connectivity (*dIIC*), (b) the Probability of Connectivity (*dPC*) and (c) the connector fraction of the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

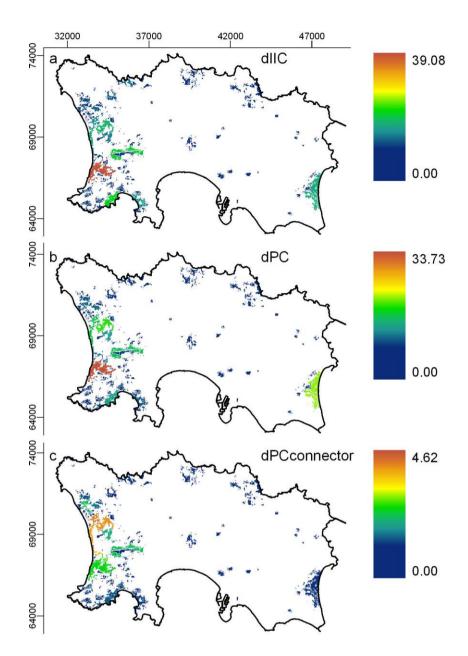


Figure G21 Connectivity scores for Habitat Concentration Areas (HCAs) including built-up areas for Autumn lady's-tresses (*Spiranthes spiralis*). Scores are shown for three indices; (a) the Integral Index of Connectivity (*dIIC*), (b) the Probability of Connectivity (*dPC*) and (c) the connector fraction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

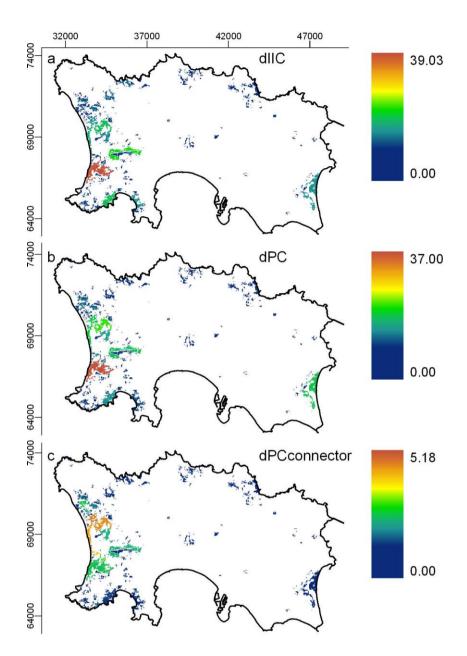


Figure G22 Connectivity scores for Habitat Concentration Areas (HCAs) excluding built-up areas for Autumn lady's-tresses (*Spiranthes spiralis*). Scores are shown for three indices; (a) the Integral Index of Connectivity (*dIIC*), (b) the Probability of Connectivity (*dPC*) and (c) the connector fraction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