

Supplementary Materials Table S1. Coefficients from linear mixed-effect models (LMM) used to calculate the operative temperature at night-time for four habitats at Ōrokonui Ecosanctuary, South Island, New Zealand. The four habitat classes were: kānuka, bracken, mixed and open-rank grass. Night-time was defined as the photoperiod between sunset and sunrise. In the results presented below, kānuka is fitted as the reference category, although this was adjusted to estimate pairwise comparisons between other habitat types, which are also shown for completeness. β = parameter estimates; SE = standard error; df = degrees of freedom; t = t-value; P = P-value.

Habitat comparison	β	SE	df	t	P
Intercept (kānuka)	11.8	0.1	47071	87.19896	<0.0001
Bracken	-0.6	0.2	32	-2.95	<0.006
Mixed	-0.7	0.2	32	-3.49	<0.002
Open-rank grass	-0.3	0.3	32	-1.23	0.23
Bracken to mixed	-0.1	0.2	32	-0.62	0.54
Bracken to open-rank grass	0.3	0.3	32	0.99	0.33
Mixed to open-rank grass	0.4	0.3	32	1.45	0.16

Supplementary Materials Table S2. Parameter estimates and relative importance from resource selection functions for juvenile tuatara (*Sphenodon punctatus*) following a reintroduction to Ōrokonui Ecosanctuary, South Island, New Zealand. The estimates are derived from multi-model averaging across a candidate set of top models with $\Delta AIC_c < 6$. Abbreviations for predictor variables are DCO = Distance from cover object; CC1200 = Canopy cover at 1200 mm; CC30 = Canopy cover at 30 mm. Wild-caught = transferred directly from Stephens Island/Takapourewa; HS-warmer = head started at Nga Manu Nature Reserve, which is substantially north of Ōrokonui and thus warmer; HS-local = head started at Ōrokonui Ecosanctuary. β = standardised parameter estimates; USE = unconditional standard error; z = z-scores; P = P-value; RI = relative importance of each parameter to the other parameters in the final model.

Response	β	USE	z	P	RI
Wild-caught					
Intercept	-3.08	0.39	7.99	<0.0001	
DCO	-11.33	1.62	7.00	<0.0001	1
CC1200	-0.88	0.82	1.07	0.29	1
CC30	-0.60	0.92	0.65	0.52	0.63
DCO * CC1200	-2.06	4.96	0.41	0.68	0.30
DCO * CC30	3.14	3.40	0.92	0.36	0.21
CC1200 * CC30	0.16	1.46	0.11	0.92	0.17
HS-warmer					
Intercept	-2.56	0.30	8.40	<0.0001	
DCO	-6.32	1.74	3.63	<0.001	1
CC1200	0.53	0.61	0.86	0.39	0.77
CC30	-3.78	1.34	2.83	<0.01	1
DCO * CC1200	2.57	2.14	1.20	0.23	0.32
CO * CC30	0.25	4.18	0.06	0.95	0.27
CC1200 * CC30	0.66	7.72	0.09	0.93	0.22
HS-local					
Intercept	-3.14	0.71	4.42	<0.0001	
DCO	-11.77	3.27	3.60	<0.01	1
CC1200	-2.73	1.68	1.62	0.10	0.88
CC30	-1.48	2.18	0.68	0.50	0.81
DCO * CC1200	-10.32	5.34	1.93	0.05	0.38
DCO * CC30	-9.65	9.81	0.98	0.33	0.32
CC1200 * CC30	-6.41	11.99	0.53	0.59	0.66

Supplementary Materials Table S3. Predictors in each candidate model evaluated from resource selection functions for juvenile tuatara (*Sphenodon punctatus*) from three groups following a reintroduction to Ōrokonui Ecosanctuary, South Island, New Zealand. The models were selected using multi-model averaging across a candidate set of top models with $\Delta AIC_c < 6$. Abbreviations for predictor variables are DCO = Distance from cover object; CC1200 = Canopy cover at 1200 mm; CC30 = Canopy cover at 30 mm. Refer to Table S4 for best models and candidate model-averaging, and Table S2 for explanation of group names.

Candidate model	Predictors
Wild-caught	
1	CC30 + CC30 * DCO
2	CC30 + CO + CC30 * DCO
3	CC30 + CC30 * DCO + CC30 * CC1200
4	CC30 + DCO + CC30 * DCO + DCO * CC1200
5	CC30 + DCO + CC30 * DCO + CC1200
6	CC30 + DCO + CC30 * DCO + CC30 * CC1200
7	CC30 + DCO + CC30 * DCO + CC30 * CC1200 + DCO * CC1200
8	CC30 + DCO + CC30 * DCO + CC1200 + DCO * CC1200
9	CC30 + DCO + CC30 * DCO + CC1200 + CC30 * CC1200
10	CC30 + DCO + CC30 * DCO + CC1200 + CC30 * CC1200 + DCO * CC1200
HS-warmer	
1	CC30 + DCO + CC30 * DCO
2	CC30 + DCO + CC30 * DCO + CC30 * CC1200
3	DCO + CC30 * DCO
4	CC30 + DCO + CC30 * DCO + CC1200
5	CC30 + DCO + CC30 * DCO + DCO * CC1200
6	CC30 + DCO + CC30 * DCO + CC1200 + CC30 * CC1200
7	CC30 + DCO + CC30 * DCO + CC30 * CC1200 + DCO * CC1200
8	DCO + CC30 * DCO + DCO * CC1200
9	CC30 + DCO + CC30 * DCO + CC1200 + DCO * CC1200
10	CC30 + DCO + CC30 * DCO + CC1200 + CC30 * CC1200 + DCO * CC1200
HS-local	
1	CC30 + DCO + CC30 * DCO + CC1200
2	CC30 + DCO + CC30 * DCO + CC1200 + DCO * CC1200
3	CC30 + CC30 * DCO + CC30 * CC1200
4	CC30 + DCO + CC30 * DCO + CC1200 + CC30 * CC1200
5	CC30 + DCO + CC30 * DCO + CC1200 + CC30 * CC1200 + DCO * CC1200
6	CC30 + DCO + CC30 * DCO + CC30 * CC1200
7	CC30 * DCO
8	DCO + CC30 * DCO + DCO * CC1200
9	CC30 + DCO + CC30 * DCO + CC30 * CC1200 + DCO * CC1200
10	DCO + CC30 * DCO

Supplementary Materials Table S4. Candidate models for resource selection functions for juvenile tuatara (*Sphenodon punctatus*) from three groups following a reintroduction to Ōrokonui Ecosanctuary, South Island, New Zealand. The models were evaluated on the basis on the standardised predictor variables and the source of juveniles as response variables. Models were included in multi-model inference if $\Delta AIC_c < 6$. k = number of model parameters, AIC_c = sample size-corrected Akaike Information Criterion, ΔAIC_c = the difference in AIC_c between the top model and each candidate model (AIC_c), w_i = Akaike weights. Refer to Table S2 for explanation of juvenile tuatara group names and to Table S3 for model parameters.

Candidate model	k	AIC_c	ΔAIC_c	w_i
Wild-caught				
1	4	1195.37	0	0.24
2	5	1195.46	0.09	0.23
3	5	1196.67	1.30	0.13
4	6	1106.99	1.62	0.11
5	6	1197.47	2.10	0.08
6	6	1197.48	2.11	0.08
7	7	1198.75	3.38	0.04
8	7	1199.00	3.63	0.04
9	7	1199.49	4.12	0.03
10	8	1200.75	5.38	0.02
HS-warmer				
1	5	1109.25	0	0.23
2	6	1109.88	0.63	0.17
3	4	110.9.94	0.69	0.17
4	6	1111.04	1.79	0.10
5	6	1111.27	2.02	0.09
6	7	1111.77	2.53	0.07
7	7	1111.87	2.62	0.06
8	5	1111.95	2.71	0.06
9	7	1113.06	3.81	0.03
10	8	1113.77	4.52	0.02
HS-local				
1	6	670.98	0	0.30
2	7	671.90	0.92	0.19
3	5	672.99	2.01	0.11
4	7	673.02	2.04	0.11
5	8	673.90	2.92	0.07
6	6	674.12	3.14	0.06
7	3	674.22	3.23	0.06
8	5	675.34	4.36	0.03
9	7	675.55	4.57	0.03
10	7	675.80	4.82	0.03
11	7	675.24	5.25	0.02