

Dataset S2: Ecological estimate of population size for adult *Dinornis robustus* (South Island), based on environmental regions identified by Leathwick et al. (2002; 2003) and carrying capacities as used by Anderson (1989) and Holdaway & Jacomb (2000)

Region	Subregion	1, hills 2, steep mountains	Area (km ²)	Biomass kg km ⁻² by habitat quality and terrain	Area per 200 kg female (km)	No. females	Area per 100 kg male	No. males	Total territories	Running total (adults)
B1	B1.1		100	2.5	80.0	1.3	40.0	1.1	2	
	B1.2		147.88	2.5	80.0	1.8	40.0	1.7	4	6
B3	B3.1		1031.12	9.1	22.0	46.9	11.0	42.7	90	95
	B3.2		860.4	9.1	22.0	39.1	11.0	35.6	75	170
B4	B4.1		26.44	9.1	22.0	1.2	11.0	1.1	2	173
B6	B6.1		294.08	9.1	22.0	13.4	11.0	12.2	26	198
B7	B7.1		250	2.5	80.0	3.1	40.0	2.8	6	204
B8	B8.1		870.68	9.1	22.0	39.6	11.0	36.0	76	280
B9	B9.1		155.28	16.8	11.9	13.0	6.0	11.9	25	305
	B9.2		31.76	16.8	11.9	2.7	6.0	2.4	5	310
C1	C1.1		15	2.5	80.0	0.2	40.0	0.2	0	310
E1	E1.1		1600	2.5	80.0	20.0	40.0	18.2	38	348
	E1.2	1	930.68	3.0303	66.0	14.1	33.0	12.8	27	375
	E1.3	1	648.16	3.0303	66.0	9.8	33.0	8.9	19	394
	E1.4	1	5625.72	3.0303	66.0	85.2	33.0	77.5	163	557
E2	E2.1		125.4	9.1	22.0	5.7	11.0	5.2	11	567
	E2.2		38.76	2.5	80.0	0.5	40.0	0.4	1	568
E3	E3.1		301	9.1	22.0	13.7	11.0	12.5	26	595
	E3.2		322.32	9.1	22.0	14.7	11.0	13.3	28	623
E4	E4.1		1513.2	16.8	11.9	127.1	6.0	115.6	243	865
	E4.2		1469.36	16.8	11.9	123.4	6.0	112.2	236	1101
F1	F1.2	1	200	0.8325	240.2	0.8	120.1	0.8	2	1102
F2	F2.1		133.08	2.5	80.0	1.7	40.0	1.5	3	1106
F3	F3.1		549	9.1	22.0	25.0	11.0	22.7	48	1153
	F3.2		109.36	16.8	11.9	9.2	6.0	8.4	18	1171
	F3.3	1	302.56	5.5944	35.8	8.5	17.9	7.7	16	1187
F5	F5.1		200	9.1	22.0	9.1	11.0	8.3	17	1204
H1	H1.1		170.36	2.5	80.0	2.1	40.0	1.9	4	1208
H3	H3.2		31.24	16.8	11.9	2.6	6.0	2.4	5	1213
I1	I1.1		17.6	16.8	11.9	1.5	6.0	1.3	3	1216
I3	I3.1		74.12	16.8	11.9	6.2	6.0	5.7	12	1228
	I3.2		104.396	16.8	11.9	8.8	6.0	8.0	17	1245
	I3.3		101.88	16.8	11.9	8.6	6.0	7.8	16	1261
I4	I4.1		3.84	16.8	11.9	0.3	6.0	0.3	1	1262
	I4.2		0.52	16.8	11.9	0.0	6.0	0.0	0	1262
J1	J1.1		299.2	9.1	22.0	13.6	11.0	12.4	26	1288
	J1.2		239.8	16.8	11.9	20.1	6.0	18.3	38	1326
J2	J2.1		777.6	16.8	11.9	65.3	6.0	59.4	125	1451
	J2.2		390.6	16.8	11.9	32.8	6.0	29.8	63	1514
J3	J3.1		71.52	16.8	11.9	6.0	6.0	5.5	11	1525
	J3.2		80.72	16.8	11.9	6.8	6.0	6.2	13	1538
K1	K1.1		652.6	16.8	11.9	54.8	6.0	49.8	105	1643
	K1.2		326.16	9.1	22.0	14.8	11.0	13.5	28	1671
K2	K2.1		88.04	16.8	11.9	7.4	6.0	6.7	14	1685
	K2.2		25.2	9.1	22.0	1.1	11.0	1.0	2	1687
K3	K3.1		176.4	16.8	11.9	14.8	6.0	13.5	28	1716
	K3.2		33.44	9.1	22.0	1.5	11.0	1.4	3	1719
	K3.3		115.16	9.1	22.0	5.2	11.0	4.8	10	1729
K4	K4.1		165.4	16.8	11.9	13.9	6.0	12.6	27	1755
	K4.2		0.8	16.8	11.9	0.1	6.0	0.1	0	1755
K5	K5.1		48.36	9.1	22.0	2.2	11.0	2.0	4	1759

Region	Subregion	1, hills 2, steep mountains	Area (km ²)	Biomass kg	Area per	No. females	Area per	No. males	Total territories	Running total (adults)
				km ⁻²	by habitat quality and terrain		200 kg female (km)			
L1	L1.1		1423.8	16.8	11.9	119.6	6.0	108.7	228	1988
	L1.2		393.64	16.8	11.9	33.1	6.0	30.1	63	2051
	L1.3		258.08	9.1	22.0	11.7	11.0	10.7	22	2073
L2	L2.1		73.32	9.1	22.0	3.3	11.0	3.0	6	2080
	L2.2		25.12	16.8	11.9	2.1	6.0	1.9	4	2084
L3	L3.1		691.88	9.1	22.0	31.5	11.0	28.6	60	2144
	L3.2		465.44	16.8	11.9	39.1	6.0	35.5	75	2218
L4	L4.1		4082.08	9.1	22.0	185.7	11.0	168.8	355	2573
L5	L5.1		590.36	16.8	11.9	49.6	6.0	45.1	95	2668
	L5.2		22.96	16.8	11.9	1.9	6.0	1.8	4	2671
M1	M1.1		928.12	16.8	11.9	78.0	6.0	70.9	149	2820
M2	M2.1		466.24	16.8	11.9	39.2	6.0	35.6	75	2895
	M2.2		168.56	9.1	22.0	7.7	11.0	7.0	15	2910
	M2.3		143.88	9.1	22.0	6.5	11.0	6.0	12	2922
M3	M3.1		0.48	16.8	11.9	0.0	6.0	0.0	0	2922
	M3.2		4.08	9.1	22.0	0.2	11.0	0.2	0	2923
M4	M4.1		575.12	2.5	80.0	7.2	40.0	6.5	14	2936
N1	N1.1		2271.96	16.8	11.9	190.8	6.0	173.5	364	3301
	N1.2		1776.84	16.8	11.9	149.3	6.0	135.7	285	3586
N2	N2.1		3679.08	16.8	11.9	309.0	6.0	280.9	590	4176
	N2.2		1199.44	16.8	11.9	100.8	6.0	91.6	192	4368
N3	N3.1		4638.24	9.1	22.0	211.0	11.0	191.9	403	4771
	N3.2		169.44	9.1	22.0	7.7	11.0	7.0	15	4786
	N3.3		1246.6	9.1	22.0	56.7	11.0	51.6	108	4894
N4	N4.1		2429.52	9.1	22.0	110.5	11.0	100.5	211	5105
N5	N5.1		1414.36	9.1	22.0	64.4	11.0	58.5	123	5228
	N5.2		251.12	16.8	11.9	21.1	6.0	19.2	40	5268
N6	N6.1		759.52	16.8	11.9	63.8	6.0	58.0	122	5390
	N6.2		189.72	16.8	11.9	15.9	6.0	14.5	30	5420
N7	N7.1		122.72	9.1	22.0	5.6	11.0	5.1	11	5431
N8	N8.1		348.88	9.1	22.0	15.9	11.0	14.4	30	5461
	N8.2		43.84	9.1	22.0	2.0	11.0	1.8	4	5465
O1	O1.1		1047.44	9.1	22.0	47.7	11.0	43.3	91	5556
	O1.2		337.16	16.8	11.9	28.3	6.0	25.7	54	5610
	O1.3		209.88	9.1	22.0	9.5	11.0	8.7	18	5628
	O1.4		3463.08	9.1	22.0	157.6	11.0	143.2	301	5929
O2	O2.1	1	1610.44	3.0303	66.0	24.4	33.0	22.2	47	5976
	O2.2		173.8	2.5	80.0	2.2	40.0	2.0	4	5980
	O2.3	2	2944.56	1.516697	131.9	22.3	65.9	20.3	43	6022
O3	O3.1		709.2	9.1	22.0	32.3	11.0	29.3	62	6084
	O3.2		52.76	2.5	80.0	0.7	40.0	0.6	1	6085
	O3.3		128	2.5	80.0	1.6	40.0	1.5	3	6088
O4	O4.1	1	947.64	0.8325	240.2	3.9	120.1	3.6	8	6096
	O4.2		493.16	2.5	80.0	6.2	40.0	5.6	12	6108
O5	O5.1		307.48	2.5	80.0	3.8	40.0	3.5	7	6115
P1	P1.1	2	2035	0.416675	480.0	4.2	240.0	3.9	8	6123
	P1.2	2	9525	1.516697	131.9	72.2	65.9	65.7	138	6261
P2	P2.1	2	1714	1.516697	131.9	13.0	65.9	11.8	25	6286
P3	P3.1	2	3228.64	0.416675	480.0	6.7	240.0	6.1	13	6299
	P3.2		360.72	2.5	80.0	4.5	40.0	4.1	9	6307
P5	P5.1	2	3033.68	1.516697	131.9	23.0	65.9	20.9	44	6351
	P5.2		1883.8	2.5	80.0	23.5	40.0	21.4	45	6396
P6	P6.1	2	381.6	0.416675	480.0	0.8	240.0	0.7	2	6398
	P6.2	2	3637.32	1.516697	131.9	27.6	65.9	25.1	53	6450

Region	Subregion	1, hills 2, steep mountains	Area (km ²)	Biomass kg km ⁻² by habitat quality and terrain	Area per 200 kg female (km)	No. females	Area per 100 kg male	No. males	Total territories	Running total (adults)
Q1	Q1.1	2	6549.32	1.516697	131.9	49.7	65.9	45.2	95	6545
	Q1.2	2	2533.52	1.516697	131.9	19.2	65.9	17.5	37	6582
Q2	Q2.1	2	4075.32	1.516697	131.9	30.9	65.9	28.1	59	6641
	Q2.2	2	2357.4	1.516697	131.9	17.9	65.9	16.3	34	6675
Q3	Q3.1	2	849	1.516697	131.9	6.4	65.9	5.9	12	6687
	Q3.2		530.08	9.1	22.0	24.1	11.0	21.9	46	6733
	Q3.3		2891.56	9.1	22.0	131.6	11.0	119.6	251	6984
Q4	Q4.1		4772.8	9.1	22.0	217.2	11.0	197.4	415	7399
	Q4.2		4646.36	9.1	22.0	211.4	11.0	192.2	404	7803
	Q4.3		3548.04	9.1	22.0	161.4	11.0	146.8	308	8111
R1	R1.1	2	6498.52	1.516697	131.9	49.3	65.9	44.8	94	8205
	R1.2	2	3461.8	1.516697	131.9	26.3	65.9	23.9	50	8255
R2	R2.1	2	4050.48	0.416675	480.0	8.4	240.0	7.7	16	8271
	R2.2	2	5514.84	0.416675	480.0	11.5	240.0	10.4	22	8293
S1	S1.1	1	37.56	0.8325	240.2	0.2	120.1	0.1	0	8293
S2	S2.1	1	121.44	0.8325	240.2	0.5	120.1	0.5	1	8294
	S2.2	1	48.4	0.8325	240.2	0.2	120.1	0.2	0	8295
S3	S3.1	1	127.84	0.8325	240.2	0.5	120.1	0.5	1	8296