

Supplementary material

Factors affecting the mortality of Lumholtz's tree-kangaroo (*Dendrolagus lumholtzi*) by vehicle strike

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Table S1. Linear correlation matrix correlation (Pearson r; above the diagonal) and their significance (P; below the diagonal). Significant r values are shown in bold. Significant P values are annotated as follows: <0.05, *; <0.01, **; <0.001, ***.

		Visibility (m)		Mown width (m)		Verge width (m)		Road width (m)
		Minimum	Total	Minimum	Total	Minimum	Total	
Visibility (m)	Minimum		0.802	0.377	0.340	0.137	0.109	-0.026
	Total	0.000***		0.325	0.276	0.109	0.115	-0.081
Mown width (m)	Minimum	0.002**	0.012*		0.879	0.076	0.090	-0.208
	Total	0.007**	0.070	0.000***		0.068	0.116	-0.207
Verge width (m)	Minimum	1.000	1.000	1.000	1.000		0.903	0.069
	Total	1.000	1.000	1.000	1.000	0.000***		0.059
Road width (m)		1.000	1.000	0.477	0.477	1.000	1.000	

Table S2. Non-linear correlation matrix correlation (Spearman r; above the diagonal) and their significance (P; below the diagonal). Significant r values are shown in bold. Significant P values are annotated as follows: < 0.05, *.

	Steep bank (yes/no)	Drainage line (yes/no)	Low rail (yes/no)	Minimum visibility (< 50 m, 50-100 m, > 100 m)	Total verge width (< 15 m, 50-100 m, > 100 m)
Steep bank (yes/no)		0.136	0.226	0.237	-0.295
Drainage Line (yes/no)	1.000		0.094	-0.081	-0.099
Low rail (yes/no)	0.150	1.000		0.118	-0.231
Minimum visibility (< 50 m, 50-100 m, > 100 m)	0.139	1.000	1.000		0.000
Total verge width (< 15 m, 50-100 m, > 100 m)	0.024*	1.000	0.146	1.000	

Table S3. Analysis of stopping distances in relation to advisory speed signs and minimum visibility within road-kill hazard zones (yellow cells = stopping marginal, orange cells = stopping not possible). ^A Location as shown in Fig. S1. ^B N/R = not recorded. ^C Advisory speed limit only. Marginal sites were those where the difference between the stopping distance and the visibility was less than 40 m.

Location ^A	Speed limit (km/h)	Minimum visibility ^B (m)	Car stopping distance		Truck stopping distance	
			Dry road (m)	Wet road (m)	Dry road (m)	Wet road (m)
Hypipamee Crater (Hy) hazard zone						
Hy1	60 ^C	79	45	54	81	90
Hy2	50 ^C	60	35	41	47	54
Hy3	80	N/R	69	85	130	170
Hy4	80	82	69	85	130	170
Hy5	80	110	69	85	130	170
Hy6	80	100	69	85	130	170
Hy7	80	70	69	85	130	170
Kennedy-Longlands Gap (LG) hazard zone						
LG1	40 ^C	465	26	30	35	40
LG2	60 ^C	52	45	54	81	90
LG3	60	N/R	45	54	81	90
LG4	80	N/R	69	85	130	170
LG5	40 ^C	N/R	26	30	35	40
LG6	60	101	45	54	81	90
LG7	40 ^C	N/R	26	30	35	40
Lumholtz Lodge (LL) hazard zone						
LL1	60 ^C	N/R	45	54	81	90
LL2	80	N/R	69	85	130	170
LL3	80	105	54	93	130	170
LL4	80	98	54	93	130	170

Location ^A	Speed limit (km/h)	Minimum visibility ^B (m)	Car stopping distance		Truck stopping distance	
			Dry road	Wet road	Dry road	Wet road
			(m)	(m)	(m)	(m)
LL5	80	99	54	93	130	170
LL6	60 ^C	40	45	54	81	90
East Evelyn (EE) hazard zone						
EE1	100	N/R	98	122	185	277
EE2	80 ^C	N/R	69	85	130	170
EE3	60 ^C	155	45	54	81	90
EE4	60 ^C	155	45	54	81	90
EE5	60 ^C	120	45	54	81	90
EE6	80	164	69	85	130	170
EE7	80 ^C	N/R	69	85	130	170
EE8	60 ^C	N/R	45	54	81	90
EE9	80 ^C	80	69	85	130	170
EE10	80 ^C	125	69	85	130	170
Malanda-Millaa Millaa (MM) hazard zone						
MM1	80 ^C	235	69	85	130	170
MM2	80 ^C	175	69	85	130	170
MM3	80	N/R	69	85	130	170
MM4	80	45	54	93	130	170
MM5	70	N/R	56	69	105	130
MM6	90 ^C	130	68	118	157	223
MM7	70	N/R	56	69	105	130
MM8	70 ^C	N/R	56	69	105	130
MM9	80	N/R	69	85	130	170
MM10	70	N/R	56	69	105	130
MM11	80	100	69	85	130	170
MM12	80	75	69	85	130	170
Malanda (Ma) hazard zone						
Ma1	80	300	69	85	130	170
Ma2	80	200	69	85	130	170
Ma3	100	N/R	98	122	185	277
Ma4	100	117	98	122	185	277
Ma5	100	N/R	98	122	185	277

Location ^A	Speed limit (km/h)	Minimum visibility ^B (m)	Car stopping distance		Truck stopping distance	
			Dry road	Wet road	Dry road	Wet road
			(m)	(m)	(m)	(m)
Ma6	100	N/R	98	122	185	277
Ma7	100	150	98	122	185	277
Wongabel (W) hazard zone						
W1	100	45	98	122	185	277
W2	100	180	98	122	185	277
W3	100	45	98	122	185	277
W4	100	184	98	122	185	277
W5	100	N/R	98	122	185	277
W6	100	75	98	122	185	277
W7	100	45	98	122	185	277
W8	100	130	98	122	185	277
W9	100	475	98	122	185	277
W10	100	75	98	122	185	277
Curtain Fig (CF) black spot						
CF1	60	100	45	54	81	90
CF2	60	45	45	54	81	90

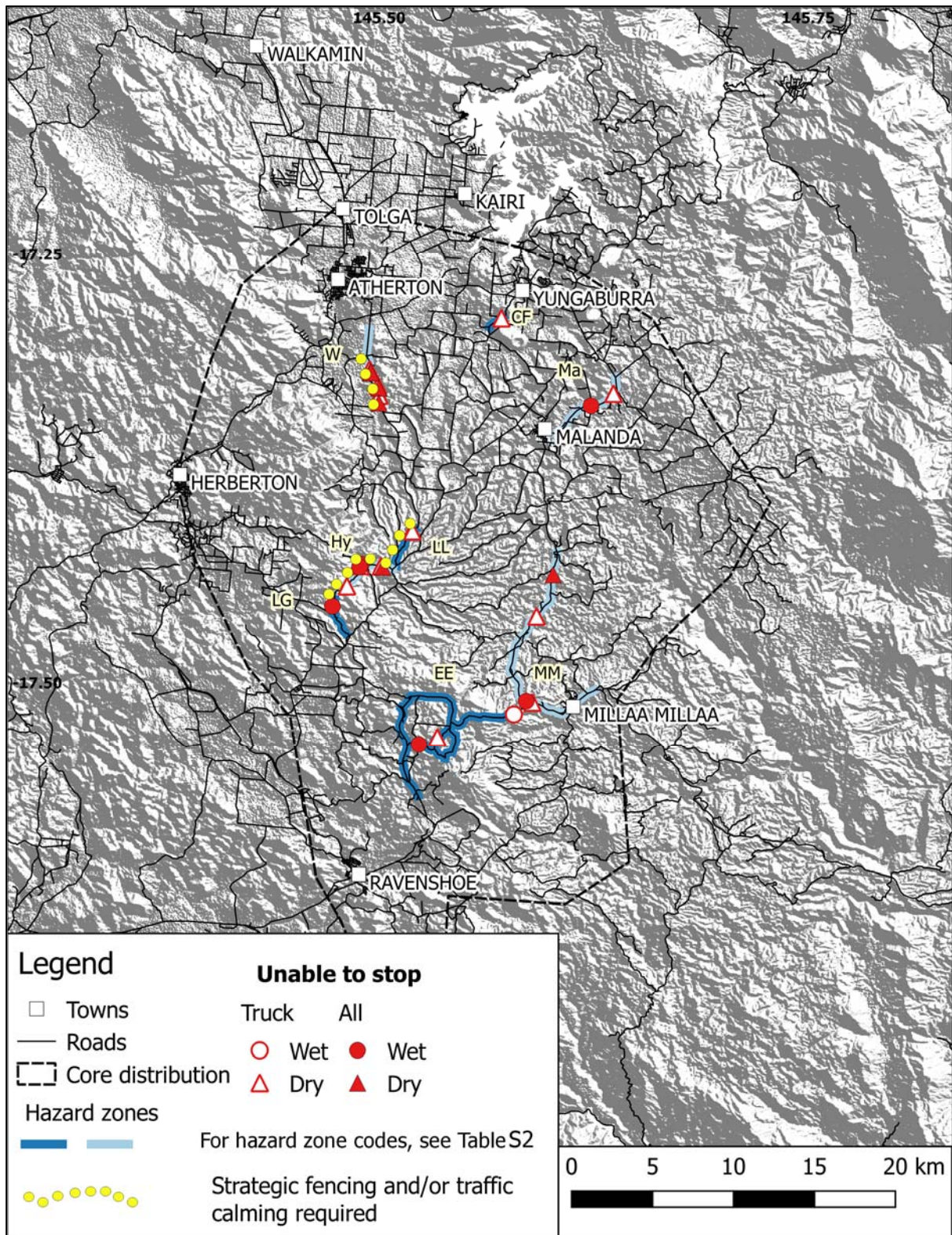


Fig. S1. Analysis of modelled car stopping distances in relation to minimum visibility for road-kill hazard zones.