

Supplemental Information

Supplementary Table 1. Parameter estimates for detection probability models in aerial distance sampling surveys of elk in Colusa and Lake counties, CA, USA, December 2018–2019.

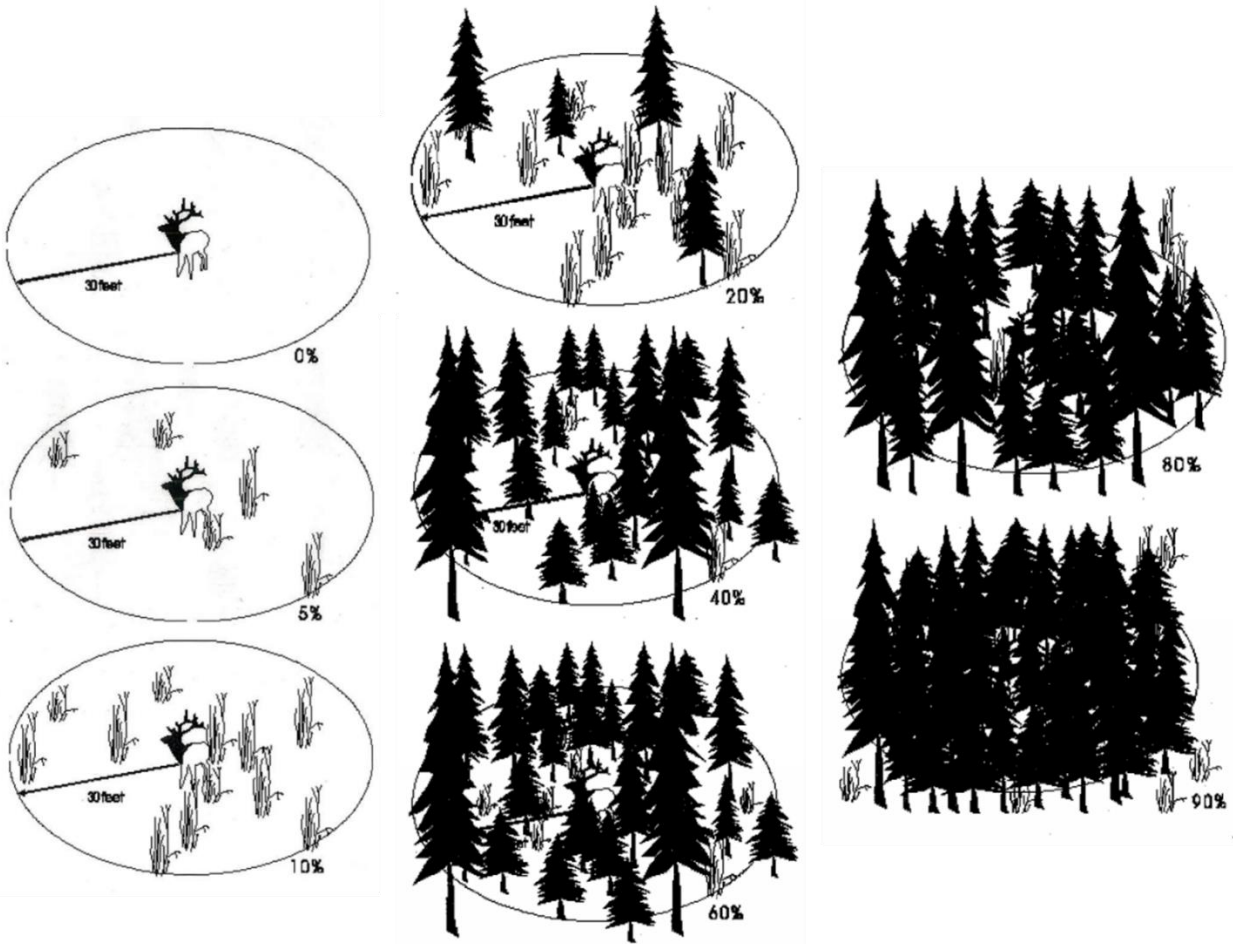
Detection model	Parameter	Estimate	SE	Lower 90% CI	Upper 90% CI	Significant effect
COVER+YEAR	Intercept	-0.511	0.498	-1.330	0.308	No
	COVER	-2.184	0.951	-3.748	-0.620	Yes
COVER+YEAR	Intercept	-0.749	0.471	-1.523	0.025	No
	COVER	-2.001	0.920	-3.515	-0.488	Yes
	YEAR	0.334	0.379	-0.289	0.956	No
COVER+SIZE	Intercept	-0.528	0.495	-1.342	0.286	No
	COVER	-2.038	0.972	-3.637	-0.439	Yes
	SIZE	0.185	0.658	-0.898	1.268	No
COVER+YEAR +SIZE	Intercept	-0.762	0.468	-1.532	0.007	No
	COVER	-2.015	0.972	-3.614	-0.416	Yes
	YEAR	0.358	0.388	-0.280	0.997	No
	SIZE	-0.050	0.376	-0.669	0.569	No
SIZE	Intercept	-0.689	0.689	-1.823	0.445	No
	SIZE	1.249	1.467	-1.164	3.662	No
Null YEAR	Intercept	-1.065	0.215	-1.419	-0.710	No
	Intercept	-1.304	0.214	-1.657	-0.952	No
	YEAR	0.506	0.518	-0.347	1.358	No
YEAR+SIZE	Intercept	-0.744	0.730	-1.945	0.458	No
	YEAR	0.154	0.404	-0.510	0.819	No
	SIZE	1.310	1.586	-1.299	3.919	No

Supplementary Table 2. Population estimates from fecal DNA spatial capture recapture (SCR) surveys of elk in Colusa and Lake counties, CA, USA, June-August 2017–2019 (Batter et al. 2022).

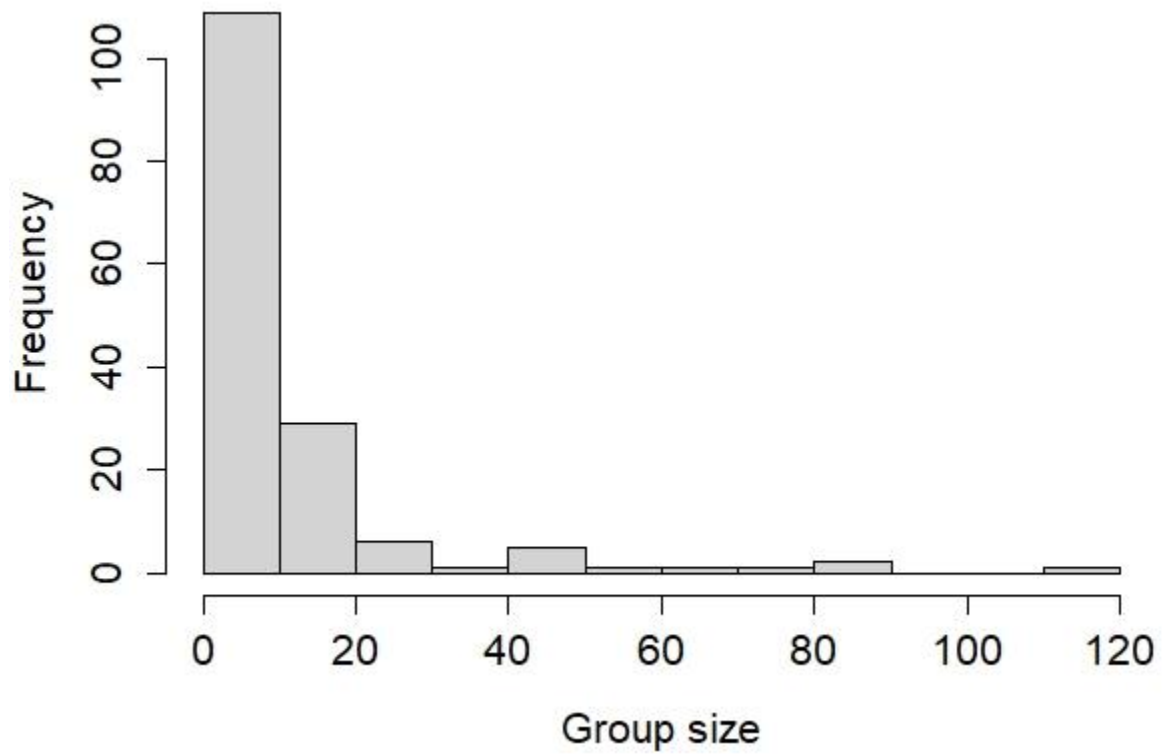
EMU	Survey Years	\hat{N}	CIL90%	CIU90%	CV
Bear Valley + Cache Creek ^a	2017, 2019	324	259	397	0.11
East Park Reservoir	2018	65	33	112	0.30
Lake Pillsbury	2018, 2019	264	199	339	0.13
Total	2017–2019	653	573	745	0.08

^a Because we detected movement of individuals across the Bear Valley and Cache Creek EMUs, data were pooled and modeled as a single closed population.

Supplementary Figure 1. Percent vegetation cover schematic used by observers to assist in ocular estimates of vegetation cover from aircraft.



Supplementary Figure 2. Histogram of group sizes in aerial distance sampling surveys of elk in Colusa and Lake counties, California, USA, December 2018–2019.



Supplementary Figure 3. Histogram of percent cover in aerial distance sampling detections of elk in Colusa and Lake counties, California, USA, December 2018–2019.

