Response of bat activity to land cover and land use in savannas is scale-, season-, and guild-specific

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Supporting Information

Table S1. Model selection table for aerial foraging guild bats at the fine scale, showing season, model names, degrees of freedom (df), loglikelihood, Akaike Information Criterion adjusted for small sample size (AICc), delta AICc (ΔAICc), and model weight.

Season	Model	df	Log-Likelihood	AICc	ΔAICc	Model weight
Wet	Water cover	3	-4865.4	9737.0	0.0	1.0
	Grass cover	3	-4960.8	9927.7	190.7	0.0
	Sugarcane cover	3	-4986.1	9978.4	241.4	0.0
	Shrub cover	3	-4989.0	9984.1	247.2	0.0
	Distance to water	3	-5016.7	10039.6	302.6	0.0
	Bare ground cover	3	-5017.6	10041.3	304.4	0.0
	Canopy cover	3	-5023.3	10052.8	315.8	0.0
	Null	2	-5046.2	10096.5	359.6	0.0
Dry	Water cover	3	-1784.2	3574.5	0.0	1.0
	Sugarcane cover	3	-1829.2	3664.7	90.2	0.0
	Bare ground cover	3	-1870.9	3748.0	173.5	0.0
	Grass cover	3	-1879.3	3764.7	190.2	0.0
	Null	2	-1886.6	3777.4	202.9	0.0
	Shrub cover	3	-1885.7	3777.6	203.1	0.0
	Canopy cover	3	-1886.0	3778.1	203.6	0.0
	Distance to water	3	-1886.6	3779.4	204.9	0.0

Table S2. Model selection table for aerial foraging guild bats at the landscape scale, showing season, model names, degrees of freedom (df), quasi-Akaike Information Criterion adjusted for small sample size (QAICc), and delta QAICc (ΔQAICc).

Season	Model	df	QAICc	ΔQAICc
Wet	Savanna splitting	2	33.2	0.0
	Water cover	2	33.2	0.1
	Null	1	34.2	1.0
	Sugarcane cover	2	34.3	1.2
	Savanna cover	2	35.7	2.5
	Rural cover	2	36.2	3.0
	Edge density	2	36.6	3.4
	Savanna cover x Savanna splitting	4	38.5	5.3
	Savanna cover x Edge density	4	41.2	8.0
Dry	Savanna splitting	2	32.3	0.0
	Water cover	2	35.7	3.3
	Savanna cover	2	36.4	4.1
	Savanna cover x Savanna splitting	4	36.6	4.2
	Null	1	36.6	4.2
	Sugar cover	2	37.3	5.0
	Edge density	2	37.7	5.3
	Savanna cover x Edge density	4	38.2	5.9
	Rural cover	2	39.0	6.7

Table S3. Model selection for edge foraging guild bats at the fine scale indicating season, model names, degrees of freedom (df), loglikelihood, Akaike Information Criterion adjusted for small sample size (AICc), delta AICc (ΔAICc), and model weight.

Season	Model	df	Log-likelihood	AICc	ΔAIC	Model weight
Wet	Shrub cover	3	-3859.3	7724.7	0.0	1.0
	Grass cover	3	-3901.8	7809.7	85.0	0.0
	Bare ground cover	3	-3913.4	7832.9	108.2	0.0
	Water cover	3	-3934.3	7874.8	150.1	0.0
	Sugarcane cover	3	-3940.0	7886.2	161.5	0.0
	Null	2	-3965.9	7935.8	211.1	0.0
	Distance to water	3	-3965.0	7936.3	211.6	0.0
	Canopy cover	3	-3965.8	7937.7	213.0	0.0
Dry	Distance to water	3	-1772.4	3551.0	0.0	1.0
	Water cover	3	-1817.0	3640.2	89.2	0.0
	Canopy cover	3	-1856.2	3718.6	167.6	0.0
	Sugarcane cover	3	-1866.2	3738.7	187.6	0.0
	Grass cover	3	-1870.4	3747.1	196.1	0.0
	Bare ground cover	3	-1876.6	3759.3	208.3	0.0
	Shrub cover	3	-1888.4	3783.0	232.0	0.0
	Null	2	-1889.6	3783.2	232.2	0.0

Table S4. Model selection table for edge foraging guild bats at the landscape scale, showing season, model names, degrees of freedom (df), quasi-Akaike Information Criterion adjusted for small sample size (QAICc), and delta QAICc (ΔQAICc).

Season	Model	df	QAICc	ΔQAICc
Wet	Sugarcane cover	2	35.4	0.0
	Null	1	36.2	0.7
	Water cover	2	36.6	1.1
	Savanna cover	2	37.4	1.9
	Rural cover	2	37.9	2.5
	Savanna splitting	2	38.3	2.8
	Edge density	2	38.3	2.9
	Savanna cover x Savanna splitting	4	39.8	4.4
	Savanna cover x Edge density	4	42.5	7.0
Dry	Water cover	2	34.6	0.0
	Savanna splitting	2	35.8	1.3
	Null	1	36.7	2.2
	Sugarcane cover	2	37.0	2.4
	Savanna cover	2	37.3	2.7
	Rural cover	2	39.1	4.5
	Edge density	2	39.1	4.6
	Savanna cover x Savanna splitting	4	39.2	4.7
	Savanna cover x Edge density	4	40.5	5.9

Table S5. Model selection for clutter foraging guild bats at the fine scale indicating season, model names, degrees of freedom (df), loglikelihood, Akaike Information Criterion adjusted for small sample size (AICc), delta AICc (ΔAICc), and model weight.

Season	Model	df	Log-likelihood	AICc	ΔAIC	Model weight
Wet	Grass cover	3	-37.8	81.8	0.0	0.36
	Bare ground cover	3	-38.5	83.1	1.3	0.19
	Null	2	-39.8	83.6	1.8	0.15
	Shrub cover	3	-39.4	84.9	3.1	0.08
	Distance to water	3	-39.6	85.3	3.5	0.06
	Canopy cover	3	-39.7	85.6	3.7	0.06
	Water cover	3	-39.7	85.6	3.8	0.05
	Sugarcane cover	3	-39.7	85.7	3.8	0.05
Dry	Sugarcane cover	3	-104.9	216.0	0.0	0.42
	Water cover	3	-105.3	216.7	0.8	0.29
	Distance to water	3	-106.2	218.5	2.5	0.12
	Grass cover	3	-106.8	219.7	3.8	0.06
	Canopy cover	3	-107.1	220.3	4.3	0.05
	Null	2	-108.3	220.7	4.7	0.04
	Bare cover	3	-108.2	222.6	6.7	0.01
	Shrub cover	3	-108.3	222.8	6.8	0.01

Table S6. Model selection table for clutter foraging guild bats at the landscape scale, showing season, model names, degrees of freedom (df), quasi-Akaike Information Criterion adjusted for small sample size (QAICc), and delta QAICc (ΔQAICc).

| Season	Model	df	QAICc	ΔQAICc
Wet	Rural cover	2	51.6	0.0
	Savanna splitting	2	56.6	5.0
	Null	1	56.9	5.3
	Sugarcane cover	2	57.5	5.9
	Water cover	2	58.0	6.3
	Edge density	2	58.7	7.1
	Savanna cover	2	58.8	7.1
	Savanna cover x Savanna splitting	4	61.8	10.2
	Savanna cover x Edge density	4	63.2	11.5
Dry	Water cover	2	53.7	0.0
	Edge density	2	71.9	18.1
	Savanna cover x Edge density	4	77.2	23.5
	Rural cover	2	78.5	24.7
	Savanna cover x Savanna splitting	4	80.0	26.2
	Sugarcane cover	2	80.6	26.9
	Savanna splitting	2	82.5	28.8
	Null	1	82.9	29.1
	Savanna cover	2	85.3	31.5
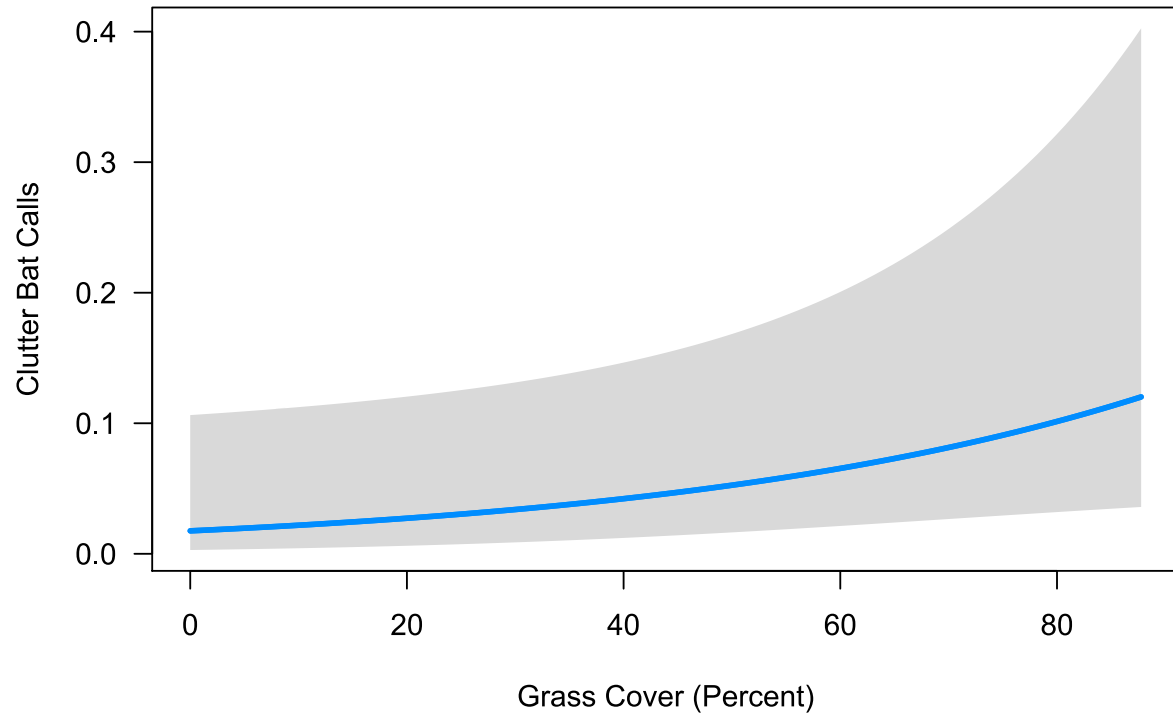
Figure S1. Response of clutter foraging bats to grass cover at the fine scale in the wet season.
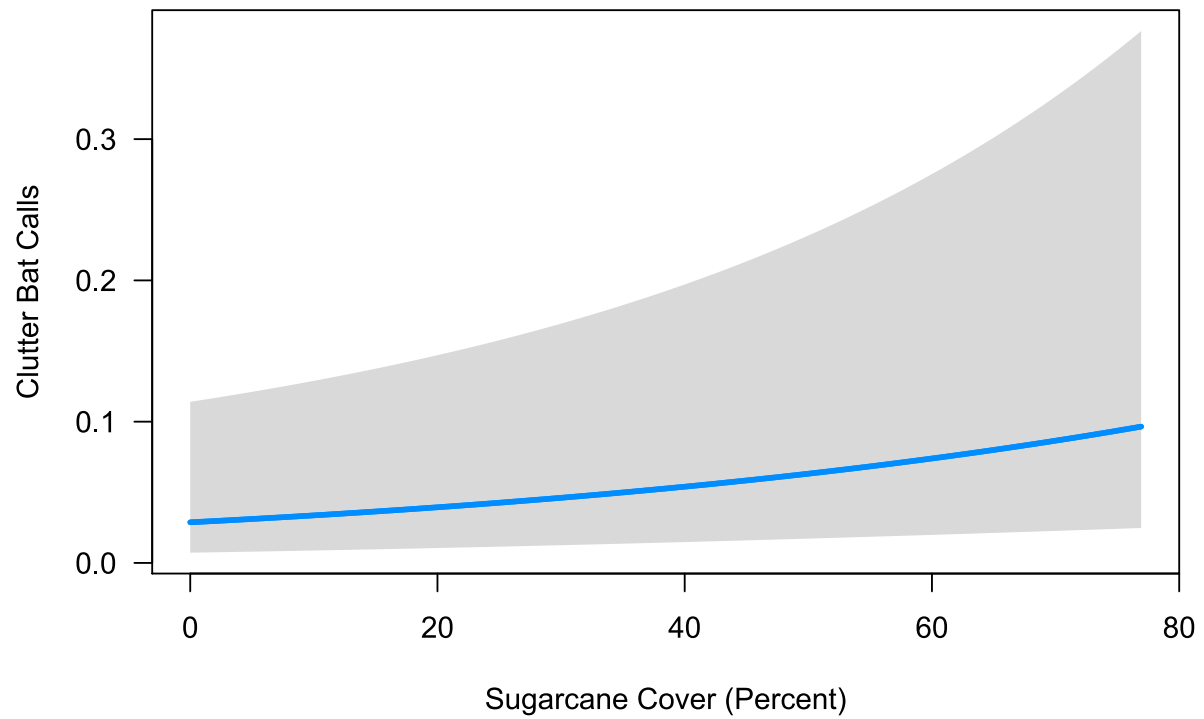
Figure S2. Response of clutter foraging guild bats to sugarcane cover in the dry season at the fine scale.
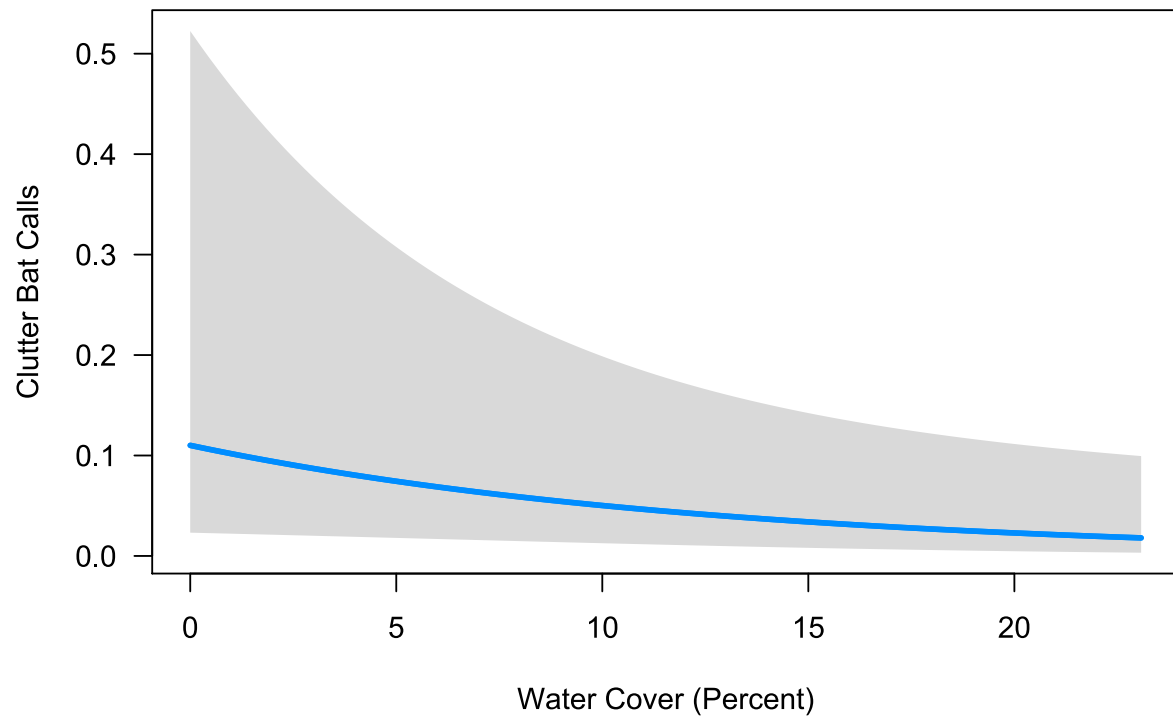
Figure S3. Response of clutter foraging bats to water cover at the fine scale in the dry season.