

Table S2. Belly size of females in Serengeti and Ngorongoro. Females have lower food intakes during the brightest phase of the moon and in the Serengeti woodlands and plains. Plains females have higher food intake during the wet season.

Female belly size: Model Summary

Linear mixed model fit by maximum likelihood

Formula: *avg.belly ~ luminosity + habitat + season + habitat*season + (1|pride) + (1|year)*

Random effects:

Groups	Name	Variance	Std.Dev.
Pride	(Intercept)	0.0026491	0.051469
Year	(Intercept)	0.0205052	0.143196
Residual		0.3067	0.5538

Number of observations: 7683, groups: pride, 68; year, 29

Fixed effects:

	Estimate	Std. Error	t value
(Intercept)	2.50789	0.03947	63.54
Luminosity	-0.1102	0.01800	-6.13
PlainsHabitat	-0.2110	0.03424	-6.16
WoodlandsHabitat	-0.1043	0.0341	-3.06
WetSeason	-0.0102	0.0285	-0.36
Plains:WetSeason	0.2511	0.0355	7.08
Woodlands:WetSeason	-0.0165	0.0350	-0.47

Females: ANOVA Comparison of final model to the next simplest model

♀ *model w/o luminosity: avg.belly ~ habitat+season+habitat*season+(1|pride)+(1|year)*

♀ *model w/luminosity: avg.belly ~ luminosity+habitat+season+habitat*season+(1|pride)+(1|year)*

	Df	AIC	BIC	logLik	χ^2	Df	Pr(> χ^2)
Females w/o luminosity	9	12896.2	12958.8	-6439.1			
Females w/luminosity	10	12860.8	12930.2	-6420.4	37.5	1	9.21E-10