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FRUGIVORES ENHANCE POTENTIAL CARBON RECOVERY IN FRAGMENTED TROPICAL LANDSCAPES

SUPPLEMENTAL MATERIAL

SM1. Hierarchical model code for frugivory interactions

SM2. Hierarchical model code for bird's movement

SM1. Hierarchical model code for gut passage time interactions

Table S1. Convergence and model performance. Rhat<1.1 shows the percentage of chains converging at each model. Rturj only applied to binary variables

Model	Rhat<1.1	Waic	Rturj	R2 Gelma
Frugivory interactions	98.00%	1796.58	0.19	0.39
Gut passage time	80.00%	-131.23		0.93

Table S2. Model coefficients. In columns the exploratory variables. In rows the respond variables. * represent significant variables with 90% and ** with 95% of confidence.

	<i>Forest cover</i>		<i>Forest isolation</i>		<i>Body mass (log)</i>		<i>Gape size</i>		<i>Distance to forest edge (log)</i>		
	coef	p-value	coef	p-value	coef	p-value	coef	p-value	coef	p-value	
<i>Seed deposition</i>	intercept	689.97 <0.001**	689.97 <0.001**		11.01 <0.001**		9.02 <0.001**		2851.706 <0.001**		
	x	-2144.54 0.39	-2144.54 0.01**		-1.86 <0.001**		-0.44 <0.001**		-1251.08 <0.001**		
	x2	583.54 0.012**	583.54 0.1*								
	x3	-248.16 0.049*	-248.16 0.049**								
	Pseudo-R2 conditional	0.76		0.76		0.22		0.23		0.67	
	Pseudo-R2 marginal					0.16		0.16		0.50	
<i>Biomass potential</i>	intercept	1790.15 <0.001**	1790.15 <0.001**		3.29 0.005**		3.97 0.005**		1.64 <0.001**		
	x	1214.07 <0.001**	-2124.35 <0.001**		0.34 0.34048		0.05 0.67395		-0.72 <0.001**		
	x2	-1384.14 <0.001**	-995.65 <0.001**								
	Pseudo-R2 conditional	0.328		0.545		0.149		0.232		0.557	
	Pseudo-R2 marginal					0.007		0.003		0.435	

25 **Table S3. Inflection points for predicted models.** Threshold values are in the same units as the co-
 26 variables.

Predicted variable	Co-variable	Threshold
Number of seeds	Forest cover	0.38
Number of seeds	Forest isolation	112.7
Number of seeds	Distance to forest	112.6
Potential biomass	Forest cover	0.39
Potential biomass	Forest isolation	56.0
Potential biomass	Distance to forest	112.6

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29 **Table S4. Random effects for fitted models for seed dispersal and biomass restoration against**
 30 **body mass and gape size.** In bold we highly the change on tendency

<i>Percentage forest cover</i>	Biomass				Seed dispersal			
	Body mass		Gape size		Body mass		Gape size	
	(Intercept)	log(Body)	(Intercept)	Gape	(Intercept)	log(Body)	(Intercept)	Gape
<i>0.09</i>	2.78	-1.01	0.91	-0.15	1.03	-0.49	0.91	-0.15
<i>0.121</i>	2.85	-1.04	0.93	-0.16	1.19	-0.55	0.93	-0.16
<i>0.185</i>	2.08	-0.80	0.76	-0.13	0.72	-0.40	0.76	-0.13
<i>0.217</i>	1.88	-0.70	0.73	-0.12	0.78	-0.38	0.73	-0.12
<i>0.315</i>	2.30	-0.83	0.80	-0.13	0.99	-0.42	0.80	-0.13
<i>0.391</i>	1.03	-0.49	0.84	-0.14	0.61	-0.33	0.84	-0.14
<i>0.475</i>	-0.28	0.10	-0.52	0.09	-0.27	0.20	-0.52	0.09
<i>0.55</i>	-4.81	1.78	-1.67	0.28	-2.14	0.94	-1.67	0.28
<i>0.588</i>	-3.85	1.48	-1.43	0.24	-1.39	0.70	-1.43	0.24
<i>0.61</i>	-3.98	1.51	-1.35	0.23	-1.51	0.73	-1.35	0.23

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