

Table S4. Sensitivity analysis: spatial panel model coefficients across four cost scenarios (baseline and 30%, 20%, and 10% increments relative to the baseline)

Variables	Baseline			+10%			+20%			+30%		
	β	SE	p	β	SE	p	β	SE	p	β	SE	p
Age	-0.093	0.0242	0.000	-0.0975	0.0244	0.000	-0.1015	0.0246	0.000	-0.1054	0.0249	0.000
Size	0.2215	0.0405	0.000	0.2106	0.0409	0.000	0.2013	0.0413	0.000	0.1934	0.0417	0.000
Population density	-0.0772	0.0372	0.038	-0.0869	0.0376	0.021	-0.0965	0.0379	0.011	-0.1044	0.0382	0.006
GDP per capita	0.0005	0.0188	0.980	-0.0072	0.0189	0.702	-0.0135	0.0191	0.479	-0.0185	0.0193	0.339
Region¹												
Savannas and Drylands	-0.6627	0.1009	0.000	-0.6678	0.102	0.000	-0.6706	0.1029	0.000	-0.6682	0.1037	0.000
Atlantic Forest	-1.201	0.1026	0.000	-1.2012	0.1036	0.000	-1.1979	0.1045	0.000	-1.1893	0.1053	0.000
Management Group²												
Sustainable Use	0.1114	0.076	0.143	0.0951	0.0767	0.215	0.0809	0.0774	0.296	0.0688	0.078	0.378
Years³												
2015	0.0008	0.0345	0.981	0.0021	0.0346	0.953	0.0048	0.0348	0.891	0.0086	0.0351	0.807
2016	0.0312	0.0346	0.366	0.0331	0.0347	0.340	0.0348	0.0349	0.319	0.0396	0.0352	0.261
2017	-0.0466	0.035	0.183	-0.0385	0.0351	0.273	-0.0324	0.0353	0.359	-0.0252	0.0356	0.480
2018	-0.0039	0.0356	0.913	0.0005	0.0357	0.988	0.0044	0.0359	0.902	0.011	0.0363	0.762
2019	-0.0017	0.0363	0.962	0.0033	0.0365	0.928	0.0078	0.0367	0.832	0.0162	0.037	0.662
2020	0.0602	0.0378	0.111	0.0682	0.0379	0.072	0.0733	0.0382	0.055	0.0815	0.0386	0.035
2021	0.0882	0.0425	0.038	0.0937	0.0427	0.028	0.0973	0.0431	0.024	0.1076	0.0435	0.013
2022	-0.1621	0.0424	0.000	-0.1627	0.0426	0.000	-0.1637	0.043	0.000	-0.1605	0.0434	0.000
2023	-0.2258	0.0432	0.000	-0.2283	0.0434	0.000	-0.2323	0.0437	0.000	-0.232	0.0441	0.000
Constant	0.5298	0.0881	0.000	0.5353	0.089	0.000	0.5388	0.0898	0.000	0.5359	0.0905	0.000
Spatial Lags												
Population Density	-0.1923	0.2974	0.518	-0.1858	0.3005	0.536	-0.1651	0.3034	0.586	-0.1512	0.3059	0.621

GDP per capita	0.7047	0.2398	0.003	0.8252	0.2415	0.001	0.9251	0.2438	0.000	0.978	0.2465	0.000
Spatial error (ρ)	0.8512	0.0395	0.000	0.8332	0.0439	0.000	0.8177	0.0479	0.000	0.8001	0.0521	0.000
Model Statistics												
Observations	3000			3000			3000			3000		
Number of PAs	300			300			300			300		
σ_u	0.6117	0.0262		0.618	0.0265		0.6238	0.0268		0.6287	0.027	
σ_e	0.3534	0.0048		0.3558	0.0049		0.3593	0.0049		0.3637	0.005	
Pseudo R ²	0.4848			0.4769			0.4683			0.4601		
Model Wald test	517.39			511.7			505.4			500.42		
Model Wald p-value	0.000			0.000			0.000			0.000		
Spatial Wald Test	497.9			398.6			334.2			280.2		
Spatial Wald p-value	0.000			0.000			0.000			0.000		

1. Compared to Amazon

2. Compared to Full Protection Protected Areas

3. Compared to 2014

Note: All continuous variables were standardized: age (years), size (km²), population density (inhabitants/km²), and GDP per capita (BRL 1,000).