Supplementary Information

Conservation Prioritization in a Tiger Landscape: Is Umbrella Species Enough?

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Table S1. Description of terms used in this study.

Term	Description
Planning area	Planning area is the spatial extent over which the planning process occurs.
Planning units	Planning area is usually subdivided into smaller "planning units" for management or conservation actions.
Conserved	Conserved units refer to the area which already has sufficient protection, i.e., protected areas in this case.
Excluded	Excluded areas refer to the areas which cannot be included in the planned reserve, e.g., areas with high pollution, areas heavily infested with invasive species, etc.
Available	Available units refer to the planning units that can be considered by the algorithm to be included in the reserve design.
Cost	Conservation cost is the cost of including a planning unit in the reserve design. It can be defined simply as the planning unit area, as the actual fiscal cost required to purchase the land, or as the opportunity cost of displaced incompatible ecosystem uses (Daigle et al. 2020).
Conservation features	Conservation features are features for which a target is set, e.g., habitats, species, or processes.
Target	Target or conservation target is the minimum quantity or proportion of the conservation feature in the study area to be included in solutions.
Boundary length modifier (BLM)	Boundary length modifier controls the reserve boundary length in relation to reserve system cost. Assigning higher BLM values leads to compact reserve designs.
Species penalty factor (SPF)	Species penalty factor is a user-defined value for the penalty applied to the objective function when a conservation feature target is not met for a given reserve design scenario.
Best solution	This is one of the Marxan outputs. It is an arrangement of selected planning units that has the lowest objective function value (i.e., the most efficient solution).

Selection frequency	This is another Marxan output and is interpreted as the frequency with which a given planning unit is selected in the final reserve system across a series of Marxan solutions (or runs). This should not be interpreted as irreplaceability.

Table S2. Resistance matrix used for calculation of connectivity with the least-cost path method.

	Water	**Non Forest**	**Scrub**	**Forest**
Water	5	100	25	5
Non Forest	50	5	25	5
Scrub	25	100	5	5
Forest	50	100	25	5

Table S3. Coefficients, standard error, and p values for logistic regression and z-test.

Biodiversity Potential Class	Intercept	Tree Richness	Shrub Richness	Herb Richness	Carnivore Richness	Herbivore Richness	Primate Richness	Rodent Richness	Mammal Richness	Vegetation Richness	Total Richness
Coefficients											
Moderate	3.971	-0.308	0.442	-0.285	-0.706	-0.424	1.803	-0.294	0.380	-0.152	0.227
High	4.938	-0.518	0.249	-0.722	-3.403	-3.534	12.473	-3.233	2.303	-0.991	1.312
Standard Error											
Moderate	0.652	0.0641	0.100	0.053	0.148	0.143	0.000	0.293	0.069	0.038	0.039
High	0.665	0.0652	0.102	0.056	0.150	0.145	0.000	0.294	0.069	0.039	0.039
p-values											
Moderate	1.12e-09	1.45e-06	9.97e-06	9.80e-08	1.97e-06	0.003	0.00	0.003	3.5e-08	6.73e-05	3.92e-09
High	1.10e-13	1.99e-15	1.47e-02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Table S4. Confusion matrix for multinomial logistic regression model.

		Biodiversity Potential		
		Low	Moderate	High
Model prediction	Low	7	7	3
	Moderate	36	194	114
	High	9	121	339

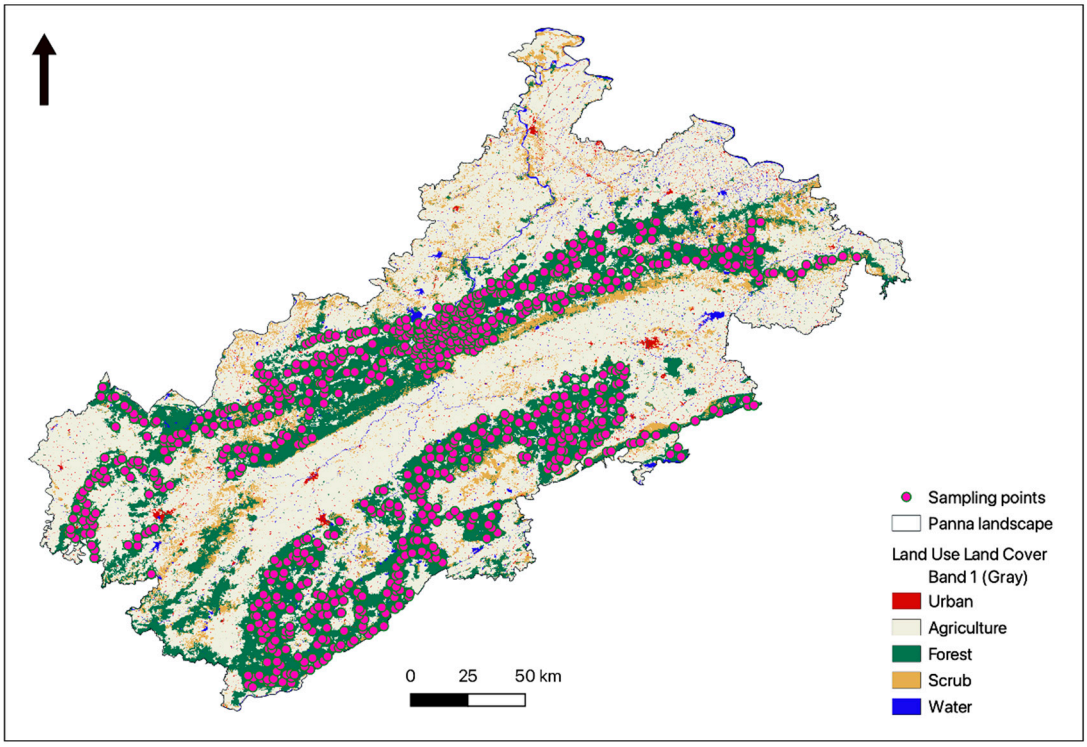

Figure S1. Distribution of field sampling points in the landscape.