10.1071/WR21108

Wildlife Research

Supplementary Material

Factors influencing the adaptability and habitat use of rescued Malayan sun bears (*Helarctos malayanus*) released in Peninsular Malaysia

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Table S1. Details of the 13 sun bears that were released into five different areas and their monitoring status.

Bears with star (*) were fitted with satellite collar. Day monitored refers to total monitoring days that ended at the last retrieved point. (TFR= Tembat Forest Reserve, TNP= Terengganu National Park, UJFR= Ulu Jelai Forest Reserve).

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Ogos-17

Table S2. List of parameters with all sub-parameters (counted as units) and data types (categorical or continuous). Parameters that have been further evaluated in PCA were bolded.

Parameters	Unit	Data type
Rescue modes	2 Class	Categorical
1= Wild-caught		
2= Hand-over		
Sex	2 Class	Categorical
1= Male		
2= Female		
Age group at R1	3 Class	Categorical
1= Adult		
2= Sub-adult		
3= Juvenile		
Avoidance at R1	3 Class	Categorical
1= High		
2= Moderate		
3= Low		
Age group prior release	3 Class	Categorical
1= Adult		
2= Sub-adult		
3= Juvenile		
Avoidance prior release	3 Class	Categorical
1= High		
2= Moderate		
3= Low		
Physical state	3 Class	Categorical
1= Fit		
2= Good		
3= Moderate		
Health background	2 Class	Categorical
1= Normal		
2= with-ill health history		
Release area potential	5 Class	Categorical
1= Highly		
2= Good		
3= Moderate		
4= Least		
5= Poor		

Elevation (average)	meter (m)	Continous
Movement range	Kilometre (km²)	Continous

Table S3. Pre-post release records of 13 bears. Eight individual characteristics and suitability levels of release area were gathered prior to the release, while movement range (km²) and topographic feature (elevation in meters) were assessed during the monitoring phase.

NA= Not Available.

Bear	Rescue modes	Sex	Age group at R1	Avoidance at R1	Age group prior release	Avoidance prior release	Physical state	Health background	Release area suitability	Movement range (km²)	Average elevation (m)
Kerian	Hand- over	Female	Juvenile	3	Sub-adult	2	2	Normal	3	123.62	181
Gubir	Hand- over	Male	Juvenile	3	Sub-adult	2	2	Normal	3	34.23	213
Kuantan	Hand- over	Female	Juvenile	2	Sub-adult	2	2	Normal	3	31.8	223
BM	Hand- over	Male	Juvenile	3	Sub-adult	2	2	Normal	2	18.76	623
Gambng	Hand- over	Female	Sub- adult	2	Sub-adult	2	3	Malnutrition	2	2.07	794
Avi	Hand- over	Female	Juvenile	3	Sub-adult	3	2	Normal	1	NA	NA
Bani	Hand- over	Male	Juvenile	2	Sub-adult	2	2	Normal	1	3.17	193
Tunas	Wild- caught	Male	Adult	1	Adult	1	1	Normal	2	9.95	366
Belia	Wild- caught	Female	Adult	1	Adult	1	1	Normal	5	93.35	21

Messi	Wild-	Male	Sub-	1	Adult	1	1	Normal	3	31.26	247
	caught		adult								
Damak	Hand-	Male	Juvenile	2	Sub-adult	2	2	Normal	4	NA	NA
	over										
Tebang	Hand-	Female	Juvenile	3	Sub-adult	3	2	Normal	4	313	44.22
	over										
Syawal	Wild-	Male	Adult	1	Adult	1	1	Normal	4	NA	NA
	caught										

Table S4. Percentage of variance explained, eigen values and rotated factor loadings on three crucial principal components, with load value > 0.8 were bolded.

	Compon	Component		
	PC1	PC2	PC3	
% Variance	37.05	21.30	14.32	
% Cumulative variance	37.05	58.35	72.67	
Eigen value	7.04	4.05	2.72	
Sub-parameter:				
With ill health history	0.944	-0.035	-0.111	
Physically good	0.944	-0.035	-0.111	
Release area= good potential	0.913	-0.069	-0.106	
Elevation	0.901	-0.16	0.066	
Moderate avoidance prior release	0.75	-0.515	-0.338	
Sub-adult at release	0.717	-0.606	0.282	
Sex = Female	0.656	-0.186	0.373	
Release area= least potential	-0.051	-0.142	0.975	
Avoidance prior release= low	-0.051	-0.142	0.975	
Sex = Male	-0.094	0.321	-0.184	
Avoidance prior release= high	-0.162	0.965	-0.067	
Physical state = fit	-0.162	0.965	-0.067	
Age group prior release= Adult	-0.162	0.965	-0.067	
Release area= highly potential	-0.212	-0.188	-0.191	
Physical state = Good	-0.232	-0.721	0.489	
Release area= poor potential	-0.234	0.369	-0.049	
Release area= moderate potential	-0.295	0.253	-0.272	
Health background= normal	-0.468	0.168	0.536	
Movement range	-0.481	-0.077	-0.003	