

## Supplement

**Table S1.** Weights of the threat data.

Threat factor	Maximum influence distance/km	Weight	Decay type
Cultivated land	1	0.15	Linear decay
Construction land	5	1	Exponential decay
Bare land	1	0.3	Linear decay

**Table S2.** Sensitivities of the habitat types to each threat.

Land use type	Habitat suitability	Cultivated land	Construction land	Bare land
Cultivated land	0.5	0.1	0.6	0.4
Forest land	1	0.2	0.8	0.4
Grassland	1	0.3	0.5	0.2
Bare land	0.3	0.1	0.2	0
Construction land	0	0	0	0
Water area	1	0.4	0.8	0.2

**Table S3.** Characteristic roots and variance contribution rate derived from the principal component analysis.

Composition	Characteristics of the root	Variance contribution rate	Cumulative %
1	3.831	22.533	22.533
2	2.479	14.58	37.113
3	1.884	11.081	48.194
4	1.581	9.302	57.496
5	1.335	7.85	65.346
6	1.161	6.828	72.174
7	1.076	6.332	78.506
8	1.004	5.908	84.414

**Table S4.** Factors of each component.

Composition	1	2	3	4	5	6	7	8
Conversion of forest land to cultivated land	0.889	0.172	-0.103	0.198	-0.044	0.176	-0.187	0.171
Conversion of the water area to cultivated land	0.866	0.245	-0.003	0.17	0.187	0.072	0.121	0.088

Composition	1	2	3	4	5	6	7	8
Conversion of the water area to forest land	0.715	-0.125	-0.126	-0.189	0.508	-0.132	-0.015	-0.009
Conversion of forest land to grassland	0.616	0.117	-0.211	0.101	-0.194	0.116	-0.485	0.338
Conversion of cultivated land to construction land	-0.606	0.443	0.24	0.02	0.492	0.063	-0.304	0.077
Conversion of grassland to construction land	-0.581	0.479	0.244	0.132	0.331	0.228	0.039	0.311
Conversion of the water area to grassland	0.469	0.325	0.398	-0.461	0.044	-0.34	-0.006	-0.181
Conversion of bare land to construction land	0.132	0.644	0.343	0.154	0.084	0.143	0.318	0.154
Conversion of the water area to bare land	0.498	0.639	0.233	-0.092	-0.212	-0.085	0.141	-0.213
Conversion of grassland to forest land	0.211	-0.591	0.734	-0.025	-0.043	0.147	0.027	0.007
Conversion of cultivated land to forest land	0.072	-0.213	0.704	0.156	-0.058	-0.468	0.038	0.185
Conversion of forest land to construction land	0.004	0.239	-0.04	0.742	-0.299	0.09	0.337	-0.248
Conversion of the water area to construction land	-0.238	0.49	-0.097	-0.509	-0.322	0.103	-0.099	-0.306
Conversion of grassland to cultivated land	-0.166	-0.113	-0.001	0.473	-0.118	-0.433	-0.272	-0.066
Conversion of cultivated land to water area	0.161	-0.233	-0.394	0.057	0.532	-0.129	0.398	-0.199
Conversion of bare land to grassland and cultivated land	0.195	-0.481	0.356	-0.08	-0.003	0.653	0.017	-0.197
Conversion of cultivated land to grassland	-0.097	-0.122	-0.197	-0.371	-0.317	-0.066	0.467	0.614