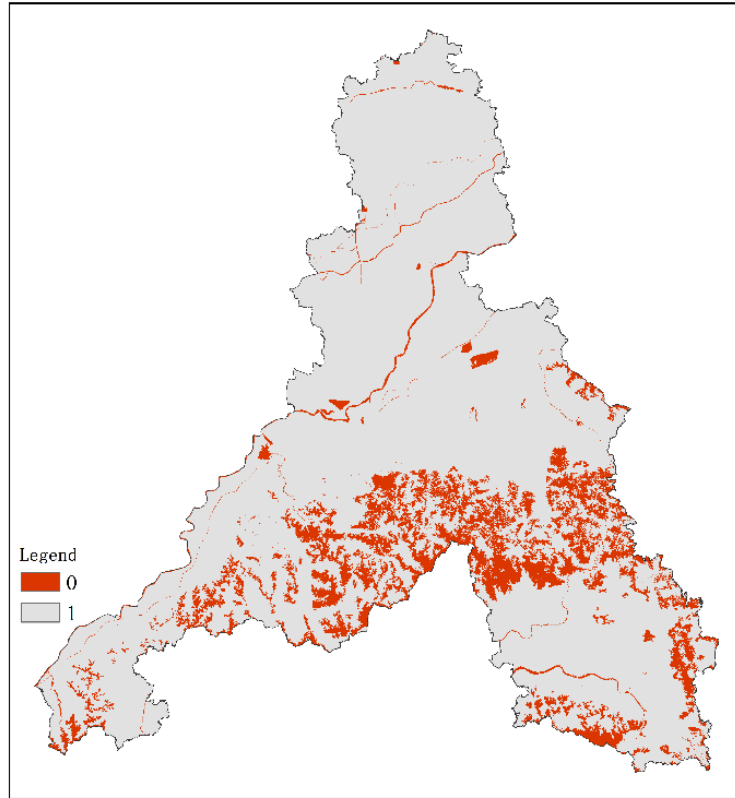# Supplementary Material

1. Figure

Figure S1. The restrictive factors for ecological conservation scenario (S2).

2. Tables

Table S1. Data sources for this study and optimal parameters for the OPGD model.

Data Type	Driving Factor	Optimum classification method and classification number	Factor Description/source
Physical Geography Factors	A1: Elevation	Quantile/8	http://www.gscloud.cn
	A2: Slope	Geometric/8	
	A3: Aspect	Standard Deviation /6	
	A4: Annual average precipitation	Standard Deviation/6	http://www.geodata.cn
	A5: Annual average temperature	Quantile/8	
	A6: Normalized difference vegetation index (NDVI)	Geometric/8	http://www.resdc.cn
Socio-economic factors	B1: Gross domestic product (GDP)	Quantile/6	
	B2: Density of population	Geometric/7	https://hub.worldpop.org
	B3: Density of commercial services	Natural Breakpoint/8	
	B4: Density of cultural facility services	Standard Deviation /3	http://www.rivermap.cn
	B5: Density of other public services	Quantile/8	
	B6: Nighttime light index	Discrete Variable	https://poles.tpdc.ac.cn
Accessibility factors	C1: Distance from main roads	Quantile/5	
	C2: Distance from national roads	Quantile/8	
	C3: Distance from provincial roads	Natural Breakpoint/8	http://www.rivermap.cn
	C4: Distance from the highway	Equal/6	
	C5: Distance from railroad	Quantile/7	
	C6: Distance from the river	Quantile/8	

Table S2 Land-use conversion cost matrix under the three scenarios.

	Scenario 1						Scenario 2						Scenario 3					
	FL	FR	GL	WT	BL	UL	FL	FR	GL	WT	BL	UL	FL	FR	GL	WT	BL	UL
FL	1	1	1	1	1	0	1	1	1	1	1	0	1	1	1	1	1	1
FR	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
GL	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
WT	1	1	1	1	1	0	0	0	0	0	0	0	1	0	1	1	1	1
BL	1	1	1	1	1	0	0	0	0	0	1	0	0	0	0	0	1	0
UL	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

(Note: FL: Farmland; FR: Forest; GL: Grassland; WT: Water; BL: Built land; Unused land: UL.)

Table S3. Results of detecting the driving factors for the spatial differentiation of carbon storage in the JNC from 2010 to 2018.

Driving Factors	2010		2015		2018	
	q statistic	*p* value	*q* statistic	*p* value	*q* statistic	*p-value*
A1	0.191	0.000	0.193	0.000	0.206	0.000
A2	0.175	0.000	0.173	0.000	0.180	0.000
A3	0.006	0.474	0.003	0.232	0.003	0.365
A4	0.024	0.000	0.027	0.000	0.025	0.000
A5	0.141	0.000	0.161	0.000	0.177	0.000
A6	0.167	0.000	0.183	0.000	0.210	0.000
B1	0.071	0.000	0.064	0.000	0.134	0.000
B2	0.131	0.000	0.171	0.000	0.167	0.000
B3	0.121	0.000	0.133	0.000	0.127	0.000
B4	0.043	0.000	0.044	0.000	0.040	0.000
B5	0.079	0.000	0.077	0.000	0.074	0.000
B6	0.222	0.000	0.221	0.000	0.231	0.000
C1	0.077	0.000	0.083	0.000	0.086	0.000
C2	0.044	0.000	0.047	0.000	0.052	0.000
C3	0.003	0.999	0.026	0.000	0.025	0.000
C4	0.016	0.000	0.015	0.000	0.014	0.000
C5	0.063	0.000	0.067	0.000	0.067	0.000
C6	0.062	0.000	0.063	0.000	0.069	0.000