Supplementary data

Table S1. Equivalent factor per unit area of ecosystem services in border areas.

	Cropland	Forest	Shrub	Grassland	Water	Sonw/Ice	Barren	Impervious	Wetland
Food production	0.85	0.27	0.38	0.10	0.80	0	0	0	0.51
Raw material	0.40	0.63	0.56	0.14	0.23	0	0	0	0.50
Water supply	0.02	0.33	0.31	0.08	8.29	2.16	0	0	2.59
Air quality regulation	0.67	2.07	1.97	0.51	0.77	0.18	0.02	0	1.90
Climate regulation	0.36	6.20	5.21	1.34	2.29	0.54	0	0	3.60
Waste treatment	0.10	1.80	1.72	0.44	5.55	0.16	0.10	0	3.60
Water regulation	0.27	3.86	3.82	0.98	102.24	7.13	0.03	0	24.23
Erosion prevention	1.03	2.52	2.40	0.62	0.93	0	0.02	0	2.31
Soil fertility maintenance	0.12	0.19	0.18	0.05	0.07	0	0	0	0.18
Habitat services	0.13	2.30	2.18	0.56	2.55	0.01	0.02	0	7.87
Cultural services	0.06	1.01	0.96	0.25	1.89	0.09	0.01	0	4.73
Total	4.01	21.18	19.69	5.07	125.61	10.27	0.2	0	52.02

Table S2. The value coefficient per unit area of ecosystem services in border areas (yuan/ha/yr).

	Cropland	Forest	Shrub	Grassland	Water	Sonw/Ice	Barren	Impervious	Wetland
Food production	1545.10	490.80	690.75	181.78	1454.21	0.00	0.00	0.00	927.06
Raw material	727.10	1145.19	1017.95	254.49	418.08	0.00	0.00	0.00	908.88
Water supply	36.36	599.86	563.51	145.42	15069.23	3926.36	0.00	0.00	4708.00
Air quality regulation	1217.90	3762.76	3580.99	927.06	1399.68	327.20	36.36	0.00	3453.74
Climate regulation	654.39	11270.11	9470.53	2435.80	4162.67	981.59	0.00	0.00	6543.94
Waste treatment	181.78	3271.97	3126.55	799.81	10088.57	290.84	181.78	0.00	6543.94
Water regulation	490.80	7016.55	6943.84	1781.40	185847.78	12960.63	54.53	0.00	44044.32
Erosion prevention	1872.29	4580.76	4362.62	1127.01	1690.52	0.00	36.36	0.00	4199.03
Soil fertility maintenance	218.13	345.37	327.20	90.89	127.24	0.00	0.00	0.00	327.20
Habitat services	236.31	4180.85	3962.72	1017.95	4635.29	18.18	36.36	0.00	14305.77
Cultural services	109.07	1835.94	1745.05	454.44	3435.57	163.60	18.18	0.00	8598.00
Total	7289.22	38500.16	35791.69	9216.04	228328.83	18668.40	363.55	0.00	94559.88

Table S3. The sensitivity index of the ESV coefficient.

	Cropland	Forest	Shrub	Grassland	Water	Sonw/Ice	Barren	Impervious	Wetland
2004	0.03	0.94	0.01	0.00	0.01	0.00	0.00	0.00	0.01
2005	0.03	0.94	0.01	0.00	0.01	0.00	0.00	0.00	0.01
2006	0.03	0.94	0.01	0.00	0.01	0.00	0.00	0.00	0.01
2007	0.03	0.94	0.01	0.00	0.01	0.00	0.00	0.00	0.01
2008	0.03	0.93	0.01	0.00	0.01	0.00	0.00	0.00	0.01
2009	0.03	0.93	0.01	0.00	0.01	0.00	0.00	0.00	0.01
2010	0.03	0.93	0.02	0.00	0.01	0.00	0.00	0.00	0.01
2011	0.03	0.93	0.02	0.00	0.02	0.00	0.00	0.00	0.01
2012	0.03	0.93	0.02	0.00	0.02	0.00	0.00	0.00	0.01
2013	0.03	0.93	0.02	0.00	0.02	0.00	0.00	0.00	0.01
2014	0.03	0.93	0.02	0.00	0.02	0.00	0.00	0.00	0.01
2015	0.03	0.93	0.02	0.00	0.02	0.00	0.00	0.00	0.01

2016	0.03	0.93	0.02	0.00	0.02	0.00	0.00	0.00	0.01
2017	0.03	0.93	0.02	0.00	0.02	0.00	0.00	0.00	0.01
2018	0.03	0.93	0.02	0.00	0.02	0.00	0.00	0.00	0.01
2019	0.03	0.93	0.02	0.00	0.02	0.00	0.00	0.00	0.01