

Table S1. Coefficients of Various Pollutants Generated and Discharged into Rivers.

	Pig manure	Pig urine	Cattle manure	Cattle urine	Sheep	Chicken
N_i (kg N·a ⁻¹)	2.34	2.17	31.90	29.20	2.28	0.28
N_i (%)	10.8	50.00	5.60	50.00	10.00	7.80

Table S2. TN Concentrations of Water Samples (mg·L⁻¹) and Sediment Samples (g·kg⁻¹) in the Windward Lakeshore Estuary.

Sampling sites	1	2	18	19	20	21	22	23	24	25
River water	3.2	2.21	0.96	1.8	1.55	0.93	1.82	2.7	0.81	2.19
Lake water	7.36	1.89	1.46	1.51	1.68	1.67	2.88	2.67	3.32	6.38
Rive sediment	1.28	2.79	0.64	1.60	1.56	1.88	1.92	2.34	0.79	2.87
Lake sediment	0.58	3.09	3.16	2.20	2.06	2.52	1.96	2.60	2.84	1.60

Table S3. Variation of TN and TP Concentrations under Different Stirring Speed by Laboratory Simulated Experiments.

	Non-stir (0 r·min ⁻¹)	Moderate stir (90 r·min ⁻¹)	Large stir (120 r·min ⁻¹)
TN (mg·L ⁻¹)	3.22	9.02	12.73
TP (mg·L ⁻¹)	0.05	0.14	0.49

Table S4. Classification Accuracy of Land Use in each Years

	1990	2000	2005	2009	2010	2011	2013	2015	2017
Accuracy (%)	88	90	89	92	93	90	95	92	90



Rubber dam

Check-gate

Cement dam

Oil barrier

Figure S1. Different Types of Gates and Gams.

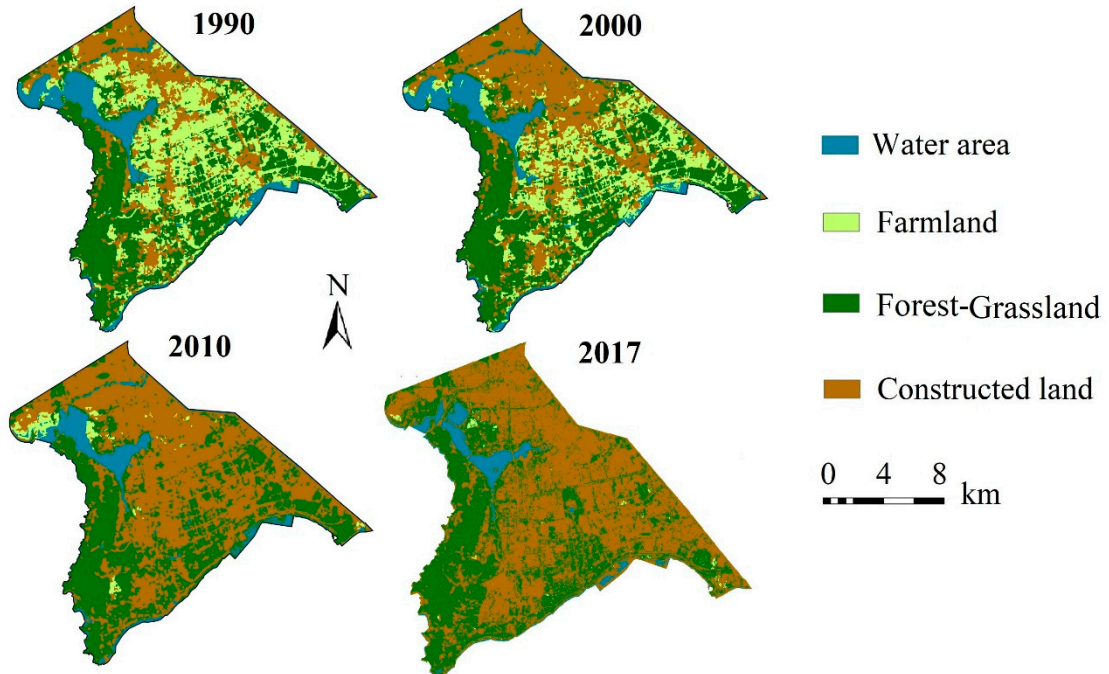


Figure S2. Spatial Variation of Land Use Types from 1990 to 2017.

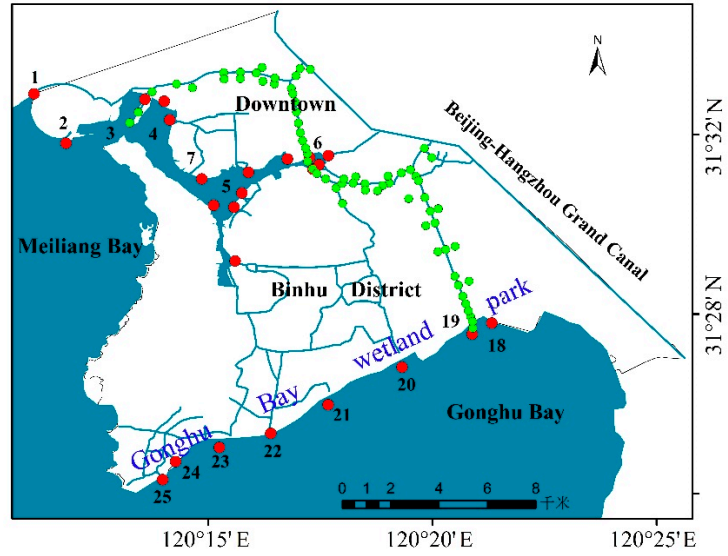


Figure S3. Location of Sampling Site.

Number 1-2 and 18-25 are sampling sites; Number 3 is Yuantouzhu wetland park and waterworks, number 4-7 are west Wuli lake, east Wuli lake, Mali harbor and Lihu wetland park, separately.