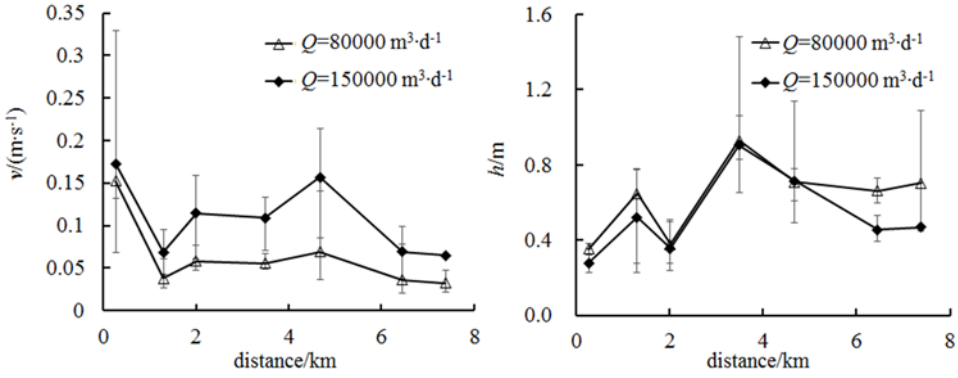
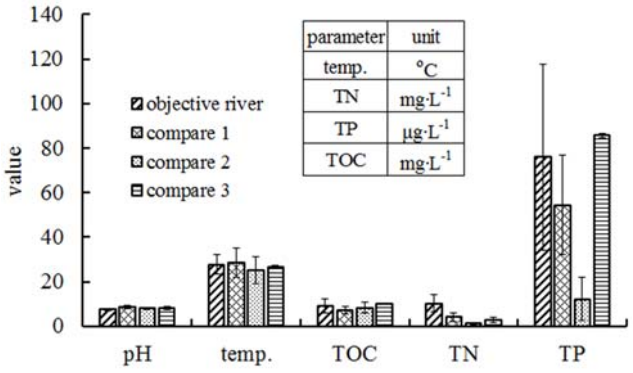
Supporting Materials

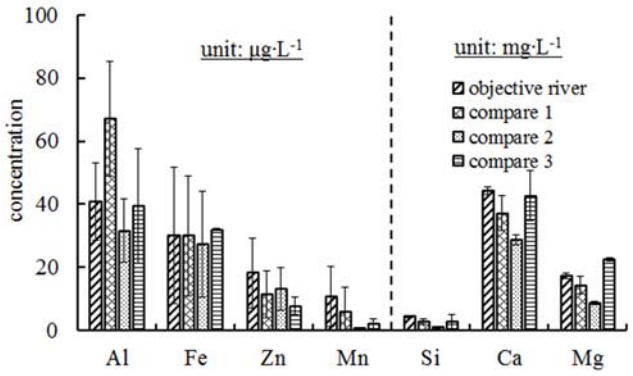


(a) (b)

Fig. S1 Change of (a) flow rate (v) and (b) water depth (h) in the direction of river flow



(a)



(b)

Fig. S2 Water quality of the objective river and three rivers used for comparison: (a) pollutants; (b) cations

Table S1 Parameters of water from inflows and the adjacent sections in 2015

parameter	section 3	inflow 1	inflow 2	section 4	section 5	inflow 3	section 6
distance/km	2.005	2.575	3.13	3.485	4.675	5.707	4.455
pH	7.49	7.12	7.38	7.35	7.60	7.97	7.97
DO/(mg·L^{-1})	11.34	10.98	8.36	13.25	11.49	11.485	22.48
temperature/℃	25.97	26.95	26.4	25.53	25.63	20.9	25.84
turbidity/NTU	3.04	3.13	0.92	4.59	3.23	2.21	3.37
COD/(mg·L^{-1})	21.15	22.69	21.17	16.99	20.86	9.99	20.15
NH_4^+-N/(mg·L^{-1})	0.24	0.13	0.01	0.29	0.34	0.95	0.30
TN/(mg·L^{-1})	9.34	13.07	20.09	9.95	10.91	7.62	9.75
TP/(μg·L^{-1})	0.10	0.02	0.70	0.11	0.16	0.09	0.13
TOC/(mg·L^{-1})	7.13	6.74	5.14	6.25	6.53	3.70	6.07
ζ potential/mV	0.17	–1.03	0.1	0.43	–1.20	–0.7	–0.78

Table S2 Parameters of water from inflows and the adjacent sections in 2016

parameter	section 3	inflow 1	inflow 2	section 4	section 5	inflow 3	section 6
distance/km	2.005	2.575	3.13	3.485	4.675	5.707	6.455
pH	7.25	6.98	7.13	7.30	7.44	8.52	7.80
temperature/℃	25.50	25.64	23.33	25.37	25.14	24.68	25.59
turbidity/NTU	1.81	1.72	1.85	3.48	8.97	3.80	7.01
TN/(mg·L^{-1})	9.50	13.54	11.10	10.68	10.08	4.16	10.14
TP/(μg·L^{-1})	57.43	120.72	151.39	77.96	101.51	54.47	90.78
TOC/(mg·L^{-1})	8.50	7.89	6.96	8.52	8.50	7.34	8.28

Table S3 Correlation between specific growth rate (μ) and its possible influential factors

algal growth indicator		TN /(mg·L^{-1})	TP /(μg·L^{-1})	TN/TP	Al /(μg·L^{-1})	Fe /(μg·L^{-1})	Zn /(μg·L^{-1})	Mn /(μg·L^{-1})	Si /(mg·L^{-1})	Mg /(mg·L^{-1})	Ca /(mg·L^{-1})	Cu /(mg·L^{-1})
μ/h^{-1}	*r*	–0.44	–0.02	–0.32	–0.12	–0.28	–0.19	–0.33	–0.19	–0.22	0.30	–0.08
	p	0.11	0.96	0.26	0.68	0.33	0.50	0.26	0.68	0.45	0.51	0.87