SUPPLEMENTARY DOCUMENT

Table S1. Correlations between water quality variables, land use/land cover types, landscape indicators in variable riparian strips
(relationships between land use types and landscape indicators are conducted for assessing the multi-collinearity for water quality models)

50 m buffer
(a) Correlations of land use types (%) and landscape indicators

	Farmland	Forest	Urban	TA	NP	PD	LPI	ED	LSI	CONTAG	COHESION	AI	SHDI	L
Farmland	1.00	-.786*	0.71	0.29	0.50	0.23	-0.39	0.32	0.25	-0.43	-0.46	0.04	-0.32	1.00**
Forest		1.00	-0.61	-0.39	-0.68	-0.34	.821*	-0.49	-0.43	0.64	0.50	0.20	-0.14	-.786*
Urban			1.00	-0.11	0.18	0.47	-0.21	0.34	-0.18	0.00	-0.57	-0.20	0.00	0.71
TA				1.00	.857*	-0.50	-0.57	0.20	.857*	-.821*	0.29	0.56	0.07	0.29
NP					1.00	-0.07	-.786*	0.05	.929**	-.964**	-0.14	0.16	0.21	0.50
PD						1.00	-0.31	-0.27	-0.18	0.02	-.955**	-.945**	0.49	0.23
LPI							1.00	-0.25	-0.68	.821*	0.43	0.29	-0.57	-0.39
ED								1.00	-0.18	0.04	0.23	0.34	-0.16	0.32
LSI									1.00	-.964**	0.00	0.18	0.21	0.25
CONTAG										1.00	0.18	-0.05	-0.25	-0.43
COHESION											1.00	.829*	-0.43	-0.46
AI												1.00	-0.58	0.04
SHDI													1.00	-0.32
L														1.00

(b) Correlations of water quality variables with land use types (%) and landscape indicators in the dry season

	pH	ORP	EC	DO	TN	TDN	TP	TDP	NO_3-N	NH_4-N	COD
Farmland	-0.50	-0.786*	0.14	-0.21	-0.39	-0.39	0.34	0.75	-0.39	0.54	0.857*
Forest	0.21	0.54	-0.57	0.14	0.39	0.39	-0.40	-0.73	0.54	-0.54	-0.64
Urban	-0.786*	-0.857*	0.50	-0.61	0.04	0.04	0.60	0.771*	-0.11	0.75	0.64
TA	0.32	-0.04	-0.18	0.64	-0.75	-0.75	-0.30	0.13	-0.57	-0.25	0.21
NP	0.04	-0.32	0.18	0.21	-0.46	-0.46	0.04	0.50	-0.36	0.18	0.57
PD	-0.67	-0.22	0.45	-.883**	0.65	0.65	.915**	0.69	0.45	.901**	0.34
LPI	-0.04	0.07	-0.46	-0.04	0.32	0.32	-0.38	-0.59	0.43	-0.39	-0.32
ED	0.22	-0.16	0.34	0.36	-0.68	-0.68	-0.14	0.00	-.883**	-0.14	-0.11
LSI	0.25	-0.04	-0.04	0.36	-0.39	-0.39	-0.13	0.26	-0.21	-0.04	0.39
CONTAG	-0.14	0.14	-0.11	-0.25	0.43	0.43	-0.04	-0.44	0.32	-0.14	-0.50
COHESION	0.75	0.36	-0.36	.821*	-0.46	-0.46	-.945**	-.863*	-0.32	-.964**	-0.54
AI	0.41	-0.05	-0.47	.775*	-0.72	-0.72	-.782*	-0.46	-0.50	-0.72	-0.11
SHDI	-0.11	0.36	0.36	-0.25	0.32	0.32	0.57	0.31	0.18	0.39	-0.25
L	-0.50	-.786*	0.14	-0.21	-0.39	-0.39	0.34	0.75	-0.39	0.54	.857*

(c) Correlations of water quality variables with land use types (in actual area) in the dry season

	pH	ORP	EC	DO	TN	TDN	TP	TDP	NO3-N	NH4-N	COD
Farmland	-0.14	-0.43	0.04	0.21	-0.61	-0.61	0.13	0.61	-0.50	0.25	0.61
Forest	0.71	0.36	-0.32	0.68	-0.25	-0.25	-.794*	-0.61	0.00	-0.75	-0.21
Urban	-0.43	-.793*	0.36	-0.18	-0.45	-0.45	0.33	0.74	-0.52	0.52	.775*

(d) Correlations of water quality variables with land use types (%) and landscape indicators in the wet season

	pH	ORP	EC	DO	TN	TDN	TP	TDP	NO3-N	NH4-N	COD
Farmland	-.786*	0.61	0.07	-0.61	-0.61	-0.21	-0.14	0.64	-0.57	-0.29	0.68
Forest	0.75	-0.46	-0.36	0.21	0.07	-0.32	0.29	-0.20	0.57	0.14	-0.75
Urban	-0.68	0.32	0.43	-0.14	-0.21	0.07	0.14	0.47	-0.25	-0.58	0.54
TA	-0.29	0.71	-0.04	0.11	-0.07	-0.21	-0.71	0.47	-0.50	0.58	0.11
NP	-0.57	0.57	0.25	0.04	0.07	-0.07	-0.50	0.36	-0.36	0.29	0.54
PD	-0.58	-0.20	0.11	-0.29	0.31	0.52	.775*	-0.32	0.47	-.874*	.757*
LPI	0.64	-0.43	-0.21	-0.04	-0.36	-0.54	0.25	0.07	0.29	0.00	-0.68
ED	-0.05	0.36	0.20	0.11	-0.23	0.31	-0.58	0.17	-.847*	0.22	-0.14
LSI	-0.36	0.43	0.07	0.04	0.14	-0.14	-0.46	0.20	-0.18	0.43	0.39
CONTAG	0.54	-0.50	-0.11	0.07	-0.11	0.00	0.43	-0.20	0.29	-0.29	-0.57
COHESION	.786*	-0.07	-0.04	0.43	-0.14	-0.39	-0.68	0.07	-0.32	.866*	-.893**
AI	0.34	0.41	-0.11	0.14	-0.50	-0.65	-.757*	0.61	-0.58	0.73	-0.61
SHDI	-0.29	0.00	0.11	0.43	.857*	0.75	0.32	-0.44	0.46	-0.29	0.32
L	-.786*	0.61	0.07	-0.61	-0.61	-0.21	-0.14	0.64	-0.57	-0.29	0.68

(e) Correlations of water quality variables with land use types (in actual area) in the wet season

	pH	ORP	EC	DO	TN	TDN	TP	TDP	NO3-N	NH4-N	COD
Farmland	-0.71	0.82*	0.07	-0.14	-0.18	-0.14	-0.46	0.62	-0.50	0.14	0.54
Forest	0.54	-0.11	0.04	0.39	0.14	-0.43	-0.57	-0.04	0.00	.866*	-0.46
Urban	-.757*	0.59	0.27	-0.38	-0.45	-0.04	-0.27	0.57	-0.67	-0.22	0.63

100 m buffer

(a) Correlations of land use types (%) and landscape indicators

	Farmland	Forest	Urban	TA	NP	PD	LPI	ED	LSI	CONTAG	COHESION	AI	SHDI	L
Farmland	1.00	-.857*	0.32	0.36	0.46	0.44	-0.64	0.00	0.46	-0.18	-0.57	-0.39	0.50	.893**
Forest		1.00	-0.39	-0.39	-0.46	-0.38	0.68	0.00	-0.46	0.14	0.50	0.54	-0.64	-.893**
Urban			1.00	-0.46	-0.36	0.60	-0.61	-0.27	-0.36	0.68	-0.61	-.857*	-0.07	0.57
TA				1.00	.893**	-0.44	-0.36	-0.09	.893**	-0.64	0.29	0.32	0.64	0.29
NP					1.00	-0.16	-0.43	-0.20	1.00**	-.821*	0.04	0.07	.786*	0.29
PD						1.00	-0.44	-0.47	-0.16	0.22	-.982**	-.818*	0.33	0.33
LPI							1.00	0.62	-0.43	-0.11	0.57	0.68	-0.61	-0.75
ED								1.00	-0.20	-0.07	0.51	0.49	-0.51	0.02
LSI									1.00	-.821*	0.04	0.07	.786*	0.29
CONTAG										1.00	-0.18	-0.32	-0.57	0.14
COHESION											1.00	.821*	-0.43	-0.46
AI												1.00	-0.36	-0.50
SHDI													1.00	0.36
L														1.00

(b) Correlations of water quality variables with land use types (%) and landscape indicators in the dry season

	pH	ORP	EC	DO	TN	TDN	TP	TDP	NO3-N	NH4-N	COD
Farmland	-0.46	-0.71	0.21	-0.25	-0.32	-0.32	0.42	.826*	-0.32	0.61	.893**
Forest	0.21	0.54	-0.57	0.14	0.39	0.39	-0.40	-0.73	0.54	-0.54	-0.64
Urban	-0.75	-0.61	0.61	-0.75	0.32	0.32	0.70	0.61	0.07	0.75	0.32
TA	0.32	-0.04	-0.18	0.64	-0.75	-0.75	-0.30	0.13	-0.57	-0.25	0.21
NP	0.14	-0.21	0.04	0.32	-0.43	-0.43	-0.13	0.31	-0.25	0.00	0.46
PD	-0.71	-0.27	0.38	-.873*	0.60	0.60	.924**	.757*	0.44	.927**	0.44
LPI	0.64	0.57	-0.36	0.36	0.14	0.14	-0.66	-.863*	0.21	-0.71	-0.54
ED	0.53	-0.07	0.00	0.40	-0.36	-0.36	-0.68	-0.50	-0.36	-0.55	0.00
LSI	0.14	-0.21	0.04	0.32	-0.43	-0.43	-0.13	0.31	-0.25	0.00	0.46
CONTAG	-0.43	-0.07	0.07	-0.36	0.18	0.18	0.38	0.06	-0.04	0.25	-0.29
COHESION	0.75	0.36	-0.36	.821*	-0.46	-0.46	-.945**	-.863*	-0.32	-.964**	-0.54
AI	0.68	0.46	-0.75	.821*	-0.46	-0.46	-.850*	-0.75	-0.21	-.893**	-0.39
SHDI	-0.04	-0.04	0.29	0.00	-0.18	-0.18	0.38	0.59	-0.18	0.39	0.36
L	-0.46	-0.75	0.39	-0.21	-0.43	-0.43	0.42	.771*	-0.54	0.57	0.71

(c) Correlations of water quality variables with land use types (in actual area) in the dry season

	pH	ORP	EC	DO	TN	TDN	TP	TDP	NO3-N	NH4-N	COD
Farmland	-0.14	-0.43	0.04	0.21	-0.61	-0.61	0.13	0.61	-0.50	0.25	0.61
Forest	0.43	0.32	-0.54	0.46	-0.07	-0.07	-0.53	-0.37	0.25	-0.50	-0.04
Urban	-0.71	-0.75	0.54	-0.54	-0.07	-0.07	0.68	.844*	-0.25	.786*	0.61

(d) Correlations of water quality variables with land use types (%) and landscape indicators in the wet season

	pH	ORP	EC	DO	TN	TDN	TP	TDP	NO3-N	NH4-N	COD
Farmland	-.857*	0.57	0.11	-0.57	-0.43	-0.11	-0.11	0.51	-0.46	-0.29	.821*
Forest	0.75	-0.46	-0.36	0.21	0.07	-0.32	0.29	-0.20	0.57	0.14	-0.75
Urban	-0.46	0.00	0.43	0.00	0.04	0.36	0.39	0.11	0.00	-0.72	0.39
TA	-0.29	0.71	-0.04	0.11	-0.07	-0.21	-0.71	0.47	-0.50	0.58	0.11
NP	-0.39	0.50	0.21	0.14	0.11	-0.21	-0.54	0.36	-0.25	0.43	0.36
PD	-0.65	-0.11	0.05	-0.38	0.22	0.44	.764*	-0.22	0.44	-.882**	.818*
LPI	.857*	-0.64	-0.25	0.00	-0.07	-0.21	-0.04	-0.49	0.18	0.43	-0.64
ED	0.49	-0.27	0.11	-0.18	-0.51	-0.31	-0.51	-0.06	-0.56	0.51	-0.36
LSI	-0.39	0.50	0.21	0.14	0.11	-0.21	-0.54	0.36	-0.25	0.43	0.36
CONTAG	0.00	-0.04	-0.14	-0.11	-0.18	0.29	0.43	0.02	0.00	-0.58	-0.18
COHESION	.786*	-0.07	-0.04	0.43	-0.14	-0.39	-0.68	0.07	-0.32	.866*	-.893**
AI	0.61	0.07	-0.50	-0.07	-0.39	-0.57	-0.46	0.15	-0.21	0.72	-0.68
SHDI	-0.64	0.43	0.14	0.07	0.43	0.36	-0.14	0.00	-0.04	0.00	0.68
L	-.786*	0.61	0.25	-0.36	-0.39	0.07	-0.21	0.53	-0.64	-0.29	0.64

(e) Correlations of water quality variables with land use types (in actual area) in the wet season

	pH	ORP	EC	DO	TN	TDN	TP	TDP	NO3-N	NH4-N	COD
Farmland	-0.71	.821*	0.07	-0.14	-0.18	-0.14	-0.46	0.62	-0.50	0.14	0.54
Forest	0.29	0.00	-0.21	0.11	0.07	-0.54	-0.25	0.07	0.25	0.58	-0.21
Urban	-.786*	0.43	0.36	-0.18	-0.14	0.25	0.11	0.40	-0.32	-0.58	0.64

200 m buffer

(a) Correlations of land use types (%) and landscape indicators

	Farmland	Forest	Urban	TA	NP	PD	LPI	ED	LSI	CONTAG	COHESION	AI	SHDI	L
Farmland	1.00	-.857*	0.61	0.32	0.32	-0.44	-0.32	0.21	0.46	0.00	0.32	0.43	0.45	1.00**
Forest		1.00	-0.54	-0.32	-0.32	0.56	0.43	0.04	-0.46	0.11	-0.36	-0.43	-0.50	-.857*
Urban			1.00	-0.11	-0.11	0.11	-0.43	0.21	0.07	0.21	0.11	-0.32	0.04	0.61
TA				1.00	1.000**	-0.30	-0.43	-0.36	.964**	-.786*	0.04	0.18	.829*	0.32
NP					1.00	-0.30	-0.43	-0.36	.964**	-.786*	0.04	0.18	.829*	0.32
PD						1.00	-0.11	-0.41	-0.22	-0.19	-.815*	-.889**	-0.06	-0.44
LPI							1.00	0.57	-0.46	0.36	0.43	0.25	-0.50	-0.32
ED								1.00	-0.39	0.75	0.75	0.36	-0.63	0.21
LSI									1.00	-.821*	0.00	0.11	.919**	0.46
CONTAG										1.00	0.39	0.21	-.883**	0.00
COHESION											1.00	0.61	-0.25	0.32
AI												1.00	0.05	0.43
SHDI													1.00	0.45
L														1.00

(b) Correlations of water quality variables with land use types (%) and landscape indicators in the dry season

	pH	ORP	EC	DO	TN	TDN	TP	TDP	NO3-N	NH4-N	COD
Farmland	-0.46	-0.71	0.21	-0.25	-0.32	-0.32	0.42	.826*	-0.32	0.61	.893**
Forest	0.21	0.54	-0.57	0.14	0.39	0.39	-0.40	-0.73	0.54	-0.54	-0.64
Urban	-.821*	-.893**	0.54	-0.71	0.21	0.21	0.60	.771*	0.11	.786*	0.71
TA	0.29	-0.07	-0.14	0.54	-0.57	-0.57	-0.30	0.13	-0.36	-0.21	0.29
NP	0.29	-0.07	-0.14	0.54	-0.57	-0.57	-0.30	0.13	-0.36	-0.21	0.29
PD	-0.41	0.15	-0.04	-0.59	.889**	.889**	0.37	0.02	.927**	0.30	-0.15
LPI	0.43	0.18	-0.18	0.14	0.14	0.14	-0.57	-0.64	0.18	-0.50	-0.18
ED	-0.14	-0.50	-0.18	0.00	-0.21	-0.21	-0.30	-0.13	-0.18	-0.14	0.29
LSI	0.14	-0.21	0.04	0.32	-0.43	-0.43	-0.13	0.31	-0.25	0.00	0.46
CONTAG	-0.32	-0.21	-0.07	-0.25	0.04	0.04	0.13	-0.04	-0.11	0.11	-0.07
COHESION	0.29	-0.43	0.18	0.36	-0.61	-0.61	-0.51	-0.17	-0.64	-0.32	0.25
AI	0.39	0.07	-0.21	0.54	-0.75	-0.75	-0.26	-0.02	-0.75	-0.25	0.11
SHDI	0.09	-0.05	0.14	0.13	-0.20	-0.20	0.12	0.43	-0.09	0.20	0.41
L	-0.46	-0.71	0.21	-0.25	-0.32	-0.32	0.42	.826*	-0.32	0.61	.893**

(c) Correlations of water quality variables with land use types (in actual area) in the dry season

	pH	ORP	EC	DO	TN	TDN	TP	TDP	NO3-N	NH4-N	COD
Farmland	-0.32	-0.64	0.14	0.04	-0.54	-0.54	0.23	0.72	-0.46	0.39	0.75
Forest	0.54	0.29	-0.36	0.54	-0.14	-0.14	-0.62	-0.42	0.14	-0.57	-0.07
Urban	-0.71	-.893**	0.54	-0.68	0.25	0.25	0.51	.771*	0.21	0.75	.857*

(d) Correlations of water quality variables with land use types (%) and landscape indicators in the wet season

	pH	ORP	EC	DO	TN	TDN	TP	TDP	NO3-N	NH4-N	COD
Farmland	-.857*	0.57	0.11	-0.57	-0.43	-0.11	-0.11	0.51	-0.46	-0.29	.821*
Forest	0.75	-0.46	-0.36	0.21	0.07	-0.32	0.29	-0.20	0.57	0.14	-0.75
Urban	-0.64	0.18	0.54	-0.07	-0.11	0.00	0.21	0.42	-0.07	-0.58	0.57
TA	-0.25	0.57	0.07	0.18	0.04	-0.29	-0.64	0.42	-0.32	0.58	0.14
NP	-0.25	0.57	0.07	0.18	0.04	-0.29	-0.64	0.42	-0.32	0.58	0.14
PD	0.11	-0.48	0.04	0.26	0.52	0.04	0.74	-0.28	.964**	-0.45	0.00
LPI	0.68	-0.64	-0.07	-0.21	-0.32	-0.32	-0.04	-0.35	0.00	0.29	-0.43
ED	0.14	0.00	-0.04	-0.46	-.857*	-0.57	-0.14	0.44	-0.46	0.00	-0.21
LSI	-0.39	0.50	0.21	0.14	0.11	-0.21	-0.54	0.36	-0.25	0.43	0.36
CONTAG	0.07	-0.07	-0.21	-0.43	-0.57	-0.04	0.29	0.13	-0.21	-0.43	-0.18
COHESION	0.14	0.11	0.29	-0.14	-0.61	-0.29	-0.68	0.29	-.857*	0.43	-0.18
AI	-0.14	0.43	-0.39	-0.57	-0.57	-0.04	-0.46	0.15	-0.75	0.29	0.11
SHDI	-0.49	0.36	0.16	0.09	0.34	0.07	-0.27	0.07	-0.02	0.22	0.56
L	-.857*	0.57	0.11	-0.57	-0.43	-0.11	-0.11	0.51	-0.46	-0.29	.821*

(e) Correlations of water quality variables with land use types (in actual area) in the wet season

	pH	ORP	EC	DO	TN	TDN	TP	TDP	NO3-N	NH4-N	COD
Farmland	-.786*	.786*	0.18	-0.21	-0.29	-0.18	-0.39	0.69	-0.54	0.00	0.61
Forest	0.36	-0.04	0.00	0.32	0.18	-0.46	-0.43	0.04	0.14	0.72	-0.29
Urban	-0.64	0.11	0.61	-0.07	-0.04	-0.11	0.14	0.36	0.00	-0.43	0.68

300 m buffer

(a) Correlations of land use types (%) and landscape indicators

	Farmland	Forest	Urban	TA	NP	PD	LPI	ED	LSI	CONTAG	COHESION	AI	SHDI	L
Farmland	1.00	-.893**	0.68	0.32	0.32	-0.58	-0.32	0.11	0.46	-0.04	0.54	0.57	0.45	1.00**
Forest		1.00	-0.50	-0.43	-0.43	0.63	0.29	0.11	-0.57	0.14	-0.64	-0.39	-0.56	-.893**
Urban			1.00	-0.07	-0.07	0.00	-0.46	-0.05	0.14	0.00	-0.07	-0.04	0.22	0.68
TA				1.00	1.000**	-0.13	-0.43	-0.59	.964**	-0.64	0.14	0.11	.829*	0.32
NP					1.00	-0.13	-0.43	-0.59	.964**	-0.64	0.14	0.11	.829*	0.32
PD						1.00	-0.11	-0.46	-0.09	-0.40	-.991**	-.793*	0.11	-0.58
LPI							1.00	0.67	-0.46	-0.04	0.14	0.11	-0.50	-0.32
ED								1.00	-0.63	0.52	0.41	0.61	-0.72	0.11
LSI									1.00	-0.71	0.11	0.04	.919**	0.46
CONTAG										1.00	0.36	0.39	-0.72	-0.04
COHESION											1.00	0.75	-0.07	0.54
AI												1.00	-0.09	0.57
SHDI													1.00	0.45
L														1.00

(b) Correlations of water quality variables with land use types (%) and landscape indicators in the dry season

	pH	ORP	EC	DO	TN	TDN	TP	TDP	NO3-N	NH4-N	COD
Farmland	-0.46	-0.71	0.21	-0.25	-0.32	-0.32	0.42	.826*	-0.32	0.61	.893**
Forest	0.14	0.61	-0.50	0.07	0.43	0.43	-0.23	-0.66	0.50	-0.43	-0.75
Urban	-.893**	-.786*	0.43	-.821*	0.36	0.36	.775*	.899**	0.29	.929**	.786*
TA	0.29	-0.07	-0.14	0.54	-0.57	-0.57	-0.30	0.13	-0.36	-0.21	0.29
NP	0.29	-0.07	-0.14	0.54	-0.57	-0.57	-0.30	0.13	-0.36	-0.21	0.29
PD	-0.11	0.43	-0.09	-0.34	.775*	.775*	0.22	-0.15	.829*	0.09	-0.34
LPI	0.43	0.18	-0.18	0.14	0.14	0.14	-0.57	-0.64	0.18	-0.50	-0.18
ED	-0.14	-0.20	-0.32	-0.09	-0.04	-0.04	-0.12	-0.15	-0.04	-0.07	0.11
LSI	0.14	-0.21	0.04	0.32	-0.43	-0.43	-0.13	0.31	-0.25	0.00	0.46
CONTAG	-0.25	0.00	0.00	-0.11	-0.14	-0.14	0.28	0.06	-0.36	0.14	-0.29
COHESION	0.21	-0.36	0.14	0.39	-.786*	-.786*	-0.26	0.09	-.857*	-0.14	0.29
AI	-0.04	-0.21	-0.43	0.32	-0.68	-0.68	-0.08	0.20	-0.61	-0.04	0.32
SHDI	0.09	-0.05	0.14	0.13	-0.20	-0.20	0.12	0.43	-0.09	0.20	0.41
L	-0.46	-0.71	0.21	-0.25	-0.32	-0.32	0.42	.826*	-0.32	0.61	.893**

(c) Correlations of water quality variables with land use types (in actual area) in the dry season

	pH	ORP	EC	DO	TN	TDN	TP	TDP	NO3-N	NH4-N	COD
Farmland	-0.14	-0.43	0.04	0.21	-0.61	-0.61	0.13	0.61	-0.50	0.25	0.61
Forest	0.43	0.11	-0.29	0.50	-0.18	-0.18	-0.62	-0.37	0.11	-0.54	0.00
Urban	-0.50	-0.75	0.54	-0.46	0.00	0.00	0.49	.844*	-0.04	0.71	.893**

(d) Correlations of water quality variables with land use types (%) and landscape indicators in the wet season

	pH	ORP	EC	DO	TN	TDN	TP	TDP	NO3-N	NH4-N	COD
Farmland	-.857*	0.57	0.11	-0.57	-0.43	-0.11	-0.11	0.51	-0.46	-0.29	.821*
Forest	0.68	-0.43	-0.39	0.25	0.18	-0.11	0.39	-0.27	0.61	0.00	-0.71
Urban	-.786*	0.18	0.36	-0.25	-0.04	0.04	0.43	0.33	0.14	-0.72	.786*
TA	-0.25	0.57	0.07	0.18	0.04	-0.29	-0.64	0.42	-0.32	0.58	0.14
NP	-0.25	0.57	0.07	0.18	0.04	-0.29	-0.64	0.42	-0.32	0.58	0.14
PD	0.23	-0.49	-0.04	0.38	0.68	0.14	0.59	-0.45	.955**	-0.22	-0.09
LPI	0.68	-0.64	-0.07	-0.21	-0.32	-0.32	-0.04	-0.35	0.00	0.29	-0.43
ED	0.14	-0.11	-0.36	-0.68	-.793*	-0.38	0.18	0.17	-0.23	-0.22	-0.14
LSI	-0.39	0.50	0.21	0.14	0.11	-0.21	-0.54	0.36	-0.25	0.43	0.36
CONTAG	-0.07	0.18	-0.29	-0.25	-0.32	0.32	0.21	0.07	-0.29	-0.43	-0.14
COHESION	-0.18	0.43	0.07	-0.32	-0.61	-0.07	-0.64	0.35	-.964**	0.29	0.07
AI	-0.36	0.64	-0.54	-.786*	-.857*	-0.32	-0.25	0.55	-0.68	0.00	0.18
SHDI	-0.49	0.36	0.16	0.09	0.34	0.07	-0.27	0.07	-0.02	0.22	0.56
L	-.857*	0.57	0.11	-0.57	-0.43	-0.11	-0.11	0.51	-0.46	-0.29	.821*

(e) Correlations of water quality variables with land use types (in actual area) in the wet season

	pH	ORP	EC	DO	TN	TDN	TP	TDP	NO3-N	NH4-N	COD
Farmland	-0.71	.821*	0.07	-0.14	-0.18	-0.14	-0.46	0.62	-0.50	0.14	0.54
Forest	0.32	0.04	0.14	0.43	0.14	-0.54	-0.50	0.20	0.07	0.72	-0.32
Urban	-.786*	0.29	0.50	-0.18	0.00	0.04	-0.04	0.29	-0.18	-0.29	.857*

400 m buffer

(a) Correlations of land use types (%) and landscape indicators

	Farmland	Forest	Urban	TA	NP	PD	LPI	ED	LSI	CONTAG	COHESION	AI	SHDI	L
Farmland	1.00	-.964**	0.68	0.39	0.39	-0.33	-0.75	-0.11	0.39	-0.34	0.39	0.36	0.39	.964**
Forest		1.00	-0.54	-0.43	-0.43	0.38	.786*	0.25	-0.43	0.43	-0.46	-0.39	-0.46	-.893**
Urban			1.00	0.04	0.04	0.27	-0.25	0.11	0.04	-0.18	-0.29	-0.14	0.21	0.71
TA				1.00	1.00**	0.11	-.857*	-0.14	1.00**	-.847*	0.18	-0.07	.857*	0.32
NP					1.00	0.11	-.857*	-0.14	1.00**	-.847*	0.18	-0.07	.857*	0.32
PD						1.00	0.22	0.11	0.11	-0.28	-.927**	-.873*	0.22	-0.38
LPI							1.00	0.36	-.857*	0.74	-0.39	-0.14	-.786*	-0.68
ED								1.00	-0.14	0.40	0.04	0.29	-0.43	-0.04
LSI									1.00	-.847*	0.18	-0.07	.857*	0.32
CONTAG										1.00	0.04	0.23	-.991**	-0.29
COHESION											1.00	.929**	0.00	0.43
AI												1.00	-0.21	0.43
SHDI													1.00	0.36
L														1.00

(b) Correlations of water quality variables with land use types (%) and landscape indicators in the dry season

	pH	ORP	EC	DO	TN	TDN	TP	TDP	NO3-N	NH4-N	COD
Farmland	-0.36	-0.75	0.39	-0.18	-0.39	-0.39	0.32	.771*	-0.43	0.54	.857*
Forest	0.14	0.61	-0.50	0.07	0.43	0.43	-0.23	-0.66	0.50	-0.43	-0.75
Urban	-.821*	-.857*	0.36	-0.75	0.32	0.32	0.60	.826*	0.32	.821*	.893**
TA	0.29	-0.07	-0.14	0.54	-0.57	-0.57	-0.30	0.13	-0.36	-0.21	0.29
NP	0.29	-0.07	-0.14	0.54	-0.57	-0.57	-0.30	0.13	-0.36	-0.21	0.29
PD	-0.22	-0.11	0.11	-0.33	0.60	0.60	0.00	-0.08	0.71	0.05	0.00
LPI	-0.07	0.29	-0.14	-0.32	0.64	0.64	-0.04	-0.50	0.57	-0.14	-0.50
ED	-0.11	-0.36	-0.50	0.07	-0.04	-0.04	-0.47	-0.31	0.18	-0.32	0.21
LSI	0.29	-0.07	-0.14	0.54	-0.57	-0.57	-0.30	0.13	-0.36	-0.21	0.29
CONTAG	-0.22	-0.02	-0.11	-0.20	0.14	0.14	0.05	-0.24	0.00	-0.04	-0.32
COHESION	0.39	0.07	-0.21	0.54	-0.75	-0.75	-0.26	-0.02	-0.75	-0.25	0.11
AI	0.25	-0.07	-0.21	0.32	-0.54	-0.54	-0.25	-0.04	-0.54	-0.18	0.21
SHDI	0.14	0.00	0.07	0.18	-0.18	-0.18	0.04	0.33	-0.04	0.11	0.36
L	-0.46	-0.71	0.21	-0.25	-0.32	-0.32	0.42	.826*	-0.32	0.61	.893**

(c) Correlations of water quality variables with land use types (in actual area) in the dry season

	pH	ORP	EC	DO	TN	TDN	TP	TDP	NO3-N	NH4-N	COD
Farmland	-0.14	-0.43	0.04	0.21	-0.61	-0.61	0.13	0.61	-0.50	0.25	0.61
Forest	0.50	0.43	-0.11	0.32	0.18	0.18	-0.45	-0.46	0.36	-0.46	-0.29
Urban	-0.61	-0.71	0.36	-0.54	0.07	0.07	0.59	.899**	0.07	.786*	.929**

(d) Correlations of water quality variables with land use types (%) and landscape indicators in the wet season

	pH	ORP	EC	DO	TN	TDN	TP	TDP	NO_3-N	NH_4-N	COD
Farmland	-.786*	0.54	0.32	-0.36	-0.32	-0.04	-0.29	0.47	-0.57	-0.14	0.75
Forest	0.68	-0.43	-0.39	0.25	0.18	-0.11	0.39	-0.27	0.61	0.00	-0.71
Urban	-0.71	0.14	0.39	-0.29	-0.14	-0.18	0.32	0.40	0.11	-0.58	0.75
TA	-0.25	0.57	0.07	0.18	0.04	-0.29	-0.64	0.42	-0.32	0.58	0.14
NP	-0.25	0.57	0.07	0.18	0.04	-0.29	-0.64	0.42	-0.32	0.58	0.14
PD	0.22	-0.38	0.44	0.60	0.49	-0.22	0.22	-0.03	0.65	0.00	-0.16
LPI	0.61	-0.71	-0.14	0.04	0.04	0.00	0.57	-0.42	0.54	-0.29	-0.50
ED	0.32	-0.07	-0.14	-0.32	-0.75	-.893**	-0.07	0.51	-0.11	0.14	-0.39
LSI	-0.25	0.57	0.07	0.18	0.04	-0.29	-0.64	0.42	-0.32	0.58	0.14
CONTAG	0.29	-0.22	-0.22	-0.22	-0.40	0.02	0.32	-0.01	-0.05	-0.36	-0.40
COHESION	-0.14	0.43	-0.39	-0.57	-0.57	-0.04	-0.46	0.15	-0.75	0.29	0.11
AI	-0.07	0.21	-0.36	-0.71	-0.71	-0.18	-0.29	0.13	-0.64	0.14	0.11
SHDI	-0.39	0.32	0.14	0.14	0.36	0.00	-0.29	0.07	0.04	0.29	0.46
L	-.857*	0.57	0.11	-0.57	-0.43	-0.11	-0.11	0.51	-0.46	-0.29	.821*

(e) Correlations of water quality variables with land use types (in actual area) in the wet season

	pH	ORP	EC	DO	TN	TDN	TP	TDP	NO3-N	NH4-N	COD
Farmland	-0.71	.821*	0.07	-0.14	-0.18	-0.14	-0.46	0.62	-0.50	0.14	0.54
Forest	0.46	-0.32	0.18	0.61	0.57	-0.14	-0.21	-0.29	0.43	0.58	-0.32
Urban	-.857*	0.32	0.29	-0.39	-0.11	-0.04	0.14	0.33	-0.07	-0.43	.929**

500 m buffer

(a) Correlations of land use types (%) and landscape indicators

	Farmland	Forest	Urban	TA	NP	PD	LPI	ED	LSI	CONTAG	COHESION	AI	SHDI	L
Farmland	1.00	-.964**	0.68	0.39	0.54	-0.28	-0.36	-0.36	0.39	0.00	0.50	0.54	0.54	1.00**
Forest		1.00	-0.54	-0.43	-0.57	0.37	0.49	0.39	-0.43	0.04	-0.54	-0.50	-0.57	-.96**
Urban			1.00	0.04	0.25	0.36	-0.23	0.00	0.04	-0.07	-0.11	0.04	0.36	0.68
TA				1.00	.964**	0.15	-0.68	-0.11	1.000**	-0.64	0.04	0.00	0.71	0.39
NP					1.00	0.21	-.793*	-0.14	.964**	-0.68	0.00	-0.04	.821*	0.54
PD						1.00	-0.34	0.60	0.15	-0.43	-.879**	-.786*	0.09	-0.28
LPI							1.00	-0.16	-0.68	0.52	0.27	0.40	-0.61	-0.36
ED								1.00	-0.11	0.32	-0.57	-0.54	-0.57	-0.36
LSI									1.00	-0.64	0.04	0.00	0.71	0.39
CONTAG										1.00	0.32	0.36	-.821*	0.00
COHESION											1.00	.964**	0.04	0.50
AI												1.00	0.00	0.54
SHDI													1.00	0.54
L														1.00

(b) Correlations of water quality variables with land use types (%) and landscape indicators in the dry season

	pH	ORP	EC	DO	TN	TDN	TP	TDP	NO3-N	NH4-N	COD
Farmland	-0.36	-0.75	0.39	-0.18	-0.39	-0.39	0.32	.771*	-0.43	0.54	.857*
Forest	0.14	0.61	-0.50	0.07	0.43	0.43	-0.23	-0.66	0.50	-0.43	-0.75
Urban	-.821*	-.857*	0.36	-0.75	0.32	0.32	0.60	.826*	0.32	.821*	.893**
TA	0.29	-0.07	-0.14	0.54	-0.57	-0.57	-0.30	0.13	-0.36	-0.21	0.29
NP	0.14	-0.21	0.04	0.32	-0.43	-0.43	-0.13	0.31	-0.25	0.00	0.46
PD	-0.32	-0.15	-0.06	-0.36	0.60	0.60	0.05	0.00	.767*	0.11	0.11
LPI	-0.25	0.16	-0.50	-0.09	0.05	0.05	0.13	-0.15	0.02	-0.02	-0.31
ED	0.04	-0.21	0.18	-0.04	0.25	0.25	-0.42	-0.44	0.29	-0.32	-0.18
LSI	0.29	-0.07	-0.14	0.54	-0.57	-0.57	-0.30	0.13	-0.36	-0.21	0.29
CONTAG	-0.11	-0.29	0.29	-0.11	-0.11	-0.11	-0.06	-0.15	-0.32	-0.04	-0.14
COHESION	0.21	-0.14	-0.11	0.36	-0.68	-0.68	-0.17	0.09	-0.71	-0.11	0.25
AI	0.00	-0.29	-0.21	0.25	-0.64	-0.64	-0.08	0.20	-0.64	0.00	0.36
SHDI	-0.07	-0.07	0.04	0.00	-0.14	-0.14	0.30	0.57	-0.04	0.36	0.50
L	-0.36	-0.75	0.39	-0.18	-0.39	-0.39	0.32	.771*	-0.43	0.54	.857*

(c) Correlations of water quality variables with land use types (in actual area) in the dry season

	pH	ORP	EC	DO	TN	TDN	TP	TDP	NO3-N	NH4-N	COD
Farmland	-0.14	-0.43	0.04	0.21	-0.61	-0.61	0.13	0.61	-0.50	0.25	0.61
Forest	0.46	0.57	-0.14	0.21	0.36	0.36	-0.36	-0.51	0.50	-0.43	-0.43
Urban	-0.61	-0.71	0.36	-0.54	0.07	0.07	0.59	.899**	0.07	.786*	.929**

(d) Correlations of water quality variables with land use types (%) and landscape indicators in the wet season

	pH	ORP	EC	DO	TN	TDN	TP	TDP	NO3-N	NH4-N	COD
Farmland	-.786*	0.54	0.32	-0.36	-0.32	-0.04	-0.29	0.47	-0.57	-0.14	0.75
Forest	0.68	-0.43	-0.39	0.25	0.18	-0.11	0.39	-0.27	0.61	0.00	-0.71
Urban	-0.71	0.14	0.39	-0.29	-0.14	-0.18	0.32	0.40	0.11	-0.58	0.75
Unused	-0.41	-0.20	0.41	-0.41	-0.20	0.20	0.20	-0.10	-0.20	-0.47	0.61
TA	-0.25	0.57	0.07	0.18	0.04	-0.29	-0.64	0.42	-0.32	0.58	0.14
NP	-0.39	0.50	0.21	0.14	0.11	-0.21	-0.54	0.36	-0.25	0.43	0.36
PD	0.11	-0.28	0.28	0.41	0.36	-0.36	0.30	0.10	0.69	-0.08	-0.07
LPI	0.11	0.05	-0.67	-0.52	-0.52	-0.09	0.45	0.12	0.04	-0.44	-0.27
ED	0.57	-0.43	0.57	0.68	0.14	-0.32	-0.18	0.07	0.14	0.29	-0.61
LSI	-0.25	0.57	0.07	0.18	0.04	-0.29	-0.64	0.42	-0.32	0.58	0.14
CONTAG	0.21	-0.14	0.21	0.00	-0.36	0.11	-0.07	0.05	-0.43	-0.14	-0.32
COHESION	-0.21	0.39	-0.29	-0.64	-0.68	-0.07	-0.39	0.22	-.786*	0.14	0.18
AI	-0.32	0.50	-0.36	-0.75	-.821*	-0.21	-0.29	0.42	-0.75	0.00	0.21
SHDI	-0.64	0.43	-0.04	-0.18	0.21	0.07	-0.07	0.11	0.04	0.00	0.71
L	-.786*	0.54	0.32	-0.36	-0.32	-0.04	-0.29	0.47	-0.57	-0.14	0.75

(e) Correlations of water quality variables with land use types (in actual area) in the wet season

	pH	ORP	EC	DO	TN	TDN	TP	TDP	NO3-N	NH4-N	COD
Farmland	-0.71	.821*	0.07	-0.14	-0.18	-0.14	-0.46	0.62	-0.50	0.14	0.54
Forest	0.54	-0.46	0.07	0.57	0.64	-0.04	0.00	-0.45	0.61	0.43	-0.36
Urban	-.857*	0.32	0.29	-0.39	-0.11	-0.04	0.14	0.33	-0.07	-0.43	.929**

Table S2 Water quality parameter models developed from land use types and landscape metrics

50 m buffer

Dry season water quality and land use by percent

Model		Unstandardized Coefficients		p	95.0% CI for B		Collinearity Statistics		Adj. R^2
		B	Std. Error		Lower Bound	Upper Bound	Tolerance	VIF	
ORP	(Constant)	171.002	14.714	0.000	133.177	208.826			0.54
	SHDI	14.183	4.988	0.036	1.361	27.005	1.000	1.000	
EC	(Constant)	321.366	16.965	0.000	277.757	364.975			0.7
	Urban	12.034	3.109	0.012	4.041	20.027	1.000	1.000	
TDP	(Constant)	0.005	0.014	0.725	-0.031	0.042			0.73
	Farm	0.001	0.000	0.009	0.001	0.002	1.000	1.000	
NO_3-N	(Constant)	-3.767	0.609	0.003	-5.457	-2.077			0.96
	Forest	0.025	0.002	0.000	0.019	0.031	0.897	1.115	
	PD	4.929	0.670	0.002	3.068	6.790	0.897	1.115	
NH_4-N	(Constant)	-0.007	0.018	0.717	-0.052	0.039			0.93
	Urban	0.029	0.003	0.000	0.021	0.038	1.000	1.000	

Dry season water quality and land use by actual area

Model		Unstandardized Coefficients		P	95.0% CI for B		Collinearity Statistics		Adj. R^2
		B	Std. Error		Lower Bound	Upper Bound	Tolerance	VIF	
ORP	(Constant)	197.346	12.290	0.000	163.224	231.468			0.83
	Urb	-2.457	0.790	0.036	-4.652	-0.263	0.843	1.186	
	SHDI	10.132	3.287	0.037	1.007	19.257	0.843	1.186	
EC	(Constant)	312.265	18.222	0.000	265.425	359.106			0.71
	Urb	8.413	2.117	0.011	2.970	13.856	1.000	1.000	
TDP	(Constant)	-0.196	0.064	0.028	-0.362	-0.031			0.71
	L	0.001	0.000	0.011	0.000	0.002	1.000	1.000	
NO_3-N	(Constant)	3.178	0.357	0.001	2.187	4.168			0.81
	Far	-0.009	0.002	0.023	-0.015	-0.002	0.969	1.032	
	ED	-1.008	0.332	0.038	-1.930	-0.087	0.969	1.032	
NH_4-N	(Constant)	0.398	0.054	0.001	0.258	0.538			0.85
	For	-0.004	0.001	0.002	-0.006	-0.002	1.000	1.000	

Dry season water quality and land use by both percent and actual area

Model		Unstandardized Coefficients		P	95.0% CI for B		Collinearity Statistics		Adj. R^2
		B	Std. Error		Lower Bound	Upper Bound	Tolerance	VIF	
DO	(Constant)	20.102	2.494	0.000	13.691	26.513			0.76
	PD	-13.046	2.919	0.007	-20.550	-5.543	1.000	1.000	
TP	(Constant)	0.135	0.013	0.000	0.102	0.167			0.62
	COHESION	-0.003	0.001	0.022	-0.006	-0.001	1.000	1.000	

COD	(Constant)	-4.752	1.260	0.013	-7.991	-1.513			0.84
	L	0.030	0.005	0.002	0.016	0.043	1.000	1.000	

Wet season water quality and land use by percent

Model		Unstandardized Coefficients		P	95.0% CI for B		Collinearity Statistics		Adj. R^2
		B	Std. Error		Lower Bound	Upper Bound	Tolerance	VIF	
pH	(Constant)	8.744	0.161	0.000	8.329	9.158			0.6
	Farm	-0.012	0.004	0.025	-0.022	-0.002	1.000	1.000	
DO	(Constant)	9.100	0.310	0.000	8.303	9.896			0.51
	Farm	-0.020	0.007	0.042	-0.040	-0.001	1.000	1.000	
COD	(Constant)	2.955	0.232	0.000	2.309	3.600			0.95
	COHESION	-0.068	0.011	0.004	-0.100	-0.037	0.827	1.209	
	Farm	0.019	0.004	0.006	0.009	0.029	0.827	1.209	

Wet season water quality and land use by actual area

Model		Unstandardized Coefficients		P	95.0% CI for B		Collinearity Statistics		Adj. R2
		B	Std. Error		Lower Bound	Upper Bound	Tolerance	VIF	
pH	(Constant)	7.868	0.149	0.000	7.485	8.251			0.6
	LPI	0.165	0.052	0.025	0.030	0.300	1.000	1.000	
ORP	(Constant)	17.750	19.907	0.413	-33.423	68.923			0.49
	Far	0.597	0.232	0.049	0.002	1.193	1.000	1.000	
DO	(Constant)	16.744	0.866	0.000	13.987	19.501			0.96
	L	-0.039	0.004	0.002	-0.051	-0.026	0.173	5.784	
	Urb	0.108	0.017	0.007	0.055	0.161	0.175	5.727	
	TA	0.002	0.001	0.027	0.000	0.004	0.974	1.027	
COD	(Constant)	0.441	1.175	0.726	-2.821	3.703			0.87
	COHESION	-0.065	0.019	0.025	-0.116	-0.013	0.750	1.333	
	L	0.013	0.004	0.038	0.001	0.025	0.750	1.333	

Wet season water quality and land use by both percent and actual area

Model		Unstandardized Coefficients		P	95.0% CI for B		Collinearity Statistics		Adj. R2
		B	Std. Error		Lower Bound	Upper Bound	Tolerance	VIF	
TN	(Constant)	1.264	0.245	0.004	0.634	1.894			0.64
	SHDI	0.286	0.083	0.018	0.073	0.500	1.000	1.000	
TDN	(Constant)	0.688	0.245	0.038	0.058	1.318			0.67
	SHDI	0.301	0.083	0.015	0.087	0.515	1.000	1.000	

200 m buffer

Dry season water quality and land use by percent

Model		Unstandardized Coefficients		P	Collinearity Statistics		Adj. R2
		B	Std. Error		Tolerance	VIF	

EC	(Constant)	322.635	18.235	0.000			0.65
	Urban	10.855	3.100	0.017	1.000	1.000	
DO	(Constant)	25.215	2.525	0.001			0.92
	PD	-20.640	3.332	0.003	0.999	1.001	
	Urban	-0.148	0.029	0.007	0.999	1.001	
TDP	(Constant)	0.075	0.022	0.028			0.91
	Farm	0.001	0.000	0.002	0.984	1.016	
	COHESION	-0.004	0.001	0.026	0.984	1.016	
NO3-N	(Constant)	-5.028	0.836	0.009			0.97
	PD	7.186	1.187	0.009	0.745	1.343	
	Forest	0.021	0.002	0.003	0.436	2.295	
	Urban	0.051	0.012	0.026	0.502	1.990	
NH4-N	(Constant)	-0.008	0.013	0.553			0.96
	Urban	0.028	0.002	0.000	1.000	1.000	

Dry season water quality and land use by actual area

Model		Unstandardized Coefficients		P	Collinearity Statistics		Adj. R2
		B	Std. Error		Tolerance	VIF	
ORP	(Constant)	230.123	10.378	0.000			0.54
	Urban	-1.519	0.534	0.036	1.000	1.000	
EC	(Constant)	314.083	20.626	0.000			0.63
	Urban	3.584	1.061	0.020	1.000	1.000	
DO	(Constant)	26.296	2.507	0.000			0.92
	PD	-24.983	3.372	0.002	0.953	1.049	
	Forest	0.010	0.002	0.006	0.953	1.049	
TDP	(Constant)	-0.191	0.063	0.029			0.71
	L	0.001	0.000	0.010	1.000	1.000	
NO3-N	(Constant)	-5.982	1.359	0.012			0.92
	PD	10.695	1.761	0.004	0.970	1.031	
	Farm	-0.003	0.001	0.007	0.970	1.031	
NH4-N	(Constant)	-0.021	0.034	0.572			0.79
	Urban	0.008	0.002	0.005	1.000	1.000	

Dry season water quality and land use by both percent and actual area

Model		Unstandardized Coefficients		P	Collinearity Statistics		Adj. R2
		B	Std. Error		Tolerance	VIF	
TN	(Constant)	-6.152	0.824	0.002			0.96
	PD	11.941	1.072	0.000	0.999	1.001	
	NP	-0.002	0.000	0.004	0.999	1.001	
TDN	(Constant)	-5.220	0.824	0.003			0.95
	PD	10.183	1.072	0.001	0.999	1.001	
	NP	-0.002	0.000	0.005	0.999	1.001	
COD	(Constant)	-4.617	1.218	0.013			0.85
	L	0.029	0.005	0.002	1.000	1.000	

Wet season water quality and land use by percent

Model		Unstandardized Coefficients		P	Collinearity Statistics		
		B	Std. Error		Tolerance	VIF	
pH	(Constant)	8.752	0.170	0.000			0.58
	Farm	-0.012	0.004	0.029	1.000	1.000	

Wet season water quality and land use by both percent and actual area

Model		Unstandardized Coefficients		P	Collinearity Statistics		
		B	Std. Error		Tolerance	VIF	
TN	(Constant)	3.399	0.456	0.001			0.60
	AI	-0.160	0.051	0.025	1.000	1.000	
NO_3-N	(Constant)	-2.991	1.308	0.071			0.60
	PD	5.487	1.726	0.025	1.000	1.000	
COD	(Constant)	-0.524	0.928	0.603			0.89
	L	0.021	0.003	0.003	0.992	1.008	
	COHESION	-0.097	0.026	0.020	0.992	1.008	

400 m buffer

Dry season water quality and land use by percent

Model		Unstandardized Coefficients		P	Collinearity Statistics		Adj. R2
		B	Std. Error		Tolerance	VIF	
EC	(Constant)	324.920	20.753	0.000			
	Urban	10.549	3.633	0.034	1.000	1.000	0.55
TDP	(Constant)	0.006	0.016	0.705			
	Farm	0.001	0.000	0.013	1.000	1.000	0.68
NH_4-N	(Constant)	-0.010	0.010	0.345			
	Urban	0.029	0.002	0.000	1.000	1.000	0.98
NO_3-N	(Constant)	0.711	0.319	0.076			
	Forest	0.019	0.006	0.031	1.000	1.000	0.57
COD	(Constant)	-4.381	1.205	0.015			
	L	0.028	0.005	0.002	1.000	1.000	0.84

Dry season water quality and land use by actual area

Model		Unstandardized Coefficients		P	Collinearity Statistics		Adj. R2
		B	Std. Error		Tolerance	VIF	
EC	(Constant)	472.819	41.928	0.000			
	Forest	-0.368	0.135	0.041	1.000	1.000	0.52
TDP	(Constant)	0.027	0.011	0.054			
	Urban	0.001	0.000	0.014	1.000	1.000	0.68
NH_4-N	(Constant)	0.493	0.091	0.012			
	Urban	0.006	0.000	0.000	0.994	1.006	
	NP	0.000	0.000	0.001	0.969	1.032	
	ED	-0.135	0.030	0.020	0.969	1.032	1.00
COD	(Constant)	1.587	0.198	0.000			
	Urban	0.036	0.006	0.002	1.000	1.000	0.85

Dry season water quality and land use by both percent and actual area

Model		Unstandardized Coefficients		P	Collinearity Statistics		Adj. R2
		B	Std. Error		Tolerance	VIF	
TN	(Constant)	5.655	0.869	0.003			
	COHESION	-0.145	0.026	0.005	0.998	1.002	
	LPI	0.762	0.166	0.010	0.998	1.002	0.90

Wet season water quality and land use by percent

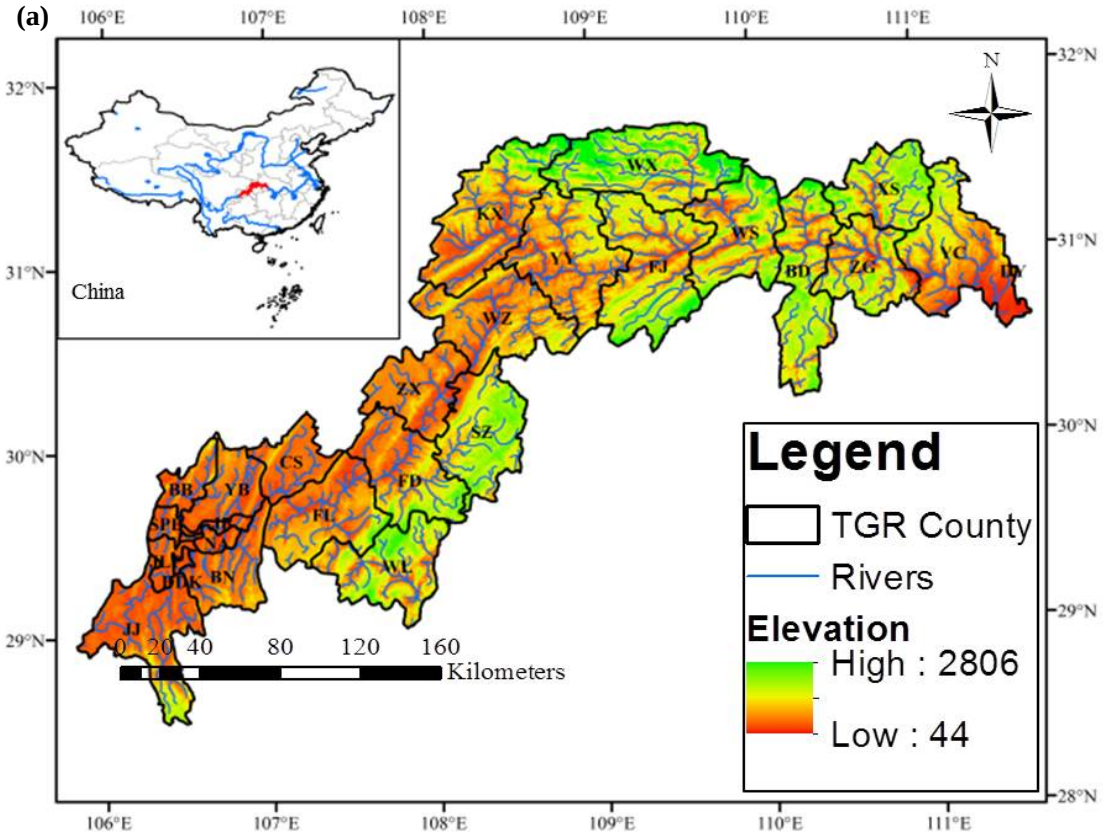
Model		Unstandardized Coefficients		P	Collinearity Statistics		Adj. R2
		B	Std. Error		Tolerance	VIF	
pH	(Constant)	8.732	0.173	0.000			
	Farm	-0.012	0.004	0.035	1.000	1.000	0.55
TDN	(Constant)	16.672	0.748	0.000			
	ED	-3.744	0.230	0.001	0.788	1.268	
	SHDI	-1.729	0.143	0.001	0.893	1.120	
	AI	-0.062	0.011	0.012	0.774	1.291	0.99
COD	(Constant)	-2.003	1.498	0.239			
	L	0.020	0.006	0.023	1.000	1.000	0.62

Wet season water quality and land use by actual area

Model		Unstandardized Coefficients		P	Collinearity Statistics		Adj. R2
		B	Std. Error		Tolerance	VIF	
COD	(Constant)	2.182	0.237	0.000			
	Urban	0.026	0.007	0.017	1.000	1.000	0.66

Wet season water quality and land use by both percent and actual area

Model		Unstandardized Coefficients		P	Collinearity Statistics		Adj. R2
		B	Std. Error		Tolerance	VIF	
TN	(Constant)	4.332	0.671	0.001			
	AI	-0.175	0.050	0.017	1.000	1.000	0.65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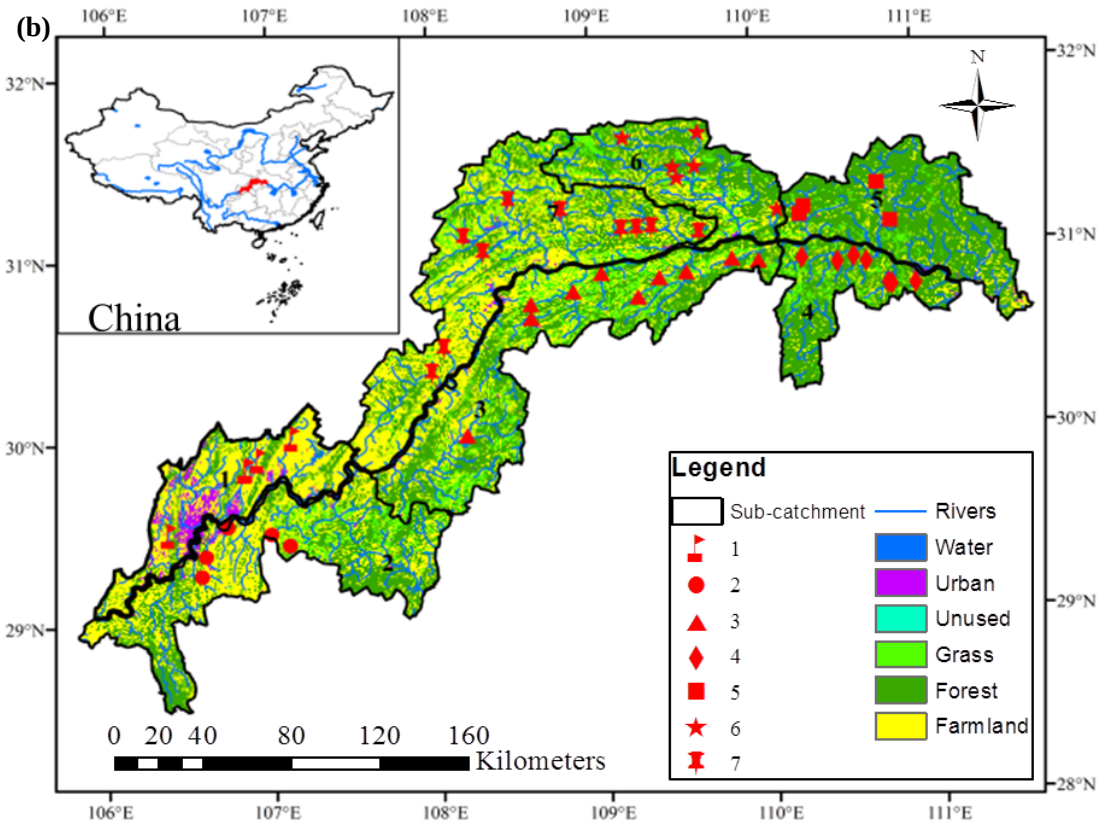
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Rivers
Water
Urban
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Grass
Forest
Farmland

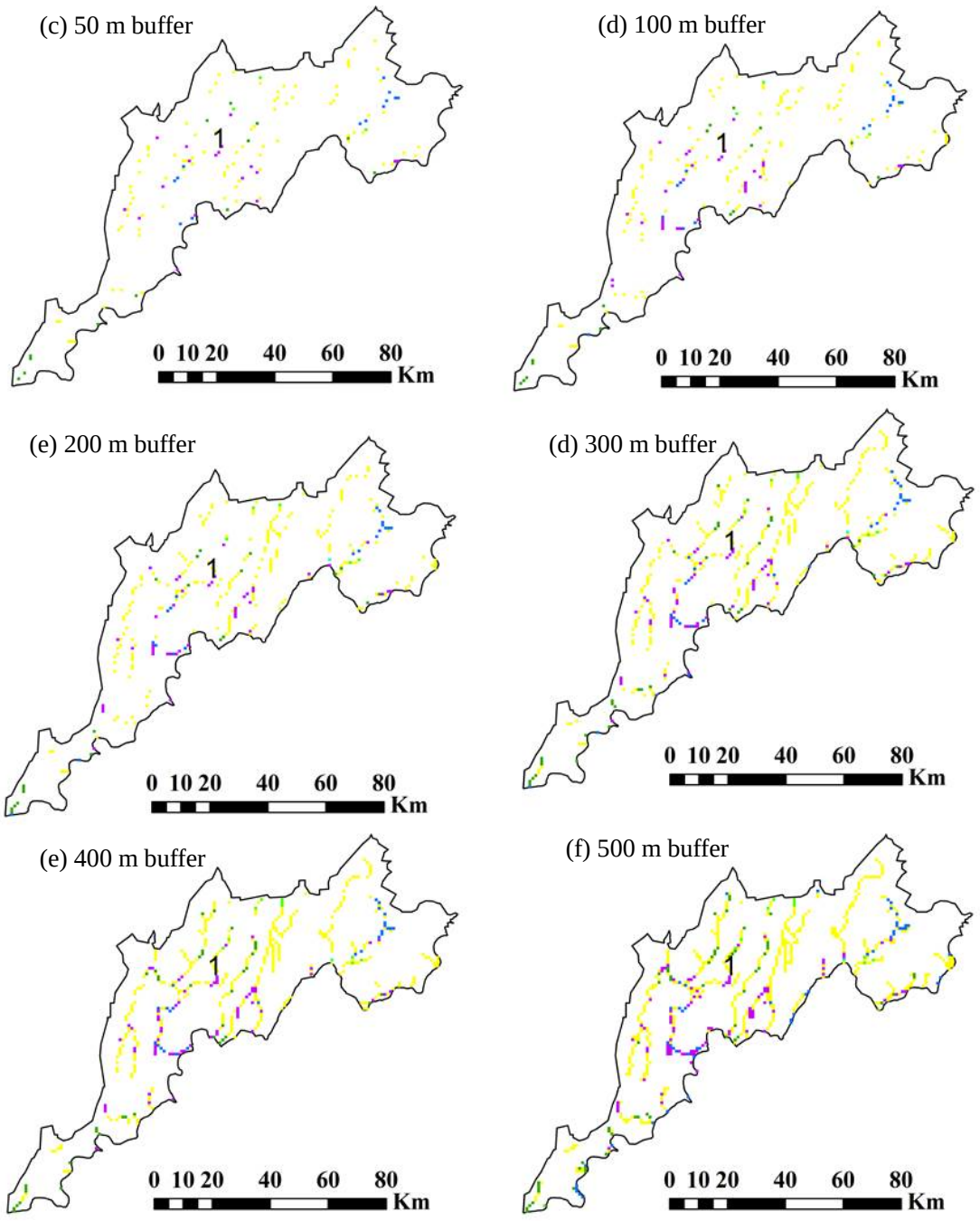

Fig. S1. Map showing 47 sampling stations in the TGR area and land use along multi-riparians (50 m, 100 m, 200 m, 300 m, 400 m and 500 m riparian zones) used in analyses of land use indices. (a) Admin district boundaries for the TGR area, with elevation in meters as background. There are 26 districts including Dangyang (DY), Yichang (YC), Zigui (ZG), Xingshan (XS), Badong (BD), Wushan (WS), Wuxi (WX), Fengjie (FJ), Kaixian (KX), Yunyang (YY), Wanzhou (WZ), Zhongxian (ZX), Shizhu (SZ), Fengdu (FD), Changshou (CS), Fuling (FL), Wulong (WL), the nine downtown areas and one remote area of Chongqing (i.e., Yubei (YB), Beibei (BB), Ba'nan (BN),

Shapingba (SPB), Jiangbei (JB), Nan’an (NA), Yuzhong (YZ), Jiulongpo (JLP) and Dadukou (DDK)), as well as Jiangjin (JJ)). (b) Seven sub-catchments (SUB1-SUB7). Five sampling sites are in SUB 1, 5 sampling sites in SUB 2, 10 sampling sites in SUB 3, 7 sampling sites in SUB 4, 4 sampling sites in SUB 5, 6 sampling sites in SUB 6, 10 sampling sites in SUB 7.

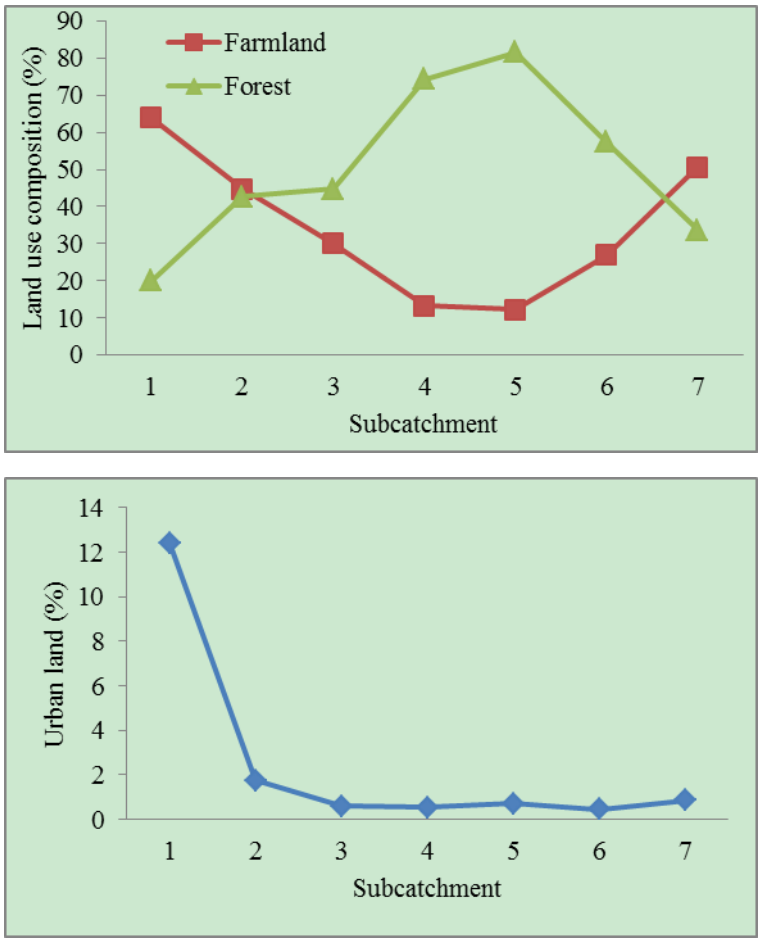

Fig. S2. Land use/land cover proportions in each sub-catchment (Three main land uses of forest, farmland and urban are shown).