

**Table S1 The sampling sites in the Songhua River**

The name of the section	Waterbody	River Basin	Sites label			Longitude (° E)	Latitude (° N)
			Normal season	Dry season	Common site		
The Menlo River Bridge	Menlu River	NR	NS1	-		123.509	49.663
Colo River Bridge	Keluo River	NR	NS2	NM2	N2	125.452	49.406
The middle reaches of the Namur River	Namoer River	NR	NS3	-		126.111	48.541
The middle reaches of Wuyuer River	Wuyuer River	NR	NS4	NM4	N4	125.892	48.004
Bohuotou	Main stream of Nenjiang River	NR	NS5	NM5	N5	125.184	49.192
Laha	Main stream of Nenjiang River	NR	NS6	-		124.56	48.248
Liuyuan	Main stream of Nenjiang River	NR	NS7	-		123.919	47.379
Jiangqiao	Main stream of Nenjiang River	NR	NS8	NM8	N8	123.701	46.701
The middle reaches of Liu River	Yitong River	SSR	DS1	DM1	D1	126.845	43.113
Wanjin tower	Yinma River	SSR	DS2	DM2	D2	125.445	44.603
Kaoshgannan tower	Huifa River	SSR	DS3	-		125.682	44.786
Xilankou	Main stream of Second Songhua River	SSR	DS4	-		126.294	44.177
Songhua River village	Main stream of Second Songhua River	SSR	DS5	-		126.189	44.671
Songlin	Main stream of Second Songhua River	SSR	DS6	DM6	D6	124.728	45.301
The middle reaches of Laling River	Lalin River	MSSR	SS1	SM1	S1	127.064	44.671
The middle reaches of Ashe River	Ashi River	MSSR	SS2	SM2	S2	127.013	45.409
Tielishi	Hulan River	MSSR	SS3	-		128.602	47.034
The middle reaches of Hulan River	Hulan River	MSSR	SS4	-		127.337	46.892

Dashan	Mudan River	MSSR	SS5	-		128.737	43.756
Guoshuchang	Mudan River	MSSR	SS6	SM6	S6	129.016	44.061
Brige of Chai River	Mudan River	MSSR	SS7	SM7	S7	129.672	44.766
Mudan River	Mudan River	MSSR	SS8	SM8	S8	129.573	46.003
The middle reaches of Woken River	Woken River	MSSR	SS9	SM9	S9	130.543	46.019
Juyuan tree farm	East Tangwang River	MSSR	SS10	SM10	S10	129.356	48.637
Youhao	Tangwang River	MSSR	S11	-		128.859	47.818
Tangwang River	Tangwang River	MSSR	SS12	-		127.289	47.648
Zhaoyuan	Main stream of Songhua River	MSSR	SS13	-		124.989	45.487
Zhushun village	Main stream of Songhua River	MSSR	SS14	-		126.539	45.759
Dadingzi Mountain	Main stream of Songhua River	MSSR	SS15	-		126.914	46.001
Ferry town	Main stream of Songhua River	MSSR	SS16	-		128.147	45.918
Mudan River	Main stream of Songhua River	MSSR	SS17	-		129.439	46.2722
Kiamusze	Main stream of Songhua River	MSSR	SS18	SM18	S18	129.914	46.647
Kiamusze	Main stream of Songhua River	MSSR	SS19	-		130.689	47.032
Youlin	Main stream of Songhua River	MSSR	SS20	SM20	S20	131.682	47.234
Tongjiang	Main stream of Songhua River	MSSR	SS21	SM21	S21	132.458	47.661
Upper Wutong River	Wutong River	MSSR	SS22	-		130.158	47.95
Inside the mouth of the Wutong river	Wutong River	MSSR	SS23	-		130.584	47.288
The Butong River Farm Bridge	Wutong River	MSSR	SS24	-		130.74	47.193
Head of Indus River Farm Canal	Wutong River	MSSR	SS25	-		130.558	47.321

The Old Wutong river bridge	Wutong River	MSSR	SS26	-		130.166	47.875
Under Shuangfeng Farm Bridge	Wutong River	MSSR	SS27	-		130.217	47.736
East Harbor	Main stream of Heilong River	HR	HS1	HM1	H1	132.668	47.921
Ming mountain	Main stream of Heilong River	HR	HS2	HM2	H2	131.079	47.680