

Table S1. Water quality parameter values after sample analysis at each tree age of the model (in the rainy season)

ASS	Sites	Model	pH	DO (mg L ⁻¹)	EC (μS cm ⁻¹)	COD (mg L ⁻¹)	BOD (mg L ⁻¹)	N-NO ₃ ⁻ (mg L ⁻¹)	N-NH ₄ ⁺ (mg L ⁻¹)	Fe ³⁺ (mg L ⁻¹)	Al ³⁺ (mg L ⁻¹)
D-ASS	PS.1	AH > 3 years old	6.65	1.02	10.48	152	58.0	59.6	3.9	3.4	0.2
	PS.2		6.35	1.45	10.19	223	47.2	20.9	1.7	2.7	1.18
	PS.3		6.43	1.44	10.26	109	57.2	1.0	1.6	11.5	0.24
	PS.4	AH < 3 years old	6.86	5.35	13.3	77.6	57.2	27.6	1.8	20.6	0.11
	PS.5		7.34	5.96	13.15	74.2	50.4	37.6	1.2	7.3	0.15
	PS.6		7.38	3.04	12.92	78	55.2	26.5	2.3	10.8	0.18
	PS.7	PMC < 5 years old	6.63	1.87	12.49	67.4	74.4	21.5	2.0	8.2	0.28
	PS.8		6.46	2.06	13.73	53	48.4	25.3	0.3	28.0	0.37
	PS.9		6.54	1.91	14.58	67.6	42.0	1.3	4.0	35.5	0.42
	PS.10	PMC > 5 years old	2.63	1.82	37.5	220	48.0	28.6	1.8	26.1	14.59
	PS.11		2.64	2.05	36.7	207	52.4	31.8	0.5	24.6	18.18
	PS.12		2.76	2.39	38.3	138	49.6	10.4	1.6	12.0	14.46
	PS.13	NMC > 10 years old	5.79	0.59	1.563	342	52.0	7.8	2.8	5.2	1.69
	PS.14		5.78	0.74	1.755	134	57.6	33.7	3.5	6.6	1.93
	PS.15		5.92	0.63	1.717	370	53.6	4.0	1.8	5.6	1.86
S-ASS	PN.1	AH > 3 years old	3.4	2.39	35.4	370	44.4	20.8	2.6	19.3	9.57
	PN.2		3.22	3.53	19.05	43.4	52.4	20.5	3.7	26.6	0.37
	PN.3		3.21	3.36	14.22	22.4	46.0	7.0	2.9	35.3	18.47
	PN.4	AH < 3 years old	3.15	2.92	36.4	148	54.4	44.1	2.8	10.7	8.91
	PN.5		2.31	2.11	18.3	51.8	48.0	16.0	2.6	63.4	2.04
	PN.6		2.28	1.1	18.4	47.8	49.6	20.9	3.4	55.7	1.16
	PN.7	PMC < 5 years old	2.2	2.3	19.9	45.8	52.1	30.8	2.7	45.7	1.73
	PN.8		2.28	2.65	20.38	178	53.6	30.4	1.4	4.9	0.31
	PN.9		2.28	2.54	20.01	38.6	50.0	22.6	1.1	36.5	1.86
	PN.10	PMC > 5 years old	3.45	2.54	35.7	304	41.2	34.6	2.8	30.7	14.3
	PN.11		3.42	3.35	35.5	248	44.0	3.0	2.7	20.6	17.09
	PN.12		3.35	2.06	34.2	229	49.2	19.6	3.4	35.3	1.2

PN.13		5.78	0.98	1.941	390	58.4	42.8	1.6	5.5	2.1
PN.14	NMC > 10 years old	5.82	0.73	1.943	336	60.0	3.2	1.9	10.3	1.47
PN.15		5.75	0.78	1.931	439	66.8	38.9	2.5	6.2	2.43

Table S2. Water quality parameter values after sample analysis at each tree age of the model (in the dry season)

ASS	Sites	Model	pH	DO (mg L ⁻¹)	EC (μS cm ⁻¹)	COD (mg L ⁻¹)	BOD (mg L ⁻¹)	N-NO ₃ ⁻ (mg L ⁻¹)	N-NH ₄ ⁺ (mg L ⁻¹)	Fe ³⁺ (mg L ⁻¹)	Al ³⁺ (mg L ⁻¹)
D-ASS	PS.1	AH > 3 years old	7.13	2.8	1.89	128.32	8.00	0.25	0.46	2.13	0.07
	PS.2		7.2	2.9	1.88	106.56	15.90	0.25	0.62	0.08	0.64
	PS.3		7.13	2.9	1.87	123.84	18.00	0.29	0.52	0.13	0.08
	PS.4	AH < 3 years old	7.18	2.9	1.61	93.76	13.80	4.27	0.54	1.27	0.24
	PS.5		7.37	2.8	1.61	87.04	8.40	0.14	0.22	1.48	0.02
	PS.6		8.04	2.6	1.61	85.76	9.00	6.86	0.35	0.84	0.16
	PS.7	PMC < 5 years old	7.35	2.5	1.82	117.76	9.20	0.22	0.23	3.74	0.09
	PS.8		7.39	2.8	1.8	106.24	8.00	0.24	0.36	4.06	0.16
	PS.9		7.22	2.8	1.79	127.68	18.40	0.25	0.23	1.48	0.24
	PS.10	PMC > 5 years old	2.81	3	3.5	139.2	5.20	0.07	2.08	0.93	23.77
	PS.11		2.87	3.1	3.49	135.68	8.00	0.05	1.57	1.23	21.95
	PS.12		3	3.2	3.35	138.4	8.40	0.05	1.46	1.03	15.57
	PS.13	NMC > 10 years old	4.85	1.93	0.98	95.65	13.29	3.85	1.98	8.67	3.20
	PS.14		4.83	1.75	0.95	82.35	14.40	3.19	2.15	8.36	3.00
	PS.15		4.83	1.57	0.91	69.05	15.50	2.54	2.32	8.05	2.81
S-ASS	PN.1	A: > 3 years old	2.39	3	3.53	137.92	4.00	1.96	2.20	24.25	27.40
	PN.2		2.6	2.4	3.11	97.6	2.00	0.45	2.33	16.41	0.57
	PN.3		2.46	2.8	3.59	141.12	9.20	3.84	2.11	24.95	27.51
	PN.4	AH < 3 years old	2.39	2.4	2.41	53.76	3.60	0.68	2.54	33.40	4.58
	PN.5		2.43	2.1	2.28	114.24	3.20	0.60	2.52	29.98	3.72
	PN.6		2.42	2.2	2.21	52.8	1.20	0.83	2.59	31.09	26.37
	PN.7	PMC < 5 years old	2.4	2	2.83	335.2	18.40	1.43	10.94	681.40	25.39
	PN.8		2.38	2	2.56	164.8	17.40	0.68	26.91	263.98	14.70
	PN.9		2.4	2.3	2.59	106.4	6.40	1.28	6.18	154.60	11.81
	PN.10	PMC > 5 years old	2.53	2.3	3.2	86.4	1.60	0.83	2.31	13.70	0.57
	PN.11		2.4	2.6	3.55	81.6	2.80	0.75	2.09	25.36	27.47
	PN.12		2.4	2.5	3.58	140.48	6.80	0.38	2.70	21.84	27.27

PN.13		4.89	3.62	1.25	126.88	10.87	2.75	1.81	7.89	4.77
PN.14	NMC > 10 years old	4.78	3.05	1.15	128.81	13.75	2.35	2.53	9.38	3.85
PN.15		4.68	2.48	1.05	130.75	16.63	1.96	3.25	10.87	2.93