

Supporting Information

Final Report – Churchill River soil flux core experiments – October 2017

Table S1. Average daily water quality measurements for cores (2) from pre-flood Upper Brook (PF-UB).

Day	Date	Conductivity (uS/cm)	Salinity (ppt)	DO (%)	DO (mg/L)	pH	Temperature (°C)
1	10/19/17	58.60	0.025	58.4	5.10	6.19	22.2
2	10/20/17	47.70	0.020	45.1	3.94	6.10	22.1
3	10/21/17	45.15	0.020	53.7	4.69	6.06	22.1
4	10/22/17	44.25	0.020	56.5	4.96	6.05	21.9
5	10/23/17	45.45	0.020	48.7	4.26	6.06	22.0
6	10/24/17	45.00	0.020	51.0	4.42	6.16	22.5
mean		47.69	0.021	52.2	4.56	6.10	22.1

Table S2. Average daily water quality measurements for cores (2) from pre-flood Edwards Brook (PF-EB).

Day	Date	Conductivity (uS/cm)	Salinity (ppt)	DO (%)	DO (mg/L)	pH	Temperature (°C)
1	10/19/17	56.51	0.025	43.6	3.80	5.50	22.1
2	10/20/17	43.95	0.020	33.5	2.93	5.51	22.1
3	10/21/17	42.75	0.020	36.3	3.17	5.66	22.0
4	10/22/17	41.30	0.020	40.0	3.51	5.64	21.9
5	10/23/17	40.60	0.020	41.4	3.62	5.84	21.9
6	10/24/17	40.30	0.020	46.7	4.07	5.78	22.1
mean		44.24	0.021	40.2	3.52	5.65	22.0

Table S3. Average daily water quality measurements for cores (3) from burned soil site (Burn).

Day	Date	Conductivity (uS/cm)	Salinity (ppt)	DO (%)	DO (mg/L)	pH	Temperature (°C)
1	10/19/17	32.63	0.013	78.6	6.90	5.59	22.0
2	10/20/17	29.87	0.013	65.9	5.75	5.42	22.1
3	10/21/17	27.43	0.010	68.6	6.00	5.63	22.0
4	10/22/17	26.20	0.010	72.0	6.30	5.52	21.9
5	10/23/17	25.50	0.010	73.2	6.43	5.73	21.7
6	10/24/17	26.67	0.010	74.9	6.54	5.73	22.1
mean		28.05	0.011	72.2	6.32	5.60	22.0

Table S4. Average daily water quality measurements for cores (3) from wetland site (Bog-wet).

Day	Date	Conductivity (uS/cm)	Salinity (ppt)	DO (%)	DO (mg/L)	pH	Temperature (°C)
1	10/19/17	18.10	0.010	65.7	5.75	4.86	22.0
2	10/20/17	17.40	0.010	67.2	5.87	4.97	22.0
3	10/21/17	19.13	0.010	64.5	5.65	5.26	22.0
4	10/22/17	20.00	0.010	68.6	6.01	5.31	21.9
5	10/23/17	23.10	0.010	69.3	6.09	5.54	21.8
6	10/24/17	25.47	0.010	80.0	6.99	5.71	22.0
mean		20.53	0.010	69.2	6.06	5.28	21.9

Table S5. Average daily water quality measurements for cores (3) from flooded Upper Brook (F-UB).

Day	Date	Conductivity (uS/cm)	Salinity (ppt)	DO (%)	DO (mg/L)	pH	Temperature (°C)
1	10/19/17	36.40	0.017	56.8	4.97	6.01	22.0
2	10/20/17	34.40	0.017	50.0	4.34	5.97	22.4
3	10/21/17	35.53	0.017	55.1	4.81	5.99	22.1
4	10/22/17	34.80	0.017	60.3	5.29	6.00	21.9
5	10/23/17	34.77	0.017	55.1	4.83	6.04	21.8
6	10/24/17	35.03	0.017	56.2	4.92	6.04	22.0
mean		35.16	0.017	55.6	4.86	6.01	22.0

Table S6. Average daily water quality measurements for cores (3) from flooded Edwards Brook (F-EB).

Day	Date	Conductivity (uS/cm)	Salinity (ppt)	DO (%)	DO (mg/L)	pH	Temperature (°C)
1	10/19/17	51.53	0.023	44.5	3.88	5.78	22.1
2	10/20/17	42.70	0.020	50.3	4.39	5.83	22.1
3	10/21/17	40.20	0.020	57.5	5.02	5.91	22.0
4	10/22/17	38.03	0.017	56.7	4.92	5.94	22.3
5	10/23/17	38.07	0.020	60.5	5.30	6.06	21.9
6	10/24/17	39.77	0.020	60.6	5.25	6.09	22.5
mean		41.72	0.020	55.0	4.79	5.93	22.2

Table S7. Average daily water quality measurements for cores (3) from flooded Upper Brook with litter layer removed (F-OL-UB).

Day	Date	Conductivity (uS/cm)	Salinity (ppt)	DO (%)	DO (mg/L)	pH	Temperature (°C)
1	10/19/17	28.60	0.010	77.0	6.73	5.98	22.1
2	10/20/17	31.00	0.010	71.3	6.22	5.99	22.1
3	10/21/17	31.80	0.010	64.6	5.60	5.97	22.4
4	10/22/17	30.87	0.010	72.9	6.38	6.01	21.9
5	10/23/17	31.57	0.013	72.1	6.33	6.04	21.8
6	10/24/17	31.07	0.010	72.9	6.33	6.04	22.4
mean		30.82	0.011	71.8	6.26	6.01	22.1

Table S8. Average daily water quality measurements for cores (3) from flooded Edwards Brook with litter layer removed (F-OL-EB).

Day	Date	Conductivity (uS/cm)	Salinity (ppt)	DO (%)	DO (mg/L)	pH	Temperature (°C)
1	10/19/17	38.97	0.017	76.9	6.71	6.03	22.0
2	10/20/17	39.77	0.017	69.6	6.01	6.07	22.7
3	10/21/17	42.57	0.020	69.1	6.04	6.09	22.0
4	10/22/17	42.43	0.020	70.7	6.19	6.05	21.9
5	10/23/17	44.23	0.023	68.7	6.03	6.01	21.8
6	10/24/17	45.37	0.023	67.5	5.91	5.92	22.0
mean		42.22	0.020	70.4	6.15	6.03	22.1

Table S9. Average daily water quality measurements for cores (3) from flooded Upper Brook with top 5 cm removed (F-5cm-UB).

Day	Date	Conductivity (uS/cm)	Salinity (ppt)	DO (%)	DO (mg/L)	pH	Temperature (°C)
1	10/19/17	23.77	0.010	92.3	8.04	5.86	22.3
2	10/20/17	24.33	0.010	89.8	7.83	5.95	22.1
3	10/21/17	24.83	0.010	86.6	7.56	6.01	22.1
4	10/22/17	24.80	0.010	91.0	7.96	6.09	22.0
5	10/23/17	24.97	0.010	89.5	7.83	6.13	22.0
6	10/24/17	25.17	0.010	92.4	8.05	6.09	22.2
mean		24.64	0.010	90.3	7.88	6.02	22.1

Table S10. Average daily water quality measurements for cores (3) from flooded Edwards Brook with top 5 cm removed (F-5cm-EB).

Day	Date	Conductivity (uS/cm)	Salinity (ppt)	DO (%)	DO (mg/L)	pH	Temperature (°C)
1	10/19/17	25.93	0.010	90.6	7.90	6.10	22.1
2	10/20/17	27.40	0.010	86.7	7.55	6.08	22.2
3	10/21/17	28.60	0.010	85.0	7.33	6.15	22.7
4	10/22/17	27.93	0.010	90.2	7.81	6.12	22.0
5	10/23/17	29.00	0.010	85.2	7.48	6.20	21.9
6	10/24/17	30.60	0.010	90.7	7.92	6.20	22.1
mean		28.24	0.010	88.1	7.67	6.14	22.2

Table S11. Average daily water quality measurements for Churchill River change water collected on 10/17/17 and 10/20/17.

Day	Date	Conductivity (uS/cm)	Salinity (ppt)	DO (%)	DO (mg/L)	pH	Temperature (°C)
1	10/19/17	46.00	0.020	103.0	8.85	6.82	22.9
2	10/20/17	29.10	0.010	94.7	8.12	6.61	23.0
3	10/21/17	24.20	0.010	115.1	10.36	6.35	20.5
4	10/22/17	28.90	0.010	102.8	8.88	7.17	22.6
5	10/23/17	26.10	0.010	102.8	8.91	7.16	22.5
6	10/24/17	25.00	0.010	108.0	9.33	6.49	22.6
mean		29.88	0.012	104.4	9.08	6.77	22.4