

Geological structure as a control on floodplain groundwater dynamics

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Table S1 Mean values of selected chemistry parameters from floodplain waters at study site. Data © Tweed Forum.

Water source	HCO ₃ mg l ⁻¹	DO ₂ mg l ⁻¹	Ca mg l ⁻¹	Mg mg l ⁻¹	Na mg l ⁻¹	K mg l ⁻¹	Cl- mg l ⁻¹	SO ₄ mg l ⁻¹	NO ₃ mg l ⁻¹	NPOC mg l ⁻¹	Mn µg l ⁻¹	Fe µg l ⁻¹
1A	80.44	8.72	27.17	6.97	12.40	1.84	13.83	14.85	29.04	1.21	2.23	8.33
2A	69.01	5.69	24.03	7.27	8.83	1.02	13.93	9.22	29.55	0.66	9.93	57.00
2B	89.89	0.24	18.90	7.07	9.93	0.73	16.47	7.66	0.29	0.75	458.07	5592.3 3
3A	77.81	4.63	24.57	7.38	9.40	1.36	13.68	9.17	23.45	0.73	0.77	6.67
3B	70.60	3.42	23.40	6.68	9.27	0.96	13.88	8.05	24.87	1.11	1.10	5.00
4A	85.43	0.12	19.10	8.42	9.27	0.96	19.06	9.55	0.34	1.10	152.47	27.67
4B	124.85	0.11	24.13	9.83	7.63	1.25	10.77	1.54	0.06	2.06	425.50	938.33
5A	98.48	0.77	23.83	10.68	9.50	0.80	14.38	11.07	16.15	0.60	76.30	24.67
5B	96.21	0.14	21.63	6.88	7.90	0.82	11.09	5.53	0.12	1.38	341.33	2577.6 7
River	60.86	12.30	17.27	6.29	10.87	1.30	19.13	8.10	8.37	4.47	24.50	232.67
Spring	72.37	5.85	24.60	7.19	8.60	1.22	12.41	8.85	28.94	0.87	8.55	61.50

For locations of piezometers and spring see Figures 1 and 2. River water samples collected adjacent to River (south) (Figure 1b). NPOC = non-purgeable organic carbon

Table S2. Proportion of modern water in floodplain groundwaters at study site. Data ©

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Piezometer	1A	2A	2B	3A	3B	4A	4B	5A	5B
Number of samples	3	3	3	3	2	2	3	3	3
Assemblage	1	1	2	1	1	2	2	2	2
Minimum Modern Fraction ¹	0.14	0.31	0.23	0.13	0.42	0.26	0.15	0.22	0.27
Maximum Modern Fraction	0.40	0.56	0.33	0.48	0.44	0.34	0.30	0.45	0.45
Range in Modern Fraction between samples	0.26	0.25	0.10	0.34	0.02	0.08	0.15	0.23	0.18

	Assemblage 1	Assemblage 2
Minimum Modern Fraction	0.13	0.13
Maximum Modern Fraction	0.56	0.45
Mean Modern Fraction	0.37	0.30

¹ Modern Fraction – proportion of modern water in the groundwater sample

For location of piezometers see Figures 1 and 2.