

**Supplementary material**

**The effect of riparian restoration on channel complexity and soil nutrients**

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**Table S1.** Site characteristics for the paired reaches (degraded, D, and forested, F) in the Baroon Pocket Dam catchment

Site Number	Stream Order	Geology	Land use	Coordinates
1-D	2	Basalt	Grazing	152.8530 -26.7500
1-F		Basalt	Natural Vegetation	152.8550 -26.7490
2-D	2	Basalt	Grazing	152.8330 -26.7730
2-F		Basalt	Natural Vegetation	152.8798 -26.7764
3-D	3	Colluvium	Grazing	152.8410 -26.7400
3-F		Colluvium	Natural Vegetation	152.8509 -26.7393
4-D	4	Alluvium	Grazing	152.8530 -26.7250
4-F		Wappa Ryholite	Natural Vegetation	152.8430 -26.7350

**Table S2.** Soil phosphorus and nitrogen parameter mean and standard deviation (in parentheses next to the mean value) for the four paired degraded (D) and forested (F) reaches

Significant differences marked with bold values and the asterisks indicate the level of significance (\*,  $P < 0.05$ ; \*\*,  $P < 0.01$ ; \*\*\*,  $P < 0.005$ ) between the paired sites and noted on the degraded reach (e.g. 1D for Collwell P)

Site	Collwell P ( $\text{mg kg}^{-1}$ )	P buffer index	KCl ext. P ( $\mu\text{g kg}^{-1}$ )	TKP (%)	KCl ext. 2 M $\text{NH}_4$ ( $\text{mg kg}^{-1}$ )	KCl ext. 2 M $\text{NO}_3$ ( $\text{mg kg}^{-1}$ )	TKN (%)
1D	<b>103*** (17)</b>	670 (146)	<b>377* (74)</b>	0.26 (0.01)	41 (25)	<b>84*** (27)</b>	0.42 (0.09)
1F	<b>52 (18)</b>	709 (188)	<b>248 (70)</b>	0.24 (0.01)	24 (11)	<b>31 (9)</b>	0.47 (0.01)
2D	26 (3)	1091 (243)	196 (19)	0.17 (0.01)	<b>36*** (6)</b>	36 (13)	<b>0.70*** (0.08)</b>
2F	34 (12)	872 (122)	232 (58)	0.17 (0.03)	<b>17 (4)</b>	41 (10)	<b>0.47 (0.09)</b>
3D	<b>117* (97)</b>	244 (73)	270 (70)	<b>0.17*** (0.06)</b>	23 (13)	15 (8)	0.34 (0.14)
3F	<b>23 (24)</b>	255 (57)	204 (82)	<b>0.07 (0.02)</b>	17 (6)	21 (22)	0.25 (0.08)
4D	<b>109*** (55)</b>	<b>183* (85)</b>	555 (137)	<b>0.14*** (0.02)</b>	15 (2)	<b>6*** (4)</b>	<b>0.28* (0.08)</b>
4F	<b>18 (2)</b>	<b>344 (163)</b>	590 (179)	<b>0.04 (0.01)</b>	20 (4)	<b>18 (3)</b>	<b>0.39 (0.03)</b>