

Supplemental Table DR1. Characteristics of field sites averaged over reaches 100 m long

Stream segment	DA (km ²)	E (m)	S (m/m)	Bf w/d	w _c /w _v	length/width (m/m)	diameter/depth (m/m)	Wood _{vol} (m ³ /100m)	Wood D50 (cm)	Wood Dmax (cm)	DR spacing (m)	Substrate categories				
												lb	mb	sb	c	s
NSV S1	15.6	3040	0.079	10.8	0.6	0.29	0.22	6.46	23	47	4.3	28	24	22	23	3
NSV S2	18.8	2960	0.092	6.4	0.5	0.30	0.15	3.79	20	36	8.0	30	25	25	15	5
NSV S3	20.5	2900	0.085	9.6	0.6	0.27	0.20	4.86	24	38	7.6	23	27	24	22	5
NSV S4	12.8	3100	0.101	7.5	0.8	0.26	0.20	5.35	20	45	5.5	37	22	24	16	3
average			0.089	8.6	0.6	0.28	0.19	5.12	22	42	6.4	29	24	24	19	4
NSV M1	16.0	3020	0.039	17.3	0.2	0.24	0.33	16.48	22	54	3.0	0	11	19	44	26
NSV M2	19.5	2910	0.031	15.2	0.1	0.33	0.33	18.31	22	54	3.6	0	4	4	82	10
NSV M3	17.0	3030	0.034	16.8	0.2	0.39	0.38	17.65	23	60	2.8	0	9	10	69	15
NSV M4	14.2	3050	0.037	15.8	0.2	0.41	0.34	17.32	24	48	3.7	0	7	14	56	23
average			0.035	16.2	0.2	0.34	0.34	17.4	22	54	3.3	0	8	12	63	18
NFJW S1	8.7	2950	0.035	8.6	0.3	0.23	0.24	5.66	12	48	8.6	0	18	40	35	5
NFJW S2	8.5	2955	0.038	8.3	0.2	0.32	0.21	4.85	15	42	5.5	3	12	35	45	8
NFJW S3	8.3	2960	0.045	10.8	0.2	0.28	0.26	4.17	16	34	5.0	2	13	33	50	4
NFJW S4	8.1	2965	0.037	9.0	0.3	0.31	0.23	4.90	15	36	6.2	5	15	32	38	10
average			0.039	9.2	0.2	0.28	0.24	4.90	14	40	6.4	2	14	35	42	7
Ouzel S1	7.1	3100	0.105	10.0	0.7	0.40	0.30	3.92	18	36	7.2	---	---	---	---	---
Ouzel M1	7.7	3042	0.021	23.8	0.1	0.33	0.70	17.15	28	53	3.4	---	---	---	---	---
Cony S1	10.4	3040	0.073	8.6	0.6	0.29	0.34	7.59	24	50	4.8	---	---	---	---	---
Cony M1	10.3	3052	0.039	25.5	0.2	0.37	0.60	19.86	24	56	2.9	---	---	---	---	---

NSV S1 indicates North St. Vrain Creek single-thread 1; NSV M1 is North St. Vrain Creek multi-thread 1; NFJW S1 is North Fork Joe Wright Creek single-thread 1; DA is drainage area; E is elevation; S is channel gradient; Bf w/d is bankfull width/depth ratio; w_c/w_v is the ratio of bankfull channel width (m) to valley-bottom width (m), using the width of the primary channel in the multi-thread segments; length/width is (average length of wood within bankfull channel/bankfull channel width); diameter/depth is (average log diameter/bankfull flow depth); Wood_{vol} is m³ of wood within the bankfull channel per 100 m of stream; wood D50 is the diameter for which 50% of the measured wood pieces have smaller diameters; wood Dmax is the largest wood diameter measured; DR (debris roughness) spacing is the average downstream spacing of ramps and bridges along the stream segment; substrate categories are large boulder (lb, > 750 mm), medium boulder (mb, 500-750 mm), small boulder (sb, 256-500 mm), cobble (c, 64-256 mm), and sand and finer (s, < 64 mm), each given in percentage. Gray shading indicates average values for each type of channel. Substrate categories were not measured for the Ouzel and Cony Creek sites.

Supplemental Table DR2. Additional characteristics of field sites averaged over reaches 100 m long

Stream segment	N latitude	W longitude	BA (m ² /ha)	Bf width (m)	Bf depth (m)	Fp Wood _{vol} (m ³ /100m)
NSV S1	40 12 38.1	105 37 58.6	40	10.8	1.0	0.50
NSV S2	40 12 31.4	105 37 13.8	39	8.3	1.3	0.00
NSV S3	40 12 15.0	105 36 20.1	38	11.5	1.2	0.38
NSV S4	40 12 48.7	105 38 10.3	42	7.5	1.0	0.09
average			40	9.5	1.1	0.24
NSV M1	40 12 37.0	105 37 48.0	48	12.1	0.7	9.20
NSV M2	40 12 23.6	105 36 54.3	46	10.6	0.7	15.34
NSV M3	40 12 35.9	105 37 23.1	50	10.1	0.6	12.68
NSV M4	40 12 44.7	105 38 08.1	45	11.1	0.7	10.15
average			47	11.0	0.7	11.84
NFJW S1	40 34 18.7	105 51 54.5	26	6.0	0.6	0.67
NFJW S2	40 34 17.0	105 51 59.0	27	5.0	0.4	0.84
NFJW S3	40 34 10.0	105 52 04.0	24	6.5	0.5	0.36
NFJW S4	40 34 06.0	105 52 25.0	21	5.5	0.4	0.42
average			24	5.8	0.5	0.57
Ouzel S1	40 11 45.0	105 38 08.0	30	6.0	0.6	0.24
Ouzel M1	40 11 53.0	105 37 57.0	42	9.5	0.4	10.63
Cony S1	40 10 43.0	105 36 05.0	43	6.0	0.7	0.32
Cony M1	40 10 38.0	105 36 11.0	46	10.2	0.4	6.47

NSV S1 indicates North St. Vrain Creek single-thread 1; NSV M1 is North St. Vrain Creek multi-thread 1; NFJW S1 is North Fork Joe Wright Creek single-thread 1; North latitude in degrees, minutes, seconds; West longitude; BA is basal area, a measure of stand density in forest adjacent to stream; Bf width is bankfull channel width of the main channel (not including secondary channels and islands); Bf depth is average bankfull depth; Fp Wood_{vol} is m³ of wood on the floodplain and in secondary channels per 100 m length (excluding main channel). Gray shading indicates average values for each type of channel.

Figure DR1. Box plot of (A) channel bed gradient (B) the ratio of bankfull channel width to valley-bottom width, (C) basal area of riparian forest, and (D) mean wood piece diameter (D50) for each channel type. The horizontal line within each box indicates the median value, which is also listed beneath the box. Box ends are the 25th and 75th percentiles. Significant pairwise differences in means are indicated with contrasting letters above each box.

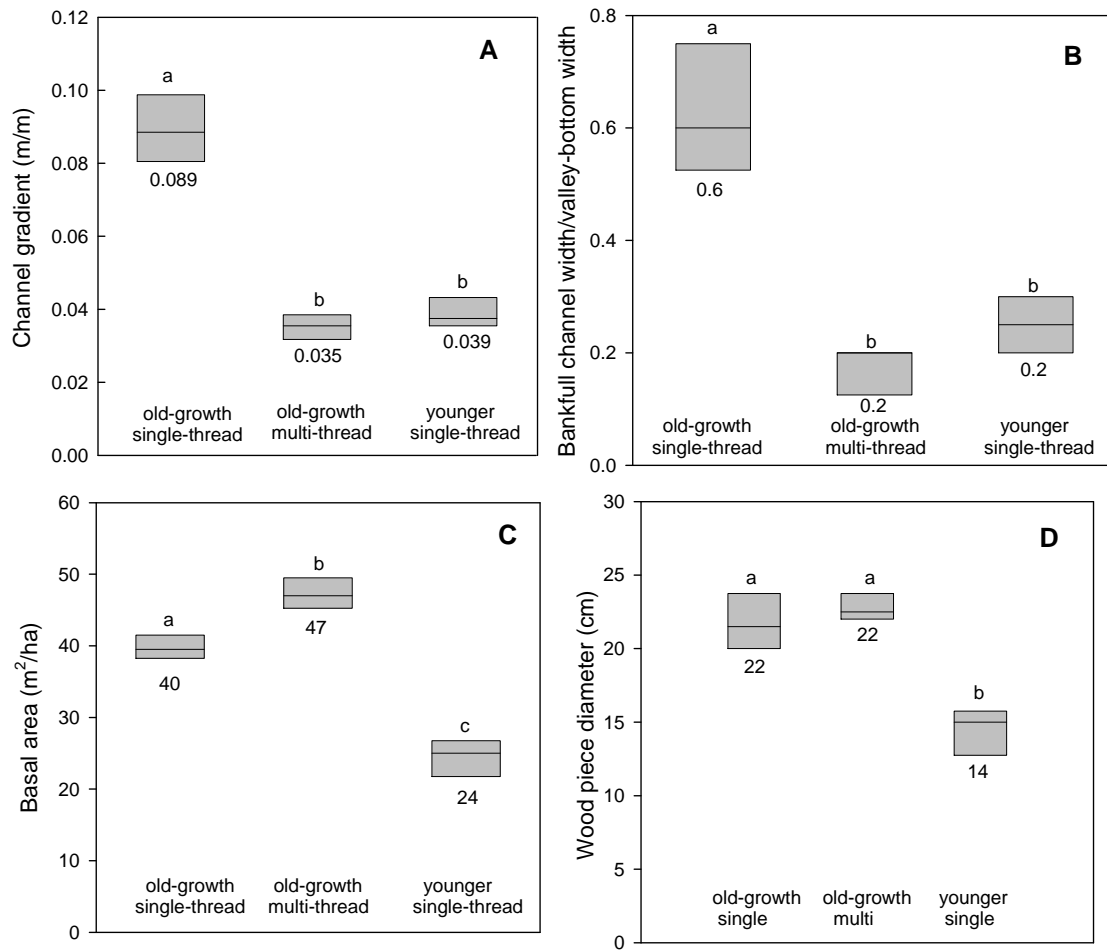


Figure DR2. Box plot of (A) maximum wood piece diameter (B) wood load, and (C) debris roughness for each channel type. The horizontal line within each box indicates the median value, which is also listed beneath the box. Box ends are the 25th and 75th percentiles. Significant pairwise differences in means are indicated with contrasting letters above each box.

