Table S1. Results of mixed effects negative binomial regression analysis to examine relationships between fecal source (recreation, grazing, and rural residences) and fecal indicator bacteria (*E. coli* and fecal coliform) concentrations (cfu/100 mL) for 595 water samples collected across 77 stream sample sites sustaining perennial streamflow throughout the entire summer sampling period (July through September of 2016).

Model Parameter	*E. coli* Coefficient (S.E.)	*p-Value*	Fecal Coliform Coefficient (S.E.)	*p-Value*
Fixed Effects				
Fecal Source (FS)				
Grazing[1]	--	--	--	--
Recreation[2]	−0.66 (0.33)	0.045	−0.43 (0.32)	0.174
Residences[2]	1.41 (0.61)	0.020	1.86 (0.59)	0.002
Intercept	3.24 (0.25)	< 0.001	4.11 (0.24)	< 0.001
Random Intercept				
Sample Site Identity[3]	1.88 (0.33)	--	1.63 (0.32)	--

[1] Referent condition for fecal source during the analyses, thus no coefficient is generated. [2] Post-hoc pairwise comparison indicted rural residence coefficient significantly different from recreation for *E. coli* (*p-Value* < 0.001) and fecal coliform (*p-Value* < 0.001). [3] Likelihood-ratio tests confirmed the random intercept negative binomial model was significantly superior to standard negative binomial regression for both *E. coli* and fecal coliform.