

Appendix E: Spearman correlation matrix for reach and catchment-scale variables that can influence stream biology. Correlations significant at the $P < 0.0001$ level (line 1) and with $r_s > 0.5$ (line 2) are highlighted in dark orange (sample size for correlation analysis on line 3). LPI = Largest Patch Index. DO = dissolved oxygen. Habitat Score = U.S. EPA low gradient habitat assessment score.

	% Pasture	% Forest	% Dev Open Space	% Crops	% Developed	LPI	Edge Density	Shape	Contiguity	Patch Richness	Simpson's Diversity	Simpson's Evenness	Watershed Area	Conductivity	pH	DO	Habitat Score	
% Pasture		-0.91 <.0001 151	0.21 0.0104 151	0.30 0.0002 151	0.13 0.1015 151	-0.78 <.0001 151	0.69 <.0001 151	0.28 0.0005 151	-0.65 <.0001 151	0.16 0.0478 151	0.83 <.0001 151	0.86 <.0001 151	0.08 0.3136 151	0.14 0.0861 148	0.07 0.4071 150	-0.23 0.0052 151	-0.16 0.0506 146	
% Forest			-0.42 <.0001 151	-0.40 <.0001 151	-0.24 0.0027 151	0.89 <.0001 151	-0.86 <.0001 151	-0.34 <.0001 151	0.79 <.0001 151	-0.27 0.0009 151	-0.95 <.0001 151	-0.94 <.0001 151	-0.10 0.2029 151	-0.25 0.002 148	-0.15 0.0629 150	0.23 0.0038 151	0.12 0.1395 146	
% Dev Open Space				0.10 0.2391 151	0.37 <.0001 151	-0.46 <.0001 151	0.62 <.0001 151	0.32 <.0001 151	-0.48 <.0001 151	0.29 0.0003 151	0.49 <.0001 151	0.41 <.0001 151	0.16 0.056 151	0.37 <.0001 148	0.19 0.0216 150	0.01 0.9432 151	0.04 0.6194 146	
% Crops					0.24 0.0029 151	-0.49 <.0001 151	0.49 <.0001 151	0.54 <.0001 151	-0.23 0.0046 151	0.61 <.0001 151	0.48 <.0001 151	0.33 <.0001 151	0.48 <.0001 151	0.11 0.1678 148	0.16 0.0498 150	-0.11 0.171 151	-0.05 0.5192 146	
% Developed						-0.36 <.0001 151	0.24 0.0025 151	0.39 <.0001 151	-0.005 0.9537 151	0.59 <.0001 151	0.30 0.0002 151	0.16 0.0466 151	0.44 <.0001 151	0.15 0.0746 148	0.15 0.0752 150	0.12 0.1409 151	0.30 0.0003 146	
LPI							-0.85 <.0001 151	-0.48 <.0001 151	0.67 <.0001 151	-0.45 <.0001 151	-0.93 <.0001 151	-0.86 <.0001 151	-0.32 <.0001 151	-0.31 0.0001 148	-0.24 0.003 150	0.14 0.0889 151	0.03 0.7489 146	
Edge Density								0.46 <.0001 151	-0.84 <.0001 151	0.36 <.0001 151	0.91 <.0001 151	0.84 <.0001 151	0.17 0.0397 151	0.28 0.0007 148	0.16 0.0455 150	-0.19 0.0175 151	-0.12 0.1462 146	
Shape									-0.03 0.7361 151	0.79 <.0001 151	0.41 <.0001 151	0.21 0.0097 151	0.89 <.0001 151	0.21 0.0101 148	0.23 0.0038 150	0.13 0.1153 151	-0.05 0.5597 146	
Contiguity										0.06 0.4619 151	-0.77 <.0001 151	-0.85 <.0001 151	0.30 0.0002 151	-0.17 0.042 148	-0.03 0.7215 150	0.33 <.0001 151	0.15 0.0653 146	
Patch Richness											0.37 <.0001 151	0.12 0.1376 151	0.82 <.0001 151	0.21 0.0093 148	0.26 0.0012 150	0.19 0.0179 151	0.08 0.333 146	
Simpson's Diversity												0.95 <.0001 151	0.20 0.0147 151	0.27 0.0011 148	0.17 0.0419 150	-0.17 0.0348 151	-0.06 0.446 146	
Simpson's Evenness														-0.03 0.7526 151	0.22 0.0079 148	0.11 0.1638 150	-0.24 0.0032 151	-0.10 0.2193 146

	% Pasture	% Forest	% Dev Open Space	% Crops	% Developed	LPI	Edge Density	Shape	Contiguity	Patch Richness	Simpson's Diversity	Simpson's Evenness	Watershed Area	Conductivity	pH	DO	Habitat Score
Watershed Area														0.16 0.055 148	0.26 0.0016 150	0.25 0.0024 151	0.08 0.3454 146
Conductivity															0.76 <.0001 148	0.11 0.1814 148	-0.10 0.231 144
pH																0.32 <.0001 150	-0.05 0.5723 145
DO																	-0.02 0.769 146
Habitat Score																	