

Supplemental Legends

Table S1. Environmental data means and (standard deviations) by year and reach, with results of two-way fixed effects crossed ANOVA. Significant differences by reach are designated as ">" or "<"; "ns" indicates $P > 0.05$; KF = Kingfisher, NF = North Fork, SF = South Fork; U = unrestored, R = restored. Where main effects of year were significant, post-hoc pair-wise contrasts are reported with Bonferroni corrections for multiple tests. Differences by year are indicated with superscripted letters, with values increasing alphabetically. Years with shared letters are not significantly different ($P > 0.05$).

Table S2. Nutrient data means and (standard deviations) by year and reach, with results of two-way fixed effects crossed ANOVA. Significant differences by reach are designated as ">" or "<"; "ns" indicates $P > 0.05$; KF = Kingfisher, NF = North Fork, SF = South Fork; U = unrestored, R = restored. Where main effects of year were significant, post-hoc pair-wise contrasts are reported with Bonferroni corrections for multiple tests. Differences by year are indicated with superscripted letters, with values increasing alphabetically. Years with shared letters are not significantly different ($P > 0.05$).

Table S3. Microbial data means and (standard deviations) by year and reach, with results of two-way fixed effects crossed ANOVA. Significant differences by reach are designated as ">" or "<"; "ns" indicates $P > 0.05$; KF = Kingfisher, NF = North Fork, SF = South Fork; U = unrestored, R = restored. Where main effects of year were significant, post-hoc pair-wise contrasts are reported with Bonferroni corrections for multiple tests. Differences by year are indicated with superscripted letters, with values increasing alphabetically. Years with shared letters are not significantly different ($P > 0.05$).

Table S4. List of all invertebrate taxa observed in piezometer samples from unrestored (U) and restored (R) reaches across all sample years (2014-2017).

Figure S1. Shade plot of averaged abundances for higher-abundance bacterial genera from the particle-associated fraction of hyporheic water. Selected genera are those where total standardized abundances exceeded 1% by treatment group. Sites are combined by year and treatment. Column labels are by year and treatment (U = unrestored, R = restored).

Figure S2. Shade plot of averaged abundances for higher-abundance bacterial genera from the planktonic fraction of hyporheic water. Selected genera are those where total standardized abundances exceeded 1% by treatment group. Sites are combined by year and treatment. Column labels are by year and treatment (U = unrestored, R = restored)..

Figure S3. Shade plot of mean invertebrate density for taxa that contributed at least 1% of total abundances across all years and reaches. Data are 4th root transformed and combined by year and reach type (U = unrestored, R = restored).