Murray-Stoker, D. On the efficacy of restoration in stream networks: comments, critiques, and

prospective recommendations.

Data S1: Data and R script for all analyses described in the main text.

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File List
Swan_Brown_Invertebrate_Data.csv
DMS-RSTR-comment.R
DMS-RSTR-comment -Workspace.RData
DMS-ggplot2-supplement.R

Author Notes

These are the corrected data provided by Christopher M. Swan and Bryan L. Brown (Swan and Brown 2017), and are deposited here for ease of the reader.

If the data are re-used, please cite the proper source:

Swan, C. M., and B. L. Brown. 2017. Metacommunity theory meets restoration: isolation may mediate how ecological communities respond to stream restoration. Ecological Applications 27:2209-2219.

Description

Swan_Brown_Invertebrate_Data.csv provides all data used in the analyses. Brief descriptions of the variables are provided below.

Site.ID = site identifier for each site
Season.Quarter = season the sample was collected (Spring, Summer, Fall, Winter)
Year = year sample was collected (2011, 2012)
Adjacency = whether the sampled reach was adjacent or restored (Adjacent, Restoration); synonymous with treatment
Reach = sampled reach (Headwater, Mainstem)
Total.Count = total number of individuals collected in the sample
Columns G-CK, Taxa = the number of individuals in the sample of the respective taxon, first 3 letters are ORDER followed by genus or family

DMS-RSTR-comment.R provides all code for running all analyses described in the manuscript and creating figures. The code is heavily annotated, and sectioned as follows:
- Line 29: Load Packages and Data
- Line 70: Community Diversity Calculations
  - Line 70: Taxa Richness & Diversity
  - Line 109: Spatial Variation
  - Line 236: Temporal Variation
- Line 303: Taxa Richness & Diversity ANOVA
- Line 550: Spatial Variation ANOVA
- Line 630: Temporal Variation ANOVA
- Line 703: Figures
- Line 1162: End of Script

DMS-RSTR-comment-Workspace.RData provides the final workspace after all analyses were performed and figures created. This allows the reader to load the results of all analyses and figures without having to re-analyze the data. This is intended as a time-saving measure and to allow readers to assess and evaluate everything that was analyzed. As the analyses are relatively simple and the dataset is small, running all analyses in a new workspace should not take long.

DMS-ggplot2-supplement.R is source code that provides helper functions and themes for creating figures in ggplot2 (package for figure creation in R).