

EXAMPLE OF ABSTRACT FROM NON-STUDENT

Smiley, Peter C., Jr.^{1*}, and Eric Gates². Characteristics of instream wood within channelized agricultural headwater streams in the Midwestern United States. ¹USDA-ARS, Soil Drainage Research Unit, Columbus, Ohio. ²Ohio State University, Columbus, Ohio. Email: rocky.smiley@ars.usda.gov

Channelized agricultural headwater streams are a common feature within agricultural watersheds of the Midwestern United States. These small streams have been impacted by the physical and chemical habitat alterations incurred to facilitate agricultural drainage. Quantitative information on the instream wood characteristics within channelized agricultural headwater streams is lacking and needed to assist with designing stream restoration projects for these small streams. We conducted a literature review to quantify the amount of available information on instream wood within channelized agricultural headwater streams within the Midwestern United States. We also conducted a field study in twelve headwater streams within the Upper Big Walnut Creek watershed to determine if the amounts and types of instream wood differ between channelized and unchannelized agricultural headwater streams. Preliminary results from our literature review indicate that only a limited amount of information on instream wood characteristics is available from channelized agricultural headwater streams. Our field study quantified that the diversity of instream wood, density of instream wood, and density of large (i.e., > 1 m length and > 0.10 m diameter) log jams was greater in unchannelized than channelized streams. Channelized streams contained mostly small simple wood pieces, small branching wood pieces, and large overhanging vegetation. Unchannelized streams possessed mostly small simple wood pieces, large rootwads, and large log jams. Our results suggest that restoration designs for channelized agricultural headwater streams should use practices that increase the amount of instream wood and alter the proportion of different types of instream wood.

Oral presentation

EXAMPLE OF ABSTRACT FROM STUDENT

Alstad, Amy O.* and Ellen I. Damschen. Seed size and site stress interact to determine establishment success in prairie restoration. University of Wisconsin-Madison, Madison, Wisconsin. Email: aalstad@wisc.edu

Restoration outcomes often depend on the establishment success of added propagules. However, successful establishment is a major barrier in many plant communities, with most seeds failing to transition to the seedling stage. We experimentally examined two factors that are likely important in determining establishment success in grassland restoration plantings: environmental stress and seed size. We manipulated environmental stress with prescribed fire, which reduces site stress for propagules by consuming litter and increasing seed-soil contact. The effects of seed size were examined by planting seeds from ten native, perennial prairie species, with a wide range of seed sizes. We quantified establishment success by counting the number of seedlings of sown species present in each plot. The experiment was conducted in Iowa County, WI, in an untilled, old field pasture on a south-facing slope. We used an ANOVA framework to statistically test our hypotheses that species with larger seed will establish more successfully than species with small seeds, but that this advantage will be diminished in low stress (i.e., burned) plots. We found significant main effects of both site stress and seed size on germination, with a major increase in germination in low stress (i.e., burned) plots, and a trend towards higher germination among large-seeded species. We also found evidence supporting our hypothesis that seed size and site stress interact, such that germination rates between high and low stress sites vary more for small seeds than for large seeds. These results bolster our understanding of the factors that impede restoration efforts by limiting establishment success of added propagules, and suggest that reducing site stress (e.g., with prescribed fire) prior to seed addition will boost the establishment of all species, but will particularly increase the establishment success of small-seeded-species.

Oral presentation, Student Presentation