

A prairie plant community data set for addressing questions in community assembly and restoration

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Abstract. By assisting the recovery of disturbed or destroyed ecosystems, ecological restoration plays an important role in biodiversity conservation. Moreover, restoration has been heralded as an “acid test” of ecological understanding, by affording the ability to study community assembly, ecosystem function, and human influence over ecosystems across large spatial and long temporal scales. These data sets report the outcome of community assembly, in terms of plant community composition and structure and one important ecosystem function (aboveground biomass production), in 29 prairie restorations in southwestern Michigan. We also report putative forces shaping the outcome of assembly including the species pools (seed mixes applied during restoration), site conditions, landscape context, and land-use history. Detailed knowledge of each restoration effort, including seed mixes used, is unusual and makes these data sets uniquely suited to addressing questions in community assembly by comparing the sown seeds and resulting assembled plant community. For example, we have used the data to test the role of species pools in determining the diversity of assembling communities. We have also used the data to characterize the relative importance of various drivers of community assembly outcomes during restoration, as a step toward resolving the highly contingent and unpredictable outcomes that plague the field of ecological restoration. We suggest that these data sets may prove useful for addressing additional questions in community ecology through the lens of ecological restoration.

Key words: aboveground biomass; community assembly; ecosystem function; prairie restoration; seed mix; species pool.

The complete data sets corresponding to abstracts published in the Data Papers section of the journal are published electronically in *Ecological Archives* at <http://esapubs.org/archive> (the accession number for each Data Paper is given directly beneath the title).

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