**Metadata**

Barber, N. A., A. K. Farrell, R. C. Blackburn, J. T. Bauer, A. M. Groves, L. A. Brudvig, H. P. Jones. 2019. Grassland restoration characteristics influence phylogenetic and taxonomic structure of plant communities and suggest assembly mechanisms. Journal of Ecology xx: x-y. doi: xxxxx.

**File name: Quadrat\_plant\_community\_data.csv**

Percent cover data of each plant species recorded in all quadrats from all four regional datasets. Rows represent each individual surveyed quadrat in sites in Indiana, Illinois, Michigan, or Nachusa Grasslands. Columns are each plant species, with values the percent cover of that plant species in each quadrat. There are column headers in row 1 plus 1051 rows of data.

The first column is the name of the name of the site, followed by an underscore and a quadrat identifier for that site. Site names match values in the Site column of Site\_environmental\_data.csv.

**File name: Site\_environmental\_data.csv**

Environmental characteristics of each site from all four regional datasets. Rows represent surveyed sites. There are column headers in row 1 plus 123 rows of data.

Columns headings (row 1):

State Site Lat Long First\_Growing\_Season

age\_at\_survey burn last.burn CEC pH

OM\_perc Ca\_perc Mg\_perc K\_perc P\_BrayI

N\_perc mayaug\_precip seedrichness soilpc1 soilpc2

MPDwithin MNTDwithin

State: the regional dataset in which the site occurs

Site: the name of the surveyed site

Lat: latitude of survey location

Lon: longitude of survey location

First\_Growing\_Season: the year in which sowed seeds at the site initially germinated and grew; this may be the same calendar year seeds were sown (if sown in spring) or the following year (if sown in the preceding fall).

age\_at\_survey: the number of growing seasons that have occurred at the restoration since sowing.

burn: year of most recent burn prior to survey

last.burn: number of years since prescribed burn occurred before survey took place; 0 indicates site was burned the previous fall or spring

CEC: soil cation exchange capacity, expressed as meq/100 g

pH: soil pH

OM\_perc: soil percent organic matter

Ca\_perc: soil percent calcium saturation

Mg\_perc: soil percent magnesium saturation

K\_perc: soil percent potassium saturation

P\_BrayI: soil ppm phosphorus with Bray-I extraction

N\_perc: soil percent total nitrogen

mayaug\_precip: total precipitation from May through August in the first growing season, in inches

seedrichness: number of plant species included in the initial seed mix sown at the site

soilpc1: value of site on first principal component of PCA using all soil variables

soilpc2: value of site on second principal component of PCA using all soil variables

MPDwithin: mean pairwise dissimilarity between all quadrats of the site, measured as mean pairwise phylogenetic distance

MNTDwithin: mean pairwise dissimilarity between all quadrats of the site, measured as mean pairwise nearest tip distance