

README FILE FOR SGS-LTER: Effects of US Forest Service Burns on Vegetation of the Pawnee National Grassland, Colorado, USA 1997-2004

This data package was produced by researchers working on the Shortgrass Steppe Long Term Ecological Research Project. This project was supported by National Science Foundation from 1982-2014. This data package includes one or more tab-delimited data tables, tab-delimited files (named _var) that denote header definitions and data types for each column, and detailed metadata within an Ecological Metadata Language document (i.e. XML). Example image files of plots, digital datasheets, or schematics of the experimental design may also be included when applicable.

Background information on the SGS-LTER project is contained in related series of objects within the Digital Collections of Colorado and the Colorado State University archives. Together data packages and other background information, including items such as images, proposals, and reports contribute to a comprehensive SGS-LTER collection.

The data tables and associated EML documents represent components of a PASTA (Provenance Aware Synthesis and Tracking Architecture) congruent LTER data package, which may be discovered and accessed through secondary repositories serving specific ecosystem science domains (e.g. LTER Network Information System, DataONE, or The Knowledge Network for BioComplexity).

The following information and protocol was obtained from the SGS-LTER Field Crew Manual:

FOREST SERVICE PAWNEE NATIONAL GRASSLAND BURN STUDY **NPP Field Sampling Protocol**

The PNG burn experiment has 4 sites and 16 transects. One site was burned in the previous year (2002) and 1 site was burned in the current year (2003). Each site has an adjacent unburned, control site. Each site has 4 transects. Each transect has 5 plots, protected from grazing with a cage. There are a total of 80 plots.

Plots are clipped in the standard primary production harvest method with a couple exceptions. Clip at crown-level, except for shrubs. Only current year growth of shrubs are clipped that is green and has leaves, and which grows from an older, woodier branch. All live and recent dead material needs to be harvested from the plot.

Plots are clipped by species. It is usually easier to first clip species other than BOGR and BUDA. There are three cactus species on the site. Only current year growth of OPPO is clipped – these are the small pads. The two “barrel” cactus are not clipped (ECVI and COVI). There are only some times when combining of species may be done. You must follow these rules when combining species.

- 1) The only time combining is allowed is when two species are each less than a gram (this may be a seedling, a few leaves, or one very small stem or leaf of an individual).

- 2) Some species are never combined even if there is only a very small quantity – these are BOGR, BUDA, SPCO, and CAHE.
- 3) When combining never combine forbs with shrubs, grasses with forbs, etc. Only combine grasses with grasses, forbs with forbs, and shrubs with shrubs. Envelopes that contain combined species should have codes for all species in the envelope.

Place all envelopes or small bags from each plot into the largest sample bag from that plot. Note all small mammal, ant and any other disturbances on the largest sample bag from that plot. This is usually, but not always, the BOGR bag. If there happens to be one or more large bags from one plot, keep track of them by labeling the bags “1 of 3, 2 of 3, 3 of 3”. Make sure that your writing is clear and legible and that the bags are labeled using a sharpie permanent marker.

Here are the EXCEPTIONS: Last year’s dead for all species is collected and placed in a separate single bag and labeled standing dead. Litter is collected and placed in a separate single bag and labeled litter. Please notes, sites burned the year of the clipping will not have litter or last year’s dead. Only new OPPO cactus pads are collected and placed in a separate individual bag. Lichen is collected and labeled as PACH. Everything else is separated by species. Current year live and recent dead is collected for all species in each plot.

After plots have been clipped the cages at the treatment and control sites for this year’s burn are moved to a new random position and staked down. Cages on the control and treatment sites for last year’s burn should be picked up in the fall.

Count bags before leaving to make sure all plots have been clipped. Sites are some distance from the field station and you do not want to make an extra trip out to clip one missing plot.

Labeling for FS Burn Study	Example
Study & Year of Burn	2002 or 2003 Burn
Today’s Date (day, month, year)	07 08 03
Treatment	B = burn, C = control
Transect # - Plot #	T – 1 P – 1
Species 4 letter code from	CAHE
<i>List of Herbarium Plants, Central Plains Experimental Range, Collections</i>	
<i>Primarily of C.H. Wasser, M. Schoop and A. Engel</i>	

IMPORTANT Place the bags in the drying oven at a temperature of 55 C – not more and not less. Arrange bags by site or location in the oven. Be careful not to rip bags on the metal shelves of the drying oven.

IMPORTANT Organize the samples bags by project and then location and then put them in a larger bag to be transported to the SGS-LTER Sample Prep Lab. Double check that all of the transects and plots sampled from one location are being transported to the SGS-LTER Sample Prep Lab together. Label the larger bags with the year the samples were

collected, the name of the project, and the plot numbers from which the samples were collected. Make sure that the larger bags are tied down in the back of the pick-up truck when they are being transported to CSU campus. Keep an inventory of what bags have been brought to campus and what bags remain in the drying oven.