Hi Ethan,

Since it’s my first semester, and I’m on a steep programming learning curve, my final project isn’t too fancy. It is basically a summary of some of the data exploration that I’ve done with Morgan, focusing primarily on the kangaroo rats at Portal. Because it kind of progressed based on my discussions with Morgan during our advising meeting, the code isn’t exactly one giant code leading to a major product, but rather smaller chunks of preliminary data exploration that roughly build on one another. As such, it has five main divisions: 1) counts of kangaroo rat species by period, 2) calculating relative abundance of kangaroo rat species at different time scales, 3) grouping kangaroo rat counts by season, 4) a very preliminary glance at the relationship between kangaroo rats and plants, and 5) a brief comparison of kangaroo rats and Bailey’s pocket mouse. Each chunk of code is marked with a divider and includes code for selecting the appropriate data from csv files, creating the columns that I’ll need, creating relevant plots of the data, and saving the plot output as a file. All of the data that I’ve used, the R script, and the plot outputs are in my GitHub repo.

The goals of each “section” are:

1. Compare raw numbers of kangaroo rat species by period, first excluding *Dipodomys spectabilis* and then including them.
2. Calculate and compare relative abundance of kangaroo rat species, first by period and then by year
3. Compare relative abundances of kangaroo rat species on a more biologically relevant time than period or year. For this, I chose four seasons per year (slightly related side note: Erica just recently explained to me how to write a function that would allow a “winter” and “summer” season, but I didn’t have time to include it here)
4. Make preliminary graphs showing the change in percentage of grass and shrubs measured in 2004 and 2009 and compare to the relative abundance of krat species by plot. I realize no that these graphs are not ideal for interpretation; my main challenge here was behind the scenes, calculating grass vs shrub percentages and struggling with making the grass/shrub lines different colors! All of the plot outputs are saved together in one PDF file.
5. Compare raw numbers of kangaroo rats (regardless of species) to Bailey’s pocket mouse as a quick glance at competition between the two groups. My main challenge here was figuring out how to include zeros in the counts.

Thanks,

Ellen Bledsoe