**Bunnefeld test notes**

i.e., What the bleep am I doing?

1. Started new Github repository, saved R code from Kelly within that repository (without creating a related R project, because I feel like those extra files just complicate things)
2. Altered code to work on either work computer or personal laptop, so I will now be able to work throughout my evenings and weekends into eternity
3. Read through code to get general idea of what exactly I’m telling it to do (it will take some tweaking from the first run to get the parameters right)
4. Slightly changed dates in code (note to self: L=start, U=end, t=season)
   1. L\_t1= (Feb. 26, 2014 – Apr. 1, 2014)
   2. U\_t1= (Feb. 26, 2014 – Jul. 15, 2014)
   3. L\_t2= (Feb. 26, 2014 – Aug. 15, 2014)
   4. U\_t2= (Feb. 26, 2014 – Dec. 15, 2014)
5. Pulled and formatted elk location data
   1. Pulled all 2014 locations

Things to do to fully prep code

1. ***~~\*Add Output folder to laptop if it’s not pulled in automatically when you clone the repository~~***
2. ~~Pull and format data based on Kelly’s notes~~
   1. ~~Remember that when you do 2015 you need to account for collars used twice~~
      1. Map collarID to labID in Access?
3. ~~Create csv elklist~~ 
   1. (just unique vals of collars for this run, but should be Lab\_ID so when you add 2015 individuals later you can tell the diff)
4. ~~Calculate start/end dates (Ls and Us for t1 and t2)~~

Adapted from Kelly’s notes on data prep

1. ~~Need to treat each year differently (i.e. 2014 vs 2015).~~
2. ~~Access~~
   1. ~~Order records by individual then by date~~.
   2. ~~Get rid of date/time formatting.~~
   3. ~~Add Julian day, J\_day\_new~~
   4. ~~Save as xls or csv or something for import to GIS~~
   5. ~~Create elklist.csv of only collars~~
      1. Note to self: After you did this in R, you still needed to open in Excel and remove the extra columns (you pulled one row for each elk but kept all the data). There’s probably a better way to do this in the future.
3. ~~GIS~~
   1. ~~Change lat longs to Zone 12 UTMs (in GIS is easiest).~~
      1. Toolbox > Data Management > Projections and transformations > Project (I did NAD83, hope that was right)
      2. Attribute table > Add new fields X\_UTM and Y\_UTM (I did double type > Calculate geometry
      3. **AFTER YOU DO THIS, OPEN THE FILE AND FIND/REPLACE GIS’S VERSION OF NA WITH ACTUAL “NA”**
         1. **To split csv into columns, highlight first col > data > text to columns > delimited > whatever delimiter**
4. R
   1. ~~Remove no fixes (blank records).~~ 
      1. ~~(Do this first before you pull locations, duh)~~
   2. ~~Include only the first location per elk per day from 2/27/14 -12/31/14 and 1/1/15 – 12/31/15.~~ 
      1. (This helps deal with data dependence (to an extent))
      2. I actually pulled a **random location** per day because I didn’t want to only pull resting locations (i.e., locations at midnight) every day
      3. Note when you did this in R and then exported the result as a csv, it messed up some of the date/time stuff a bit (not a problem; this was extra info you left in out of curiosity, but just something to keep in mind)
   3. Add new field for LabID

**Notes from actual code run**

After each run, create new folder in Output folder, name it Run[i], put output into that folder

Run1

* First attempt; asymptote 2 was set to 1, asymptote 1 was 4.84 (1 mile of mvmt)
* 9 migrants, 33 mixed migrants, 6 dispersers, 10 residents, 2 nomads
* Avg asymptote 1 127.5405 (?!) and avg asymptote 2 as 73.67665 in coefficient table

Run2

* Just setting asymptotes to the averages from Run1 (rounded down), mostly out of curiosity…
* Fewer NAs in AIC but more NAs in coefficient table
* Fewer migrants and mixed migrants; more residents and nomads
* Avg asymptote 1 167.921, avg asymptote 2 106.7052

Run3

* Set asymptotes to half Run1, again just to see what happens
* I think this one’s my fave so far
* 10 migrants, 29 mixed, 6 disperser, 12 resident, 3 nomad
  + Didn’t look at this in the other ones, but I noticed in this one that 5 of the 6 “dispersers” are male

11/01/2015 you stopped here and put the asymptotes back to how they were for Run1