Distance Sampling Report (10 pts.)

Biol 450w

Create a Markdown document – give it an appropriate title and include your name on the report.

1) Show the graphs of the fitted functions for the hazard rate (hr) for:

a. all animal detections in forest

b. all animal detections in savannah

c. predators in the savannah

d. predators in the forest

e. herbivores in the savannah

f. herbivores in the forest

\*\*There should be a total of six graphs - make sure you identify each graph with a figure legend following each graph in the Markdown document.\*\*

hint: for separate analyses of habitats (forest, savannah), predators, and herbivores, you need first to create one table of the four analyses as a csv text file, name each, and upload to R.

2) Was there a general difference in the detection probability of predators and herbivores across habitats? Look at the probability of detection as a function of distance.

3) In which habitat type was the abundance of all animals (dinosaurs + mammals) greatest? Report the mean densities, each mean with an appropriate measure of error around it (feel free to report in form of a figure with means and standard error bars). Hint: look at the means and the standard errors - non-overlapping errors can be interpreted as meaningful differences between the means.

4) Were predators and herbivores equally abundant across habitat types or not?

5) Compare the results of 3 & 4 with to estimates done without accounting for probability of detection by distance. Report all results and explain differences (if any) with estimates from Distance.