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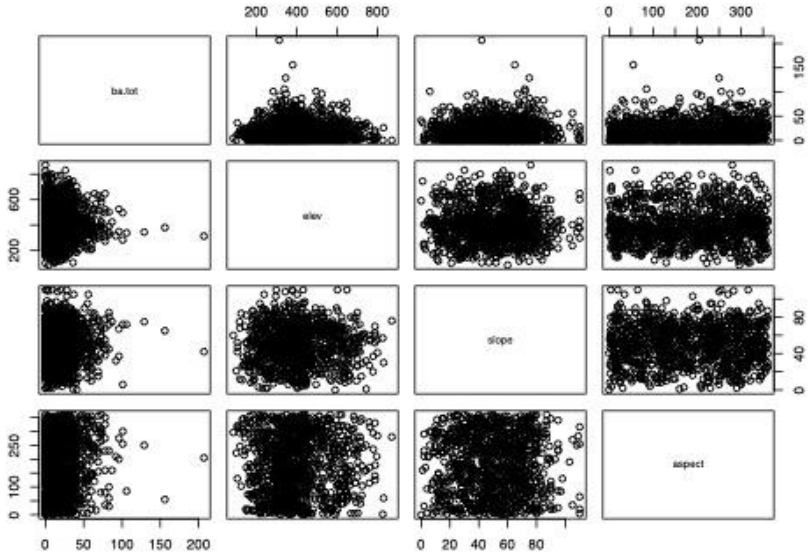
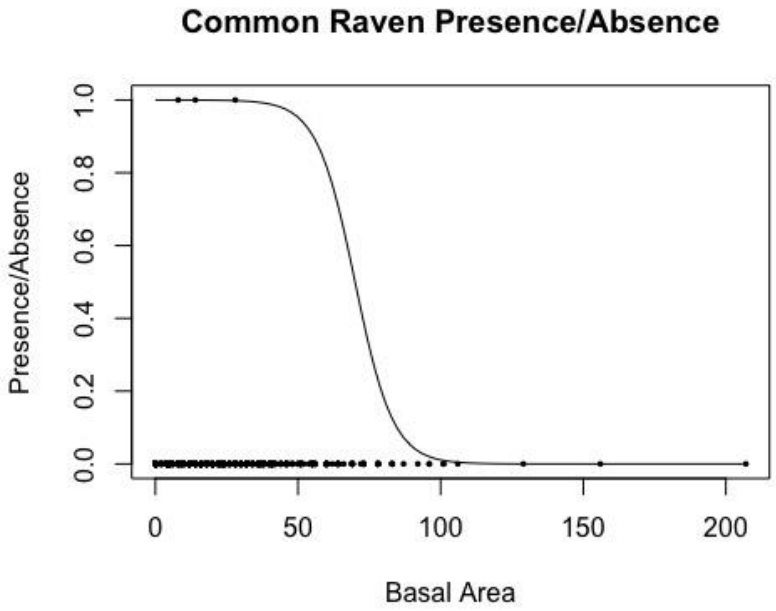
Professor Nelson
Lab 3 Data Exploration & Deterministic Functions
September 25, 2021

1. Basal area is specific to measuring trees. The basal area is the cross-section area of the tree branch/area or the canopy. In this data set, the basal area was subdivided between different tree varieties. There was also a section of the total basal area of trees, which is the variable we worked with in this lab. The basal area was measured in meters squared.

2.

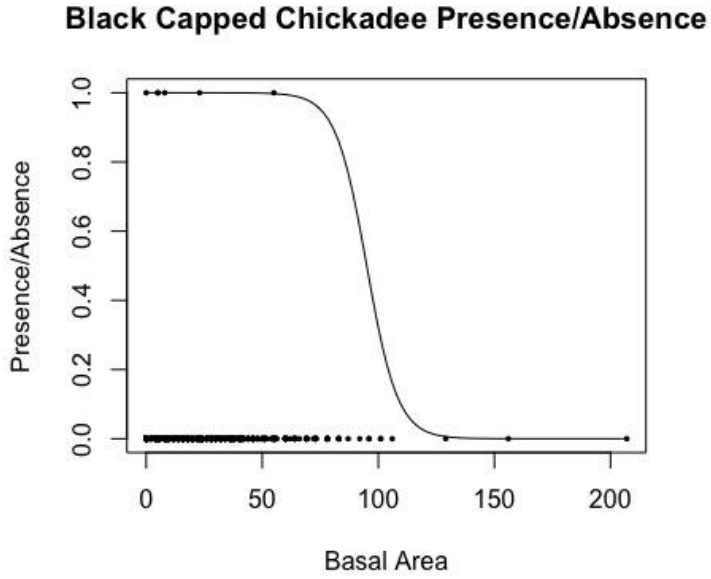


3.



4. According to the graph, it appears that the common raven preferred to be in areas with low basal areas. You can see that the majority of the data is between zero to 50 meters squared, indicating ravens stuck to area of trees with smaller basal areas rather than threes with larger basal areas. The graph also shows that the majority of the time, ravens were not observed; indicated by the many zero-count that occur. My logistic curve shows that, the largest presence of ravens was seen in areas with low tree basal areas. The raven count quickly tapers off after 100 meters squared and remains at zero for the rest of the counts. The curve does not take into account the many observations in which ravens were not seen. This is because it is not relevant to the data if we want to compare areas with high and low basal areas.

5.



6. The black-capped Chickadee followed a similar pattern as the Common Raven. From this graph, we are able to see that the majority of the sightings occurred in low basal areas, between zero and 75 meters squared. It appears that chickadees were only sighted between 0-75 meters squared and not any higher basal area. The logistics curve follows the data points of sightings until approximately 95 meters squared and then has a steep decline until the curve is flat again to fit the data points of zero sightings recorded at areas with higher basal areas.

7. 181

8.
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jay_count = (dat_all$GRJA)
jay_count ==(dat_all$GRJA)
as.numeric(jay_count >1)
jay_count= sum(dat_all$GRJA)
```

9. 110

10. colSums(dat_all[c("GRJA")] > 0)

^^I hope the last two are correct. I wish there was some way of being able to check that this equation is correct for what you're asking or if I calculated a different statistic. I tried confirming it manually through excel, I got a count of 111 for #9 versus the 110 determined through RStudio.