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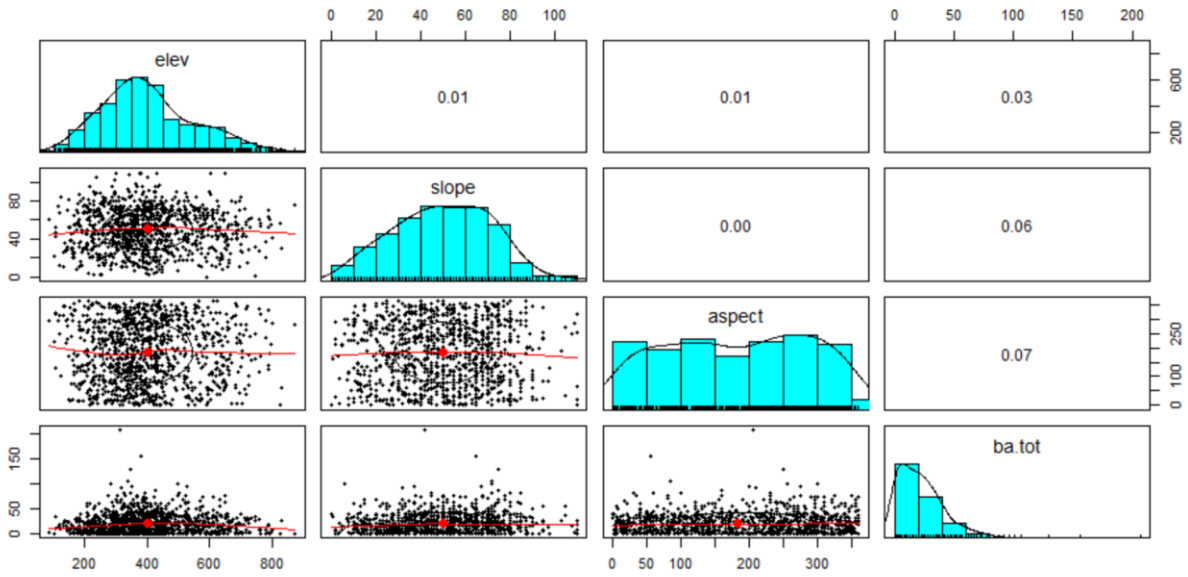
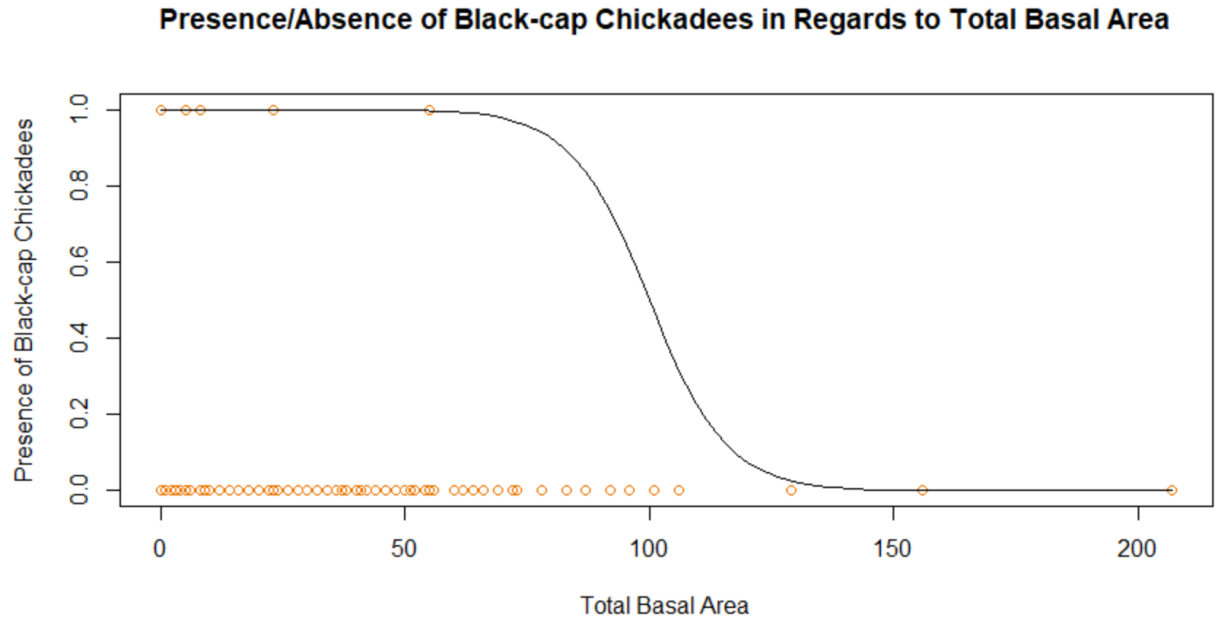
Data Exploration and Deterministic Functions – LAB 3

Q1: Basal area is the average amount of an area occupied by tree stems. To get this measure you take the total cross-sectional area of all of the stems in an area and measure at breast height (DBH, diameter at breast height) and get an average.

Q2: Figure 1

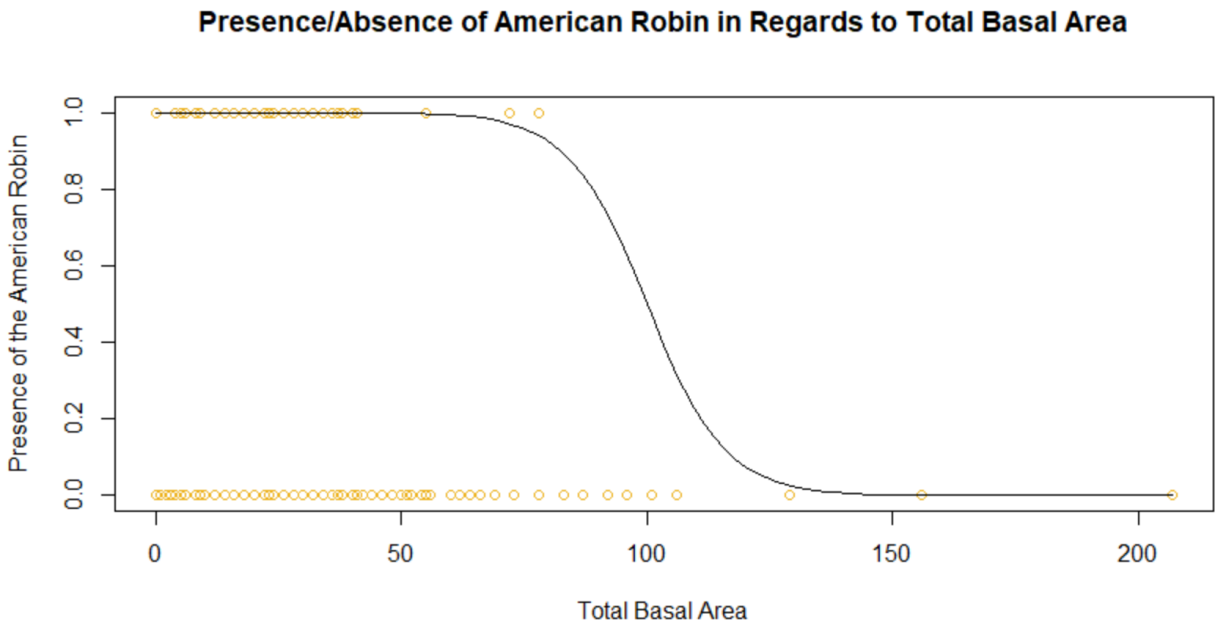


Q3: Figure 2



Q4: The black-cap chickadee seems to utilize habitat with less total basal area compared to habitat with higher basal area. The graph in Figure 2 shows that as the total basal area increase the probability of the presence of a black-cap chickadee decreases. Most of the black-cap chickadees are not seen past 45 m2 per hectare. The fitted line could be placed better to show that dramatic cut-off.

Q5: Figure 3



Q6: Almost all of the American robins observed where in habitat with less than 50 m2 per hectare total basal area. There is a dramatic decrease in American robins observed in areas with a

high total basal area. The fitted line could be shifted to show a more accurate decrease in the presence / absence of American robins in high total basal areas.

Q7: The total number of Gray Jays that were observed in all of the sampling sites were 181.

Q8: dat_all$GRJA

sum(dat_all$GRJA)

Q9: The total number of sampling sites in which Gray Jays were observed are 110.

Q10: sum(as.numeric(dat_all$GRJA > 0))