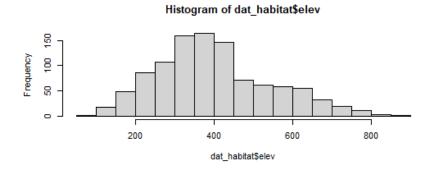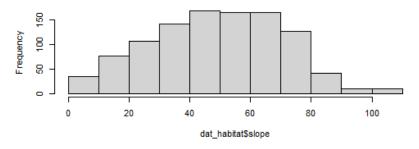Evan Krause
ECO 602
Prof. Michael Nelson
10/5/22
Data exploration and deterministic functions
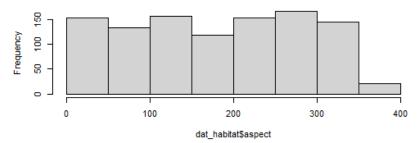

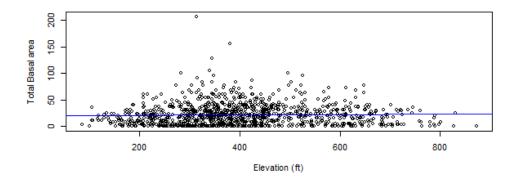1.

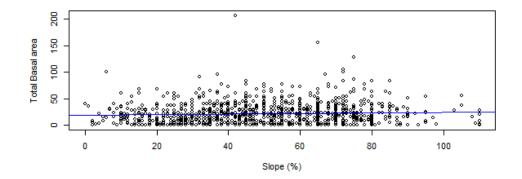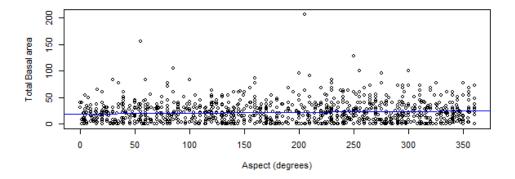**Histogram of dat_habitat$elev**

Histogram of dat_habitat$slope

Histogram of dat_habitat$aspect

2. The sites are not very evenly distributed, with the majority of the sampling sites clustered between 200 and 500 feet in elevation.
3. The units of slope in this data set is percentage (%) from 0-110
4. The sample sites are distributed over a variety of different slopes. The most common slopes by site are between 40% and 70%. Almost none of the sites are flat or near-zero slope.
5. Aspect is the facing direction of a slope in terms of degrees (out of 360)

6. The distribution of aspects across sampling sites is fairly uniform and evenly distributed. There seems to be little preference for a particular aspect direction.

7.

8. **Elevation**: There is a slight non-linear association between elevation and basal area, with significant clustering of points primarily around 400 ft. I do not think that linear modeling is a good fit for this data due to the limited association between variables.

Slope: There isn't a noticeable association between slope % and total basal area. I do not think that linear modeling is a good fit for this data due to the uniform-like distribution of points across slopes.

Aspect: There is no association between aspect and total basal area. The points are uniformly distributed across all aspect orientations. With no clear association between the variables, a linear model would not be appropriate for this data.