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Week 3 Reading Questions

1) In the first example the predictor variable is the extent of late-successional forest, the data in this would be discrete on a numerical variable on a continuous scale. In the second example the predictor variable would be total basal area, this would also be a continuous variable on a ratio scale.
2) The response variable in the first example would be abundance of brown creepers, this would be a Numerical variable on a continuous scale. The response variable in the second example would be the occurrence of brown creepers, this would be a categorical variable on an ordinal scale.
3) In the first example the values of the abundance of brown creepers consist of a number between 0.0 and 1.0, any subbasin can take on a unique value. The best way to plot this would but using a linear model, it showed the trend of more brown creepers being in areas of more late succession. In the second model a logistical model was used because the occurrence of brown creepers was measured by 1 (if they were present) or 0 (they weren't present. The logistical model is best for data with only the values 1 and 0.
4) The pros of the Ricker model are they are highly flexible and have infinite limits at the end of their range. They have good mechanistic interpretation from biological models. A downfall of the Ricker model is that it assumes that per capita fecundity decreases exponentially with density, and they are mostly phenomenological models. The pros of the quadratic model are that they are easy to understand and highly flexible for describing linear and curvilinear patterns. The downside of these models are they are often hard to explain mechanistically because they are rarely from environmental theory.