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Lecture Assignment 6

2024-10-08

1. What are the two ways by which scale is explicitly measured? How are these approaches different? Hint: The optional Wiens (1989) has a whole subsection on the two ways by which, not over which, scale is measured.

Scale is measured at the macro and micro level, or broad and fine. Broad-scale studies provide generalizations while fine-scale studies may provide greater insights into the biological mechanisms underlying patterns. It is the extent (size of the area or population covered) and grain (size of the individual units observed) that define the at what scale a study is completed.

1. Think of your study species or any other wildlife species of interest. What specific information might you use about this species (e.g., its life history or ecology) to define one or more biologically relevant scales at which to measure habitat selection?

For pumas, I would consider their solitary lifestyle and prey preference to inform the scale of factors influencing distribution.

1. Describe in your own words what it means to “optimize” the scale of each habitat variable in a habitat selection analysis (see McGarigal et al. 2016)?

Here, scale optimization refers to using knowledge of an organisms ecology or life history to inform the differing scales of measurement for each habitat variable.