Mar 26 Habitat complexity: Comparison among biomes – Student lead discussion.

Verschuyl, J.P., A.J. Hansen, D.B. McWethy, R. Sallabanks, R.L. Hutto. 2008. Is the effect of forest structure on bird diversity modified by forest productivity? Ecological Applications 18(5), 1155-1170.

Hansen, A. J., L. Baril, J. Watts, F. Kasmer, T. Ipolyi, R. Winton. In Prep. Towards generality in fragmentation theory: Does ecosystem biomass predict edge effects? Forest Ecology and Management.

Tips for Discussion leaders

) Provide a high-level overview of the theme the paper

) Highlight the unique/important contribution of each reading

) Present your personal take on: what is valuable in the paper, questions that remain unresolved, interesting applications, and/or other topics you find interesting.

) Prepare and lead class in discussion of a few discussion questions that you think will help the class get to the next level

Potential Discussion Questions for Class

1. Overview of forest structural complexity: what are the key elements of forest structure, how does forest structure vary across seral stages, how does forest structure influence species diversity?

2. What is the general relationship between species richness and primary productivity? What mechanisms may explain this relationship?

3. What is the key hypothesis the authors offer on how the effects of forest structure on diversity vary among high vs low energy ecosystems?

4. How did bird species richness differ among the 5 study landscapes across the Pacific and Inland Northwest and what mechanism does the paper offer to explain this?

5. What statistical methods were used to test the hypothesis that the effects of forest structure were reduced in low energy landscapes and what where the results of this analysis? What elements of forest structure generally had positive relationships with bird species richness?

6. What is the major conclusion of the paper with regards to the effects of forest structure on biodiversity? What are some implications for management of forest structure within various types of biomes?

7. Summarize the key elements of the Biomass Accumulation Hypothesis.

8. Evaluate the “metaanalysis” approach used in the Hansen et al. paper. Strengths? Weaknesses?

9. How well do the results support or refute the Biomass Accumulation Hypothesis? What other hypotheses should be tested to explain variation in edge effects among biomes?

10. Implications for management of forest fragmentation?