ADVANCED ECOLOGY DISCUSSION QUESTIONS 10/15

Jassey et al 2017

- 1. If the ultimate causality cannot be established from SEMs (the models), should the models be discarded? At what point do we stop altering a model to fit our situations before we discard it?
- 2. A priori models are they inherently doomed? Should we even ask questions positing the answers?
- 3. Should the authors have included animal impacts on these models?
- 4. Why do we label ecosystem transitions as non-linear (do we ever see linear responses in field studies?)

Moore 2018

- 1. Moore indicates general systems theory can inform investigation of ecological tipping points by simplifying the model system, while we have discussed in class the importance of accounting for ecological complexity. Do you think Jiang *et al*'s (2010) approach is effective in acknowledging both considerations (*i.e.*, low-dimension vs. high-dimension)?
- 2. Results of the plant-pollinator modeling indicated that for systems with low intrinsic growth rates, tipping points demonstrated hysteresis when the resilience function based on the decay of pollinator species increased, but not when increasing the resilience function based on the incremental removal of pollinators and their interactions from the system. Why might this be?
- 3. Moore suggests that Jiang *et al*'s results should encourage us to consider the utility of simple models of complex systems, and that their approach could help tie certain qualities of parameter regimes to ecological thresholds. Do you envision practical applications of this dimension-reduction approach to land management and conservation purposes?