**Formatting revisions:**

X Latex quotes (use two single quotes)

X Brackets

X Add flow diagrams as an image.

X For parameter definitions, don’t use commas for delimiting symbols (make consistent throughout)

X Now that we’ve gotten rid of the lowercase a\_ij for the transfer coefficients, use this as the adjacency matrix elements.

X Switch in the igraph path length / clustering figure

Migration proportions (rates = units / time)

X Make sure all equations are a part of sentences (if it’s : then new sentence, put a period. If its continuing, put nothing, if its not : but not a new sentence, put a comma)

X Change the rate \lambda to R\_tot (avoid confusion with eigenvalues)

**Content revisions:**

X Add in flow diagrams with logistic / log + allee

X Korolev image – make plots of growth rate separate from image from the paper.

X Integrodifference equations – also implicate integrodifferential equations, fix the “replace” note from Sarah.

X Introduce more sources in network model section in background for helping motivate study

Types of species that disperse only once per year? (Biological motivation for model. We show agreement so not fulfilling this doesn’t actually weaken the argument for discrete time)

X Why is doing the map important? How is it derived from the logistic ODE? (‘time 1 map for the logistic ODE’. In numerical simulation, we use the time ‘t’ map).

X Context for the stability of the map (refer back to ODE, we *know* the stability but we want to confirm it)

X Sarah: mention P\_jj is the diagonal and is the proportion of population shipped back to itself.

X Mention that patch, nodes, populations, are all aequivalent

X Mention this is a metapopulation model.

Nondimensionnalization

X Explain where the discrete map and ODE integrated model work. Make the plot in the limit of large v and over smaller time steps.

X Definitions of variables (v, b, d) in ODE – discrete map agreement page and the one previous.

X Mention context of stability analysis – why long-term stability is not everything (we measure time to establishment as a transient property).

X How do values of P and v relate from the ODE integrated model to the discrete map?

**4/28/16**

X Make sure the columns sum to 1 is noted before the adjacency -> transition matrix transformation in smallworld (since that’s why we define it the way we do in the text)

X Clustering coefficient (average measure of per vertex clustering)

X Is there a good reference for the random graphs exhibiting certain network characteristics?

X Add in the average time to establishment definition, using diff symbols for this / single one

X Need to add in parameter values in each of the figure captions (check throughout thesis)

X Varying one parameter at a time in the small world results, add in more figures showing this (run these and send to Leah)

X Expand on section in stochastic modeling, talk about why movement rate is chosen as sum of population, and how migration rate is chosen (nested ifs)

X Timesteps \dne 1000, its total time of 1000 units (years). Also stochastic runs are not aggregated

X Conclusions section: move network stuff from hubs to summary, expand on context, and cite hub Floureireui paper.

**Analysis stuff:**

Test the equations of complex models for correctness after deriving them by plugging in values for the parameter that make it equivalent to a simpler version (like v = 0 for the integrated version of the logistic equation with the spread term).

In a similar vein, use approximations to do sanity tests. In the limit of t -> infinity, how does the population grow? Does it go to where you expect?