16 spp. select across tree ..

- slimming down spp to work w/:

- Salix is a nightmare (hybridize)

- add back in Viburnum edule (is it in there?)

- do all Betula, Acer, Populus, Quercus (if possible)

- Sample across tree for more phylo diversity

- look up phylogeny for Salix? Some may be resolved

- Quercus, Viburnum probably well-resolved

Inoye's long-term plots   4. August. 2014

house (GH) plots had greenhouse structures put
in 1980's (that didn't work) so they are
sed in w/ all the plot types?

to get internal data out of Excel cells?
(ask Jim for any ideas)

doing Potentilla + 2 other spp counts to look
individuals - does the same one go early
yr? (No.) Do spp' w/ longer flowering
s have earlier individuals or do individuals
longer (indiv. go longer for one sp. she looked at).

did evolution

GH plots are in what habitats?

- Willow plots are covered in willows, also not
  in any particular location

- Need to get habitat type for each plot

- VR - Veratrum (corn lily) removal plots

- EM - Erythronium (glacier lily) meadow

- Rocky meadow plots (upland)

- Heterophyca - bimodal

- Aspen forest (just what it sounds like, also upland)

- plot sizes vary? H₂O + warming plots they sample
  a smaller space so always do % flowering

JD - Niche - Neutral - David

- mid - Domain work by Mazlar   ask David
- rank/abundance to adapt neutral
- other traits
- how to measure co flowers — lottery model

Neutral theory works on island biogeography w/ random
   spp. arrivals ∥ spatial walks w/ rank-abundance
                                        + regional spp. pool
   ↳ so, hmm, seems hard to adapt to time.

- Could use Null Models - mid-Domain (but defines comm.
                                    curve, not spp overlap)

Variance Ratios — JD did deris w/ carnivore
                                          teeth

Draw trait values from obs. distrib'ns.

Build-Your-Own: Neutral works on abundances
- use all of David's plots to set regional pool
- use observed flowering length + observed flowering
  start to put spp into system drawing from
  these 2 distributions

① - start w/ 1 sp. in plot - all start flowering at
  same ~~not too different people~~ time. also draw
  flowering length

- ② next timestep, individual dies (based on some
  death rate) + space is occupied by new
  individual which can be same or new
  sp. (drawn from regional pool)
                    ↳ "mainland pool"

- ③ Ugh. you have to run this longer than a
  growing season - run long-term to steady state
  which gives overall distributions that spp.
  may fall into.

dept. Neutral also may make trait predictions,
maybe I should look into that...

) Or some hybrid? Set flowering start + length by spp.
  ↳ put them in randomly w/in those constraints
  (ugh, sort of circular putting niche traits into
  neutral model)

pt. -how do you adapt lottery model to time?

- spatiotemporal lottery model → damn thing is already
  spatiotemporal → you get co-flowering by spp. /
  individuals flowering across space

→ scale death rate to flowering length distributions

↳ swap individuals for flowers + run whole thing way faster?
  (Is that all it takes? They all look at space, we
  just look at time)
  ↳ they run to equil + look at space, ignory time.
- So run basic model to equilibrium (or initialize at
  equilibrium) ~~then~~ step thru dynamics to see
  temporal sequence

Ⓐ How to start season? Have to give each species a
  probability of flowering at each step? As well
  as allowing death at each step... (JP's idea)

Ⓑ
- How to start? (Lizzie's idea) Open space up incrementally
  (like 1 week snowmelt going away) + allow regular patterns.
  (forces the community are, while Ⓐ sort of forces a trait)

Ⓒ - give all same probability.

⇒ carryover dynamics yr to yr?

Gotcha