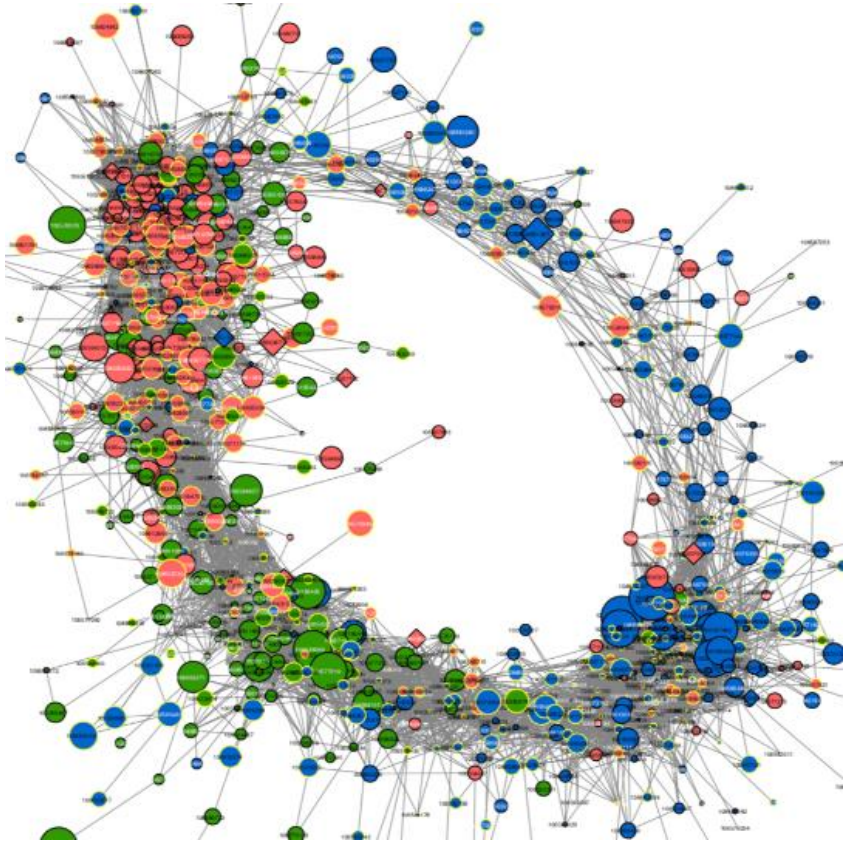
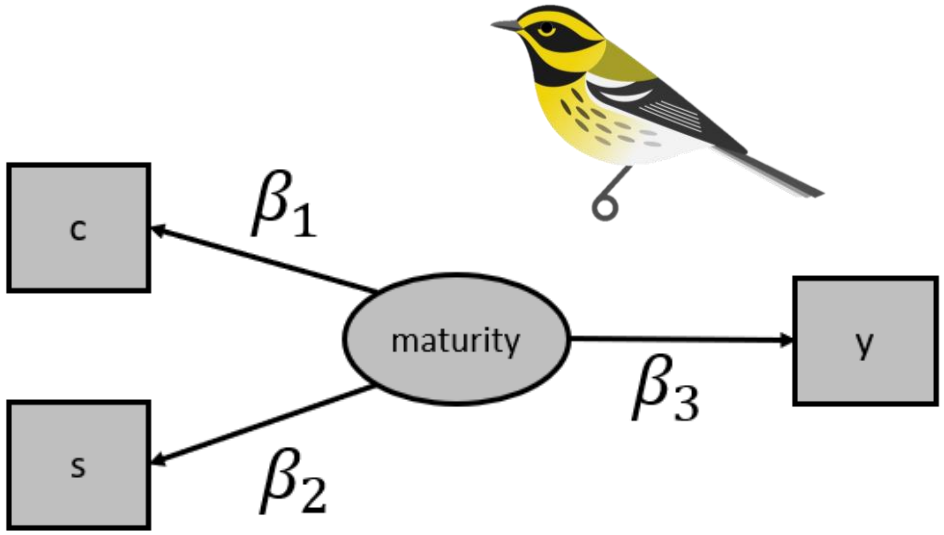
‘Choose your own adventure’ latent variable tutorials

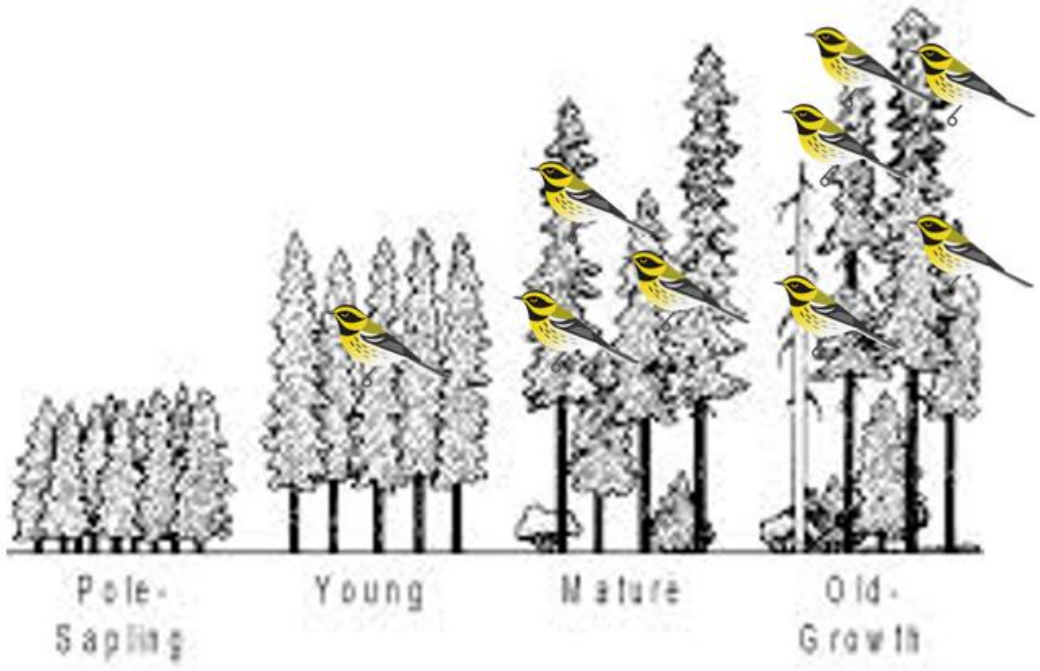


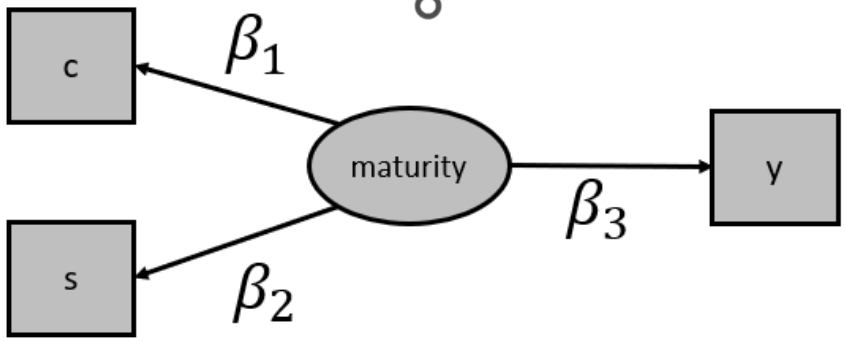


`lavaan` examples

1. Revisiting canopy cover

- `SEM_workshop/lecture_pdfs/Lecture3.pdf`
- `SEM_workshop/R_scripts/Lecture3_scripts/Lecture3a_latent_variable_forest_maturity.R`

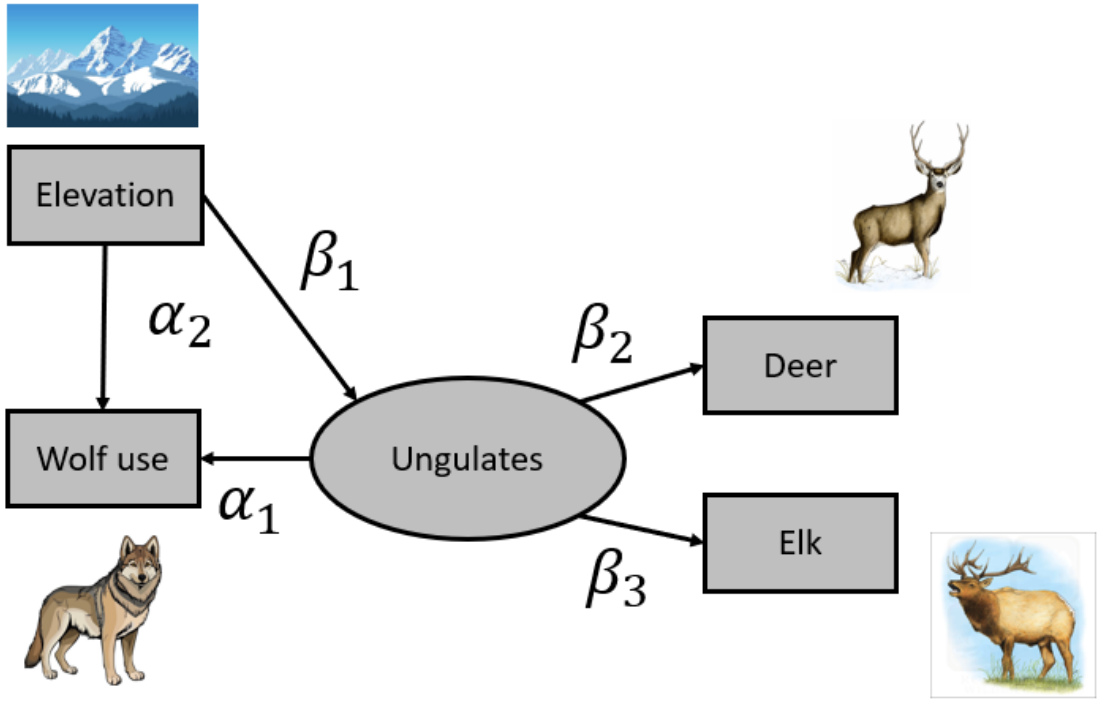




`lavaan` examples

2. Expanding Bow Valley wolf RSFs

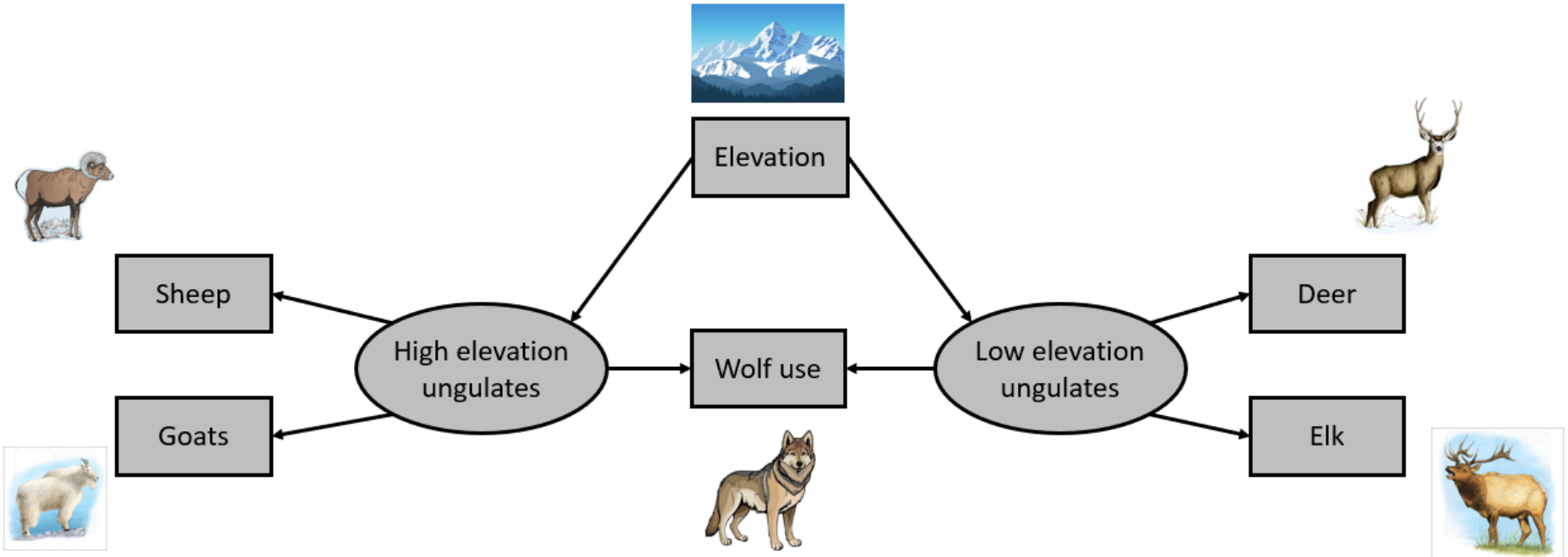
- `SEM_workshop/lecture_pdfs/Lecture3.pdf`
- `SEM_workshop/R_scripts/Lecture3_scripts/Lecture3b_wolf_sem.R`



`lavaan` examples

3. Expanding expanded Bow Valley Wolf RSFs

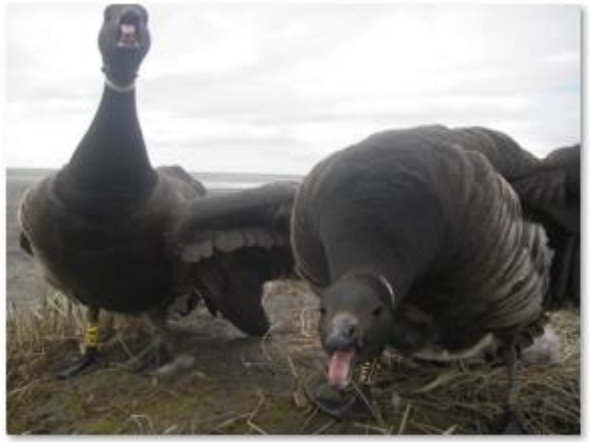
- `SEM_workshop/lecture_pdfs/Lecture3.pdf`
- `SEM_workshop/R_scripts/Lecture3_scripts/Lecture3b_wolf_sem.R`

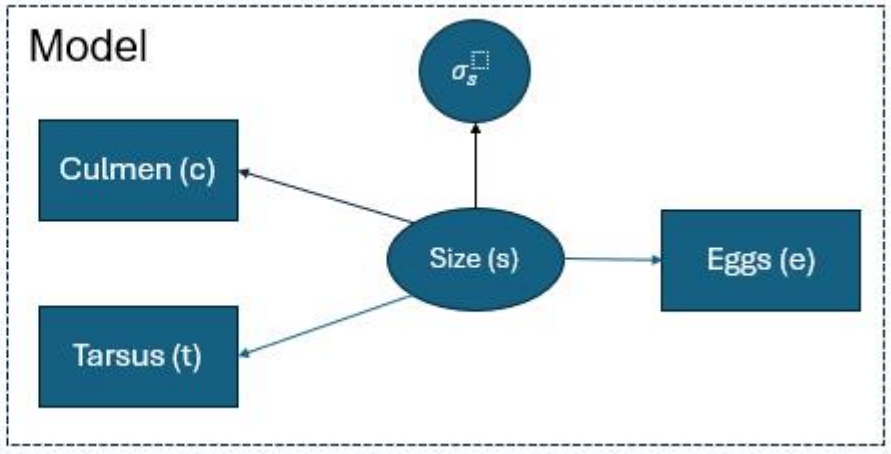


Bayesian examples

1. Body size

- `ST595/final_scripts/Week6/Week6c_size_as_a_latent_variable.R`





Bayesian examples

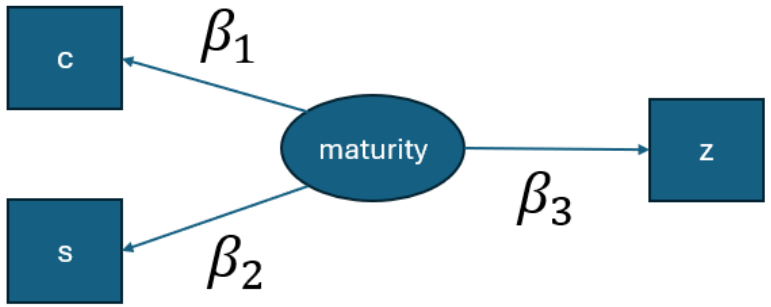
2. Occupancy models (yellow-footed weeble-wobbles!)

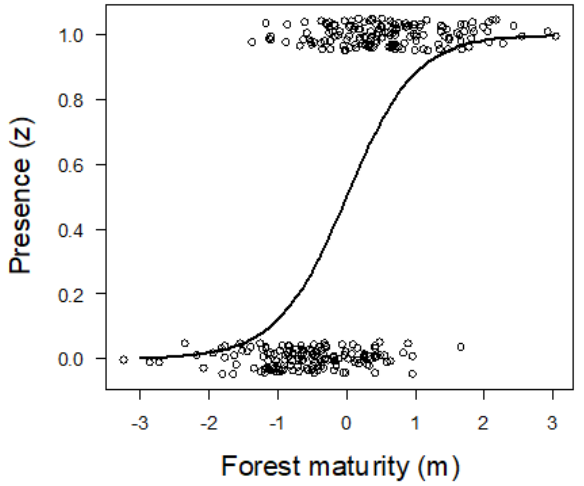
- `ST595/final_lectures/Lecture14_SEM_occupancy.pdf`
- `ST595/final_scripts/Week9/script9a_occupancy_models.R`

$$\boldsymbol{z} \sim \text{Bernoulli}(\text{logit}^{-\mathbf{1}}(\alpha_3 + \beta_3 \boldsymbol{m}))$$

$$\alpha_3 = 0$$

$$\beta_3 = 2$$

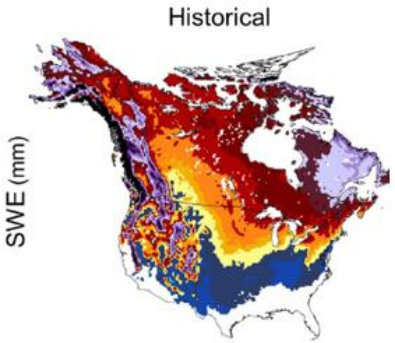


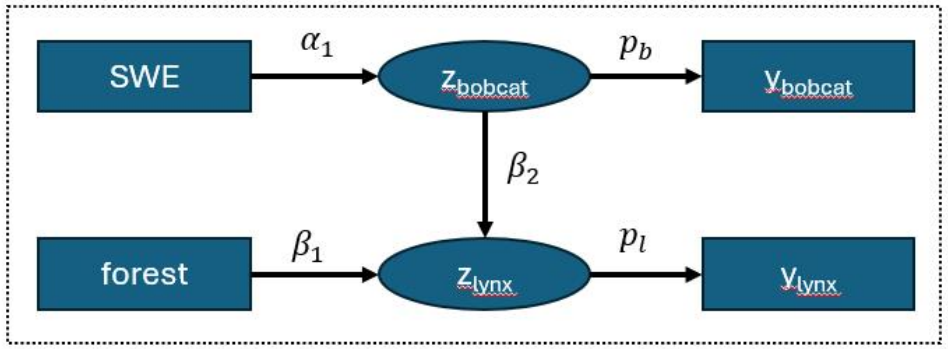


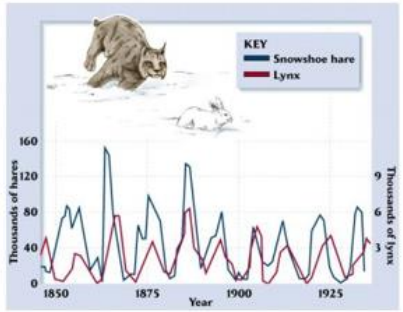
Bayesian examples

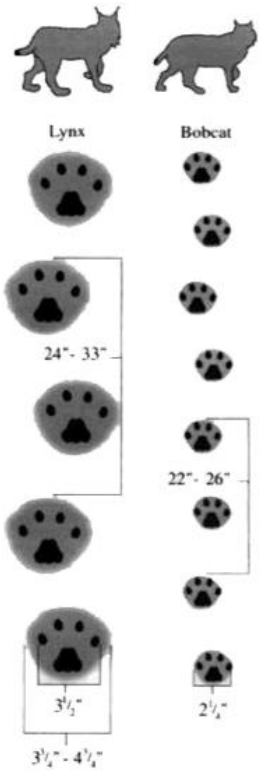
3. Multispecies occupancy models (lynx and bobcats)

- `ST595/final_lectures/Lecture14_SEM_occupancy.pdf`
- `ST595/final_scripts/Week9/script9b_occupancy_competing_felids.R`





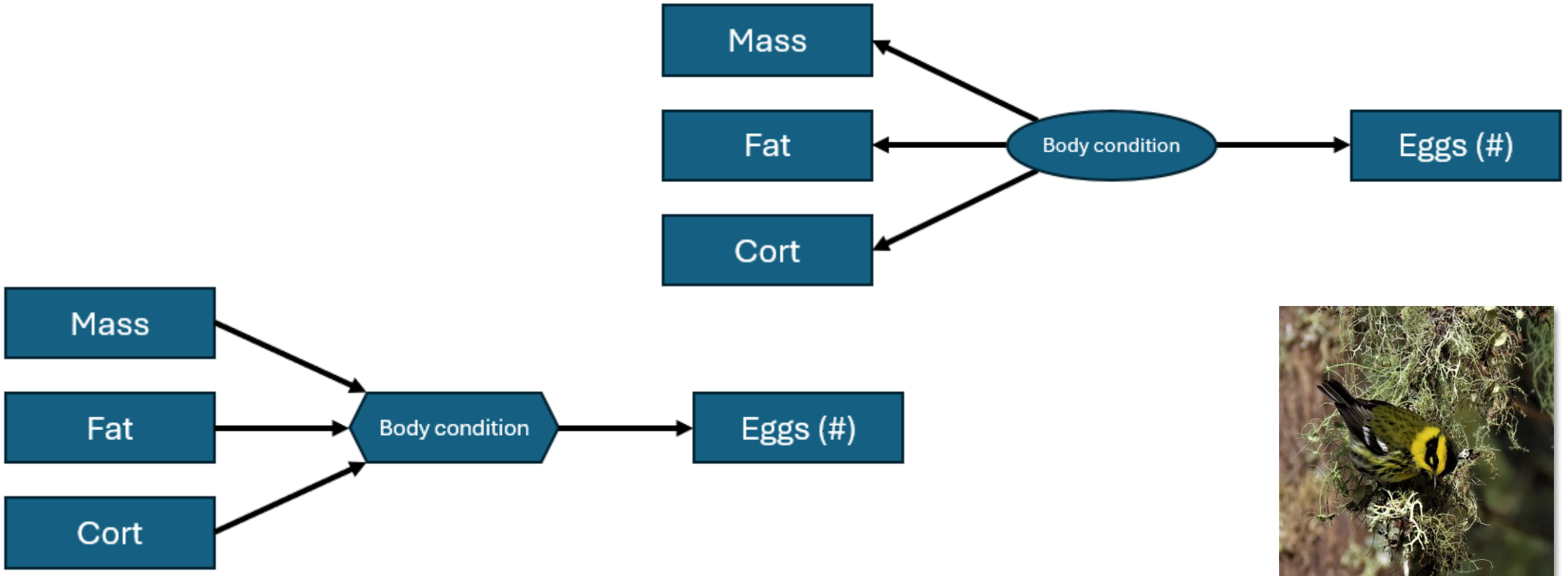




Bayesian examples

4. Body condition (latent and composite variables)

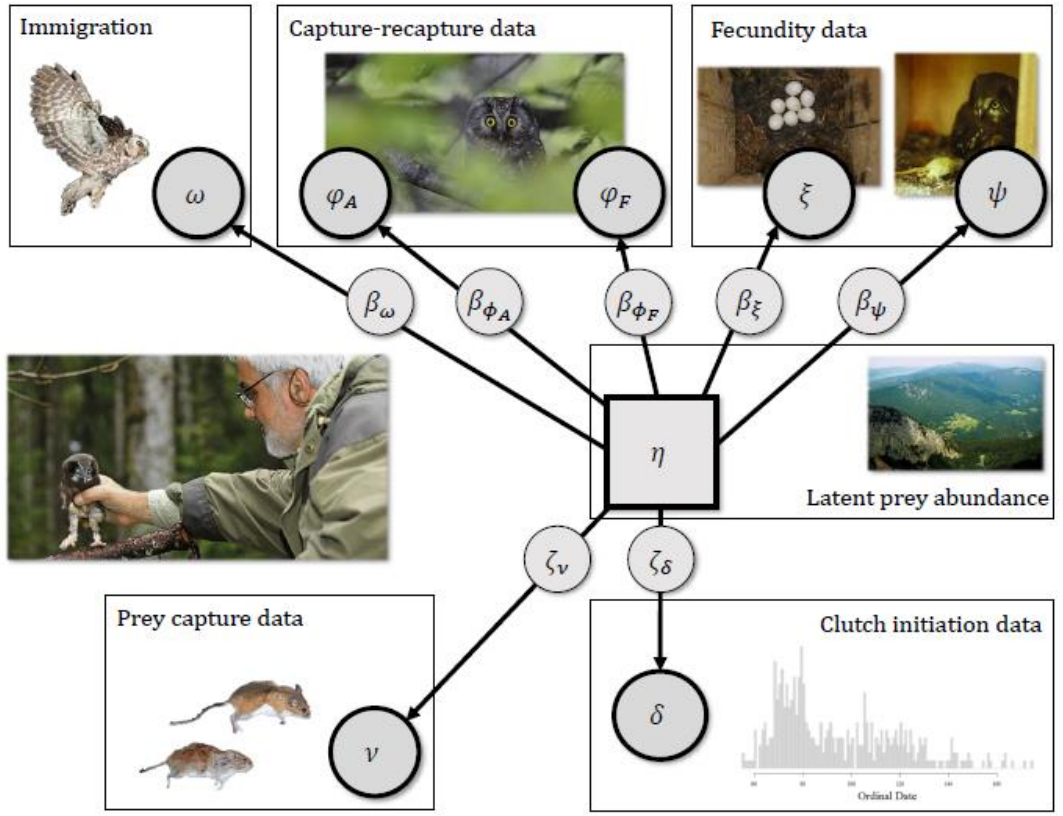
- `ST595/final_lectures/Lecture15_body_condition.pdf`
- `ST595/final_scripts/Week9/script9c_body_condition.R`



Bayesian examples

5. Integrated population model for boreal owls

- https://github.com/thomasriecke/tengmalm_data/ [code, paper, Rdata]



If you brought your own data, go for it!

Causal diagrams are critical!

Observe diagrams and how those diagrams are linked to models in tutorials

Draw your own diagrams and start to build models from them