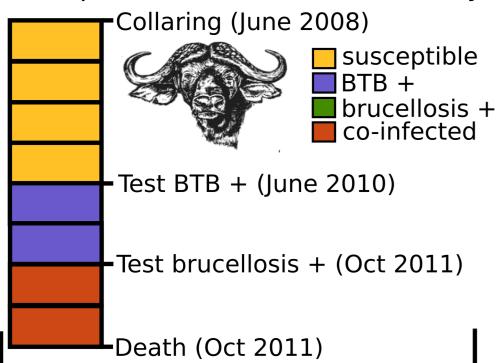
Cohort study

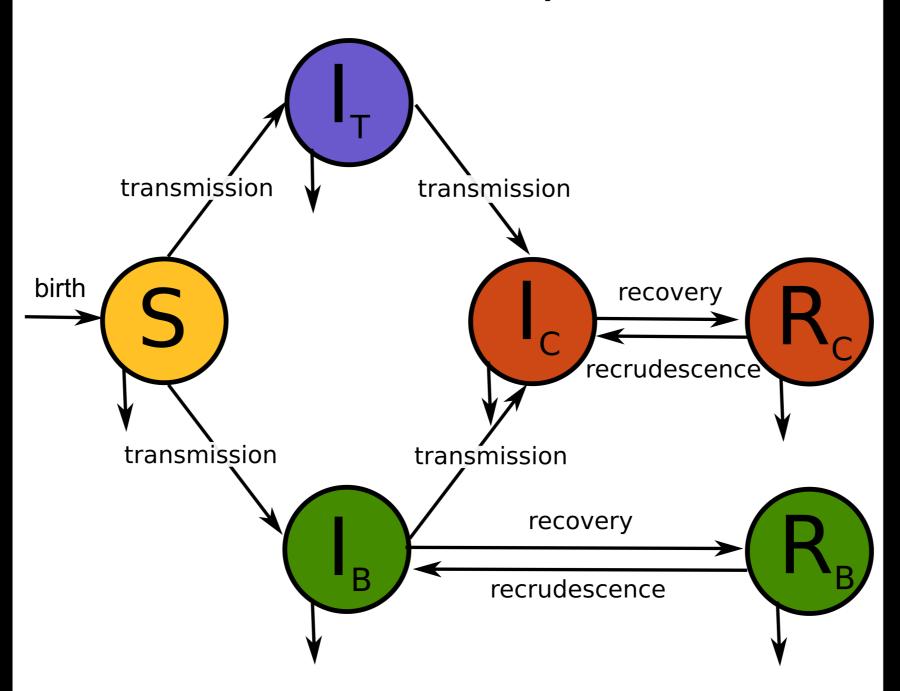
Example individual infection history



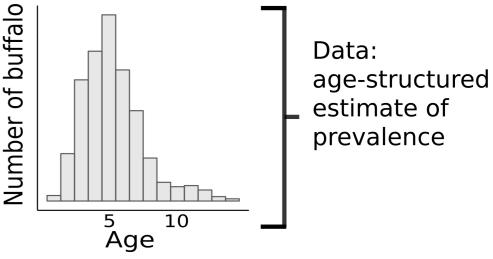
Parameter estimation

- (1) mortality rate in susceptible, BTB+, brucellosis +, and co-infected buffalo
- (2) change in BTB transmission rate in buffalo with brucellosis
- (3) change in brucellosis transmission rate in buffalo with BTB
- (4) birth rate in susceptible, BTB+, brucellosis +, and co-infected buffalo

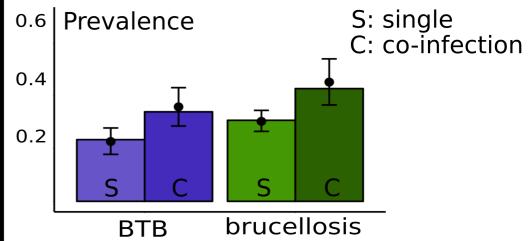
Model Development



Fitting & Evaluation



Estimate transmission rates by minimizing the difference between BTB and brucellosis prevalence in the data and agematched model predictions (27%, 34%).



Evaluate patterns of co-infection in the model (bars) and data (dots).